

# Re: Request from Ted Hunt

**From:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**To:** "Hunt, Ted (ODAG) (JMD)" <(b)(6)> (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Date:** Tue, 10 Jul 2018 08:44:14 -0400

Ted,  
Thank you for the additional information. I will start working on the presentation and let you know if I have any additional questions. I think I have enough information to move forward.

Thanks,

(b)(6), (b)(7)(C)  
\_\_\_\_\_  
her  
QDU | Footwear/Tire Group  
FBI Laboratory  
2501 Investigation Parkway  
Quantico, VA 22135  
O  
C

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**From:** Hunt, Ted (ODAG) <(b)(6)>  
**Sent:** Monday, July 9, 2018  
**To:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI GC (FBI); (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)  
**Subject:** RE: Request from Ted Hunt

(b)(6), (b)(7)(C)

The focus is to be tire/shoe mark 101. Given the overall focus on litigation of forensic issues (and as (b)(6), (b)(7)(C) mentioned), I do think it would be helpful to address potential discipline-specific responses to legal challenges to shoe/tire impression evidence, including those focused on validation and quality assurance. I'd be happy to follow up with you regarding other questions.

Thanks very much for your assistance!

Ted

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**From:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Sent:** Mon Jul 9, 2018 5:53 P  
**To:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI Hunt, Ted (ODAG) <(b)(6)>  
**Subject:** RE: Request from Ted Hunt

(b)(6), (b)(7)(C): The expectation is that this is a 101 for your discipline presentation to include what legal challenges you may have encountered post PCAST. Ted should be back in the office so I'll ask him to clarify. Only state prosecutors and fed AUSAs will be attending.

(b)(6), (b)(7)(C), (b)(7)(E) per FBI

Chief, Forensic Science Law Unit

Office of the General Counsel

Federal Bureau of Investigation

Desk: (b)(6), (b)(7)(C), (b)(7)(E) per FE

Cell: (b)(6), (b)(7)(C), (b)(7)(E) per FE

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**From:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)  
**Sent:** 2/21/2018 3:01 PM  
**To:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI GC (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Subject:** Re: Request from Ted Hunt

(b)(6), (b)(7)(C)

Do you have any additional information regarding the expectations/objectives of my presentation at this conference? In order to prepare, I searched for the conference online and located the site for what I believe to be the conference (National Forensic Science Symposium) - <http://www.naag.org/nagtri/nagtri-courses/national/national-forensic-science-symposium.php>. This site describes the training as "an intensive 3.5 day forensics 'boot camp' for prosecutors" which will "explain the science behind forensic science disciplines including DNA, latent prints, and firearms/toolmarks".

Do you expect any more communication from Ted regarding this conference?

Thanks,

(b)(6), (b)(7)(C)

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(b)(6), (b)(7)(C), (b)(7)(E) per FBI

*Forensic Examiner*

QDU | Footwear/Tire Group

FBI Laboratory

2501 Investigation Parkway

Quantico, VA 22135

(b)(6), (b)(7)(C), (b)(7)(E) per FBI O

(b)(6), (b)(7)(C), (b)(7)(E) per FBI C

**From:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI)  
**Sent:** Tuesday, July 3, 2018 9:22 AM  
**To:** Pokorak, Eric G. (LD) (FBI); Isenberg, Alice R. (LD) (FBI)  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI); (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)  
**Subject:** Re: Request from Ted Hunt

Thanks and I've let Ted know.

Original message

**From:** "Pokorak, Eric G. (LD) (FBI)" (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Date:** 7/3/18 8:45 AM (GMT-05:00)  
**To:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI"; Isenberg, Alice R. (LD) (FBI)" (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)" (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Subject:** RE: Request from Ted Hunt

(b)(6), (b)(7)(C), (b)(7)(E) per FBI - (b)(6), (b)(7)(C), (b)(7)(E) per FBI will cover this request for QDU.

Thank you.

-----Original Message-----

**From:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI)  
**Sent:** Monday, July 02, 2018 5:46 PM  
**To:** Pokorak, Eric G. (LD) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI"; Isenberg, Alice R. (LD) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Subject:** RE: Request from Ted Hunt

Eric: Thanks and I'll let Ted know.

(b)(6), (b)(7)(C), (b)(7)(E) per FBI  
Chief, Forensic Science Law Unit  
Office of the General Counsel  
Federal Bureau of Investigation  
Desk: (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
Cell: (b)(6), (b)(7)(C), (b)(7)(E) per FBI

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-----Original Message-----

**From:** Pokorak, Eric G. (LD) (FBI)  
**Sent:** Monday, July 02, 2018 5:17 PM  
**To:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI"; Isenberg, Alice R. (LD) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Cc:** (b)(6), (b)(7)(C), (b)(7)(E) per FBI (LD) (FBI)"; (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
**Subject:** RE: Request from Ted Hunt

(b)(6), (b)(7)(C), (b)(7)(E) per FBI,

We will support this request. (b)(6), (b)(7)(C) per FBI is out his week, so I ask for some time to provide you the name of the examiner. I'll update you in short order.

Thank you,

Eric

-----Original-----

From: (b)(6), (b)(7)(C), (b)(7)(E) per FBI (OGC) (FBI)  
Sent: Monday, July 02, 2018 5:0 PM  
To: Isenberg, Alice R. (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI; Pokorak, Eric G. (LD) (FBI) (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
Subject: Request from Ted Hunt

Ted has asked whether FBI LD could provide a presenter on Shoeprints and Tire treads at the upcoming National Association of Attorneys General/NDAAs forensic conference on August 8th from 2:30-3:15. I am uncertain whether this will be at Main Justice on that day or at the DC Lab and indicated I would pass this along to you. Currently there will be 15 DOJ attorneys and the rest of the participants will be state Assistant DAs. (We are currently providing (b)(6), (b)(7)(C) per FBI /DNA; (b)(6), (b)(7)(C) per FBI /LPU; (b)(6), (b)(7)(C) per FBI /emerging issues). I reiterated that it was not the best use of FBI examiner time to participate in the multi-day DC Lab break out sessions as requested earlier by NAAG.

FYI: Ted indicated he would not volunteer to provide assistance with this conference next year.

(b)(6), (b)(7)(C), (b)(7)(E) per FBI  
Chief, Forensic Science Law Unit  
Office of the General Counsel  
Federal Bureau of Investigation  
Desk: (b)(6), (b)(7)(C), (b)(7)(E) per FBI  
Cell: (b)(6), (b)(7)(C), (b)(7)(E) per FBI

Confidentiality Statement: This message is transmitted to you by the Office of the General Counsel of the Federal Bureau of Investigation. The message, along with any attachments, may be confidential and legally privileged. If you are not the intended recipient of this message, please destroy it promptly without further retention or dissemination (b)(6), (b)(7)(C), (b)(7)(E) per FBI otherwise required by law). Please notify the sender of the error by a separate e-mail or by calling (b)(6), (b)(7)(C), (b)(7)(E) per FBI.

## RE: Comment for story about forensic science for The Nation

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**From:** "Hunt, Ted (ODAG)" <(b) (6)>  
**To:** "Ehrsam, Lauren (OPA)" <(b) (6)>  
**Date:** Thu, 01 Feb 2018 17:21:54 -0500

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Thanks Lauren.

---

**From:** Ehrsam, Lauren (OPA)  
**Sent:** Thursday, February 1, 2018 11:50 AM  
**To:** Hunt, Ted (ODAG) <(b) (6)>  
**Cc:** Hudson, Andrew (OLP) <(b) (6)>  
**Subject:** RE: Comment for story about forensic science for The Nation

Hi Ted,

Here's the article: <https://www.thenation.com/article/the-crisis-of-american-forensics/>

Thank you,  
Lauren

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**From:** Hunt, Ted (ODAG)  
**Sent:** Tuesday, January 23, 2018 1:35 PM  
**To:** Ehrsam, Lauren (OPA) <(b) (6)>  
**Subject:** RE: Comment for story about forensic science for The Nation

Thanks Lauren,

I'll take a look and get back with you soon.

Ted

---

**From:** Ehrsam, Lauren (OPA)  
**Sent:** Tuesday, January 23, 2018 10:22 AM  
**To:** Hunt, Ted (ODAG) <(b) (6)>  
**Cc:** Hudson, Andrew (OLP) <(b) (6)>  
**Subject:** FW: Comment for story about forensic science for The Nation

Hi Ted,

It looks like this won't be friendly, but I wanted to see if you had any thoughts on the questions below.

Thank you,  
Lauren

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**From:** Tim Requarth [mailto:(b) (6)]  
**Sent:** Monday, January 22, 2018 12:22 PM  
**To:** Ehrsam, Lauren (OPA) <(b) (6)>  
**Cc:** Hudson, Andrew (OLP) <(b) (6)>  
**Subject:** Re: Comment for story about forensic science for The Nation

# Duplicative Material

## RE: Forensics

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**From:** "Mizelle, Chad (ODAG)" <(b) (6)>  
**To:** "Crowell, James (ODAG)" <(b) (6)>  
**Cc:** "Hur, Robert (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Wed, 12 Jul 2017 18:00:21 -0400  
**Attachments:** 2017.07.12 Memo to DAG on Forensics.v3.docx (204.84 kB); 2017.07.12 OLP Memo on NCFS Recommendations.pdf (663.55 kB); 2017.07.12 OLP Memo on ULTR and FSDR.pdf (1.48 MB)

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Jim,

Please find a draft of the memo attached. I've also attached two memos from OLP that provide a "deeper dive" into the issues discussed in the ODAG memo.

I strove to keep the ODAG memo very short—only two pages (including a header). While OLP's memos are a bit longer (4 pages and 6 pages, respectively), they do a good job of summarizing (b) (5).

Looking forward to your thoughts/edits. If the ODAG memo looks ready to go, I will print out a color copy for you to initial.

Best,  
Chad

---

**From:** Crowell, James (ODAG)  
**Sent:** Thursday, July 6, 2017 10:59  
**To:** Goldsmith, Andrew (ODAG) <(b) (6)>  
**Cc:** Mizelle, Chad (ODAG) <(b) (6)>; Hur, Robert (ODAG) <(b) (6)>  
**Subject:** Re: Forensics

Please send me a draft report before it goes to DAG. Thanks.

Sent from my iPhone

On Jul 6, 2017, at 7:46 PM, Goldsmith, Andrew (ODAG) <(b) (6)> wrote:

Chad - since you have forensics in your portfolio, let's work on this together. - Andrew

Sent from my iPhone - please excuse any typos.

On Jul 6, 2017, at 6:56 PM, Rosenstein, Rod (ODAG) <(b) (6)> wrote:

Please send me a brief memo summarizing the issues addressed in this article, and then let's meet to discuss:

[https://www.washingtonpost.com/local/public-safety/science-organizations-renew-call-for-independent-us-committee-on-forensics/2017/06/28/3ab8cdea-5b6a-11e7-9b7d-14576dc0f39d\\_story.html?utm\\_term=.e52b48c4cf8e](https://www.washingtonpost.com/local/public-safety/science-organizations-renew-call-for-independent-us-committee-on-forensics/2017/06/28/3ab8cdea-5b6a-11e7-9b7d-14576dc0f39d_story.html?utm_term=.e52b48c4cf8e)

## RE: Forensics

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**From:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**To:** "Mizelle, Chad (ODAG)" <(b) (6)>, "Crowell, James (ODAG)" <(b) (6)>  
**Cc:** "Hur, Robert (ODAG)" <(b) (6)>  
**Date:** Wed, 12 Jul 2017 18:10:16 -0400  
**Attachments:** 2017.07.12 Memo to DAG on Forensics.v4.docx (204.87 kB)

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This version of the memo corrects a minor typo on page 1.

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**From:** Mizelle, Chad (ODAG)  
**Sent:** Wednesday, July 12, 2017  
**To:** Crowell, James (ODAG) <(b) (6)>  
**Cc:** Hur, Robert (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** RE: Forensics

# Duplicative Information

## RE: Forensics

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**From:** "Mizelle, Chad (ODAG)" <(b) (6)>  
**To:** "Hur, Robert (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>, "Crowell, James (ODAG)" <(b) (6)>  
**Date:** Thu, 13 Jul 2017 11:03:14 -0400  
**Attachments:** 2017.07.12 Memo to DAG on Forensics\_v6.docx (208.14 kB)

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Rob,

Please find attached a revised draft, which incorporates your edits.

Best,  
Chad

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**From:** Hur, Robert (ODAG)  
**Sent:** Thursday, July 13, 2017 9:17  
**To:** Goldsmith, Andrew (ODAG) <(b) (6)>; Mizelle, Chad (ODAG) <(b) (6)>;  
Crowell, James (ODAG) <(b) (6)>  
**Subject:** RE: Forensics

# Duplicative Information

Sent from my iPhone

On Jul 6, 2017, at 7:46 PM, Goldsmith, Andrew (ODAG) <[REDACTED] (b) (6)> wrote:

Chad - since you have forensics in your portfolio, let's work on this together. -

Andrew Sent from my iPhone - please excuse any typos.

On Jul 6, 2017, at 6:56 PM, Rosenstein, Rod (ODAG) <[REDACTED] (b) (6)> wrote:

Please send me a brief memo summarizing the issues addressed in this article, and then let's meet to discuss:

[https://www.washingtonpost.com/local/public-safety/science-organizations-renew-call-for-independent-us-committee-on-forensics/2017/06/28/3ab8cdea-5b6a-11e7-9b7d-14576dc0f39d\\_story.html?utm\\_term=.e52b48c4cf8e](https://www.washingtonpost.com/local/public-safety/science-organizations-renew-call-for-independent-us-committee-on-forensics/2017/06/28/3ab8cdea-5b6a-11e7-9b7d-14576dc0f39d_story.html?utm_term=.e52b48c4cf8e)

## RE: Forensics

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**From:** "Hur, Robert (ODAG)" <(b) (6)>  
**To:** "Goldsmith, Andrew (ODAG)" <(b) (6)>, "Mizelle, Chad (ODAG)" <(b) (6)>, "Crowell, James (ODAG)" <(b) (6)>  
**Date:** Thu, 13 Jul 2017 09:16:49 -0400  
**Attachments:** 2017.07.12 Memo to DAG on Forensics\_v5 (RKH EDITS).docx (208.65 kB)

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Thanks very much for pulling this together. Some suggested edits and questions for you in the attached redline.

Thanks,  
Rob

---

**From:** Goldsmith, Andrew (ODAG)  
**Sent:** Wednesday, July 12, 2017 6:10 PM  
**To:** Mizelle, Chad (ODAG) <(b) (6)>; Crowell, James (ODAG) <(b) (6)>  
**Cc:** Hur, Robert (ODAG) <(b) (6)>  
**Subject:** RE: Forensics

# Duplicative Information

## Fordham Law Review Articles (2 of 3 articles attached)

---

**From:** "Antell, Kira M. (OLP)" <(b) (6)>  
**To:** "Hur, Robert (ODAG)" <(b) (6)>  
**Cc:** "Hunt, Ted (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**Date:** Fri, 19 Jan 2018 17:04:26 -0500  
**Attachments:** ADG Article\_01192018\_DISTRIBUTED.docx (57.12 kB); FBI Lab Article\_01192018\_DISTRIBUTED.docx (34.65 kB)

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Hi Rob,

As you know, Department speakers at the Boston College forensics evidence symposium were invited to provide articles to the Fordham Law Review Online. **IN order to ensure inclusion in the March edition, we need to transmit Department approved articles to Fordham NLT Monday, January 29.** I am attaching articles by Andrew and Alice Isenberg (FBI-Lab) for your review. Ted is revising his article and I will send it by separate cover on Monday (January 22).

(b)(5) per CIV



The authors are available to discuss these articles and I am available to discuss the review process if it would be helpful. I look forward to hearing your thoughts. If at all possible, I'd like to receive your edits by next Friday (January 26). Don't hesitate to call or email.

Thanks,  
Kira

Kira Antell  
Senior Counsel  
Office of Legal Policy  
U.S. Department of Justice  
950 Pennsylvania Avenue, NW  
Washington, DC 20530

(b) (6)  
(b) (6)

## RE: Fordham Law Review Articles (2 of 3 articles attached)

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**From:** "Antell, Kira M. (OLP)" <(b) (6)>  
**To:** "Hur, Robert (ODAG)" <(b) (6)>  
**Cc:** "Hunt, Ted (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**Date:** Mon, 22 Jan 2018 11:32:03 -0500  
**Attachments:** Hunt Fordham Law Review Article\_DISTRIBUTED.docx (58.85 kB)

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Hi Rob,

Attached is Ted's article. Hopefully the furlough will be short but in I have contacted Fordham to let them know our articles could be slightly delayed.

Thanks,  
Kira

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**From:** Antell, Kira M. (OLP)  
**Sent:** Friday, January 19, 2018  
**To:** Hur, Robert (ODAG) <(b) (6)>  
**Cc:** Hunt, Ted (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>; Shapiro, Elizabeth (CIV) <(b) (6)>  
**Subject:** Fordham Law Review Articles (2 of 3 articles attached)

Duplicative Information - See Document ID 20220314-03436

## Re: Forensics Law Review Articles

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**From:** "Antell, Kira M. (OLP)" <(b) (6)>  
**To:** "Bolitho, Zachary (ODAG)" <(b) (6)>  
**Cc:** "Terwilliger, Zachary (ODAG)" <(b) (6)>, "Hunt, Ted (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Hur, Robert (ODAG)" <(b) (6)>  
**Date:** Mon, 29 Jan 2018 20:59:08 -0500

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Thanks all.

Sent from my iPhone

On Jan 29, 2018, at 6:35 PM, Bolitho, Zachary (ODAG) <(b) (6)> wrote:

If the ethics folks have signed off, I see no issues. Of course, I defer to Rob and Zach T. if they see any issues.

Thanks,

Zac

---

**From:** Antell, Kira M. (OLP)  
**Sent:** Monday, January 29, 2018 4:44 PM  
**To:** Bolitho, Zachary (ODAG) <(b) (6)>; Terwilliger, Zachary (ODAG) <(b) (6)>  
**Cc:** Hunt, Ted (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>; Shapiro, Elizabeth (CIV) <(b) (6)>; Hur, Robert (ODAG) <(b) (6)>  
**Subject:** RE: Forensics Law Review Articles

Good afternoon,

Circling back on this. Any issue with moving forward? Ted has one minor edit to his article (addition of a cite) so I plan to submit tomorrow. Please do let me know as soon as possible if I need to hold submission.

Thanks,

Kira

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**From:** Antell, Kira M. (OLP)  
**Sent:** Friday, January 26, 2018 11:58 AM  
**To:** Bolitho, Zachary (ODAG) <(b) (6)>; Terwilliger, Zachary (ODAG) <(b) (6)>  
**Cc:** Hunt, Ted (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>; Shapiro, Elizabeth (CIV) <(b) (6)>; Hur, Robert (ODAG) <(b) (6)>  
**Subject:** Forensics Law Review Articles

Good afternoon,

In October, the Department presented at a forensics evidence symposium at Boston College. The purpose of the symposium was to discuss whether it was appropriate to amend Rule 702 for cases involving forensic evidence. The transcript of the symposium will be published in an upcoming issue of the *Fordham Law Review*. Department speakers were invited to provide short articles to the *Fordham Law Review Online* for March publication. Ted, Andrew, and Alice Isenberg from FBI lab have written articles.

We expect to submit these articles to Fordham on Monday by COB. Rob attended the symposium and hoped to have a chance to review the articles but has asked us to proceed with clearance given our relatively tight timeline. The ethics office indicates there are no issues on their end.

Ted's article is a direct written response to the PCAST report (b)(5) per CIV

(b)(5) per CIV. Both of them contain Department legal and policy positions. Alice's article is a

Draft articles by Andrew and Ted were reviewed by a small group of people from CIV (Betsy CC'd here), CRM, CRM-Appellate, and the Criminal Chiefs Working Group. FBI reviewed Alice's article. No one believed there were any issues with publication.

Please do let me know if you have questions or concerns prior to submission.

Thanks,

Kira

Kira Antell

Senior Counsel

Office of Legal Policy

U.S. Department of Justice

950 Pennsylvania Avenue, NW

Washington, DC 20530

(b) (6)

(b) (6)

## RE: Forensics Law Review Articles

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**From:** "Hur, Robert (ODAG)" <(b) (6)>  
**To:** "Bolitho, Zachary (ODAG)" <(b) (6)>, "Antell, Kira M. (OLP)" <(b) (6)>, "Terwilliger, Zachary (ODAG)" <(b) (6)>  
**Cc:** "Hunt, Ted (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**Date:** Mon, 29 Jan 2018 19:50:30 -0500

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Good by me thanks to all!

---

**From:** Bolitho, Zachary (ODAG)  
**Sent:** Monday, January 29, 2018 6:35 PM  
**To:** Antell, Kira M. (OLP) <(b) (6)>; Terwilliger, Zachary (ODA) <(b) (6)>  
**Cc:** Hunt, Ted (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>; Shapiro, Elizabeth (CIV) <(b) (6)>; Hur, Robert (ODAG) <(b) (6)>  
**Subject:** RE: For

Duplicative Information - See Document ID 20220314-03478

## Draft Minutes - ACWG Meeting

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**From:** "Hendrix, Wes (USATXN)" <(b)(6); (b)(7)(C) per EOUSA>  
**To:** "Alam, Leena (USAOKN)" <(b)(6); (b)(7)(C) per EOUSA>, "Bacon, Antoinette T. (USAOHN)" <(b)(6); (b)(7)(C) per EOUSA>, "Boitmann, Kevin (USALAE)" <(b)(6); (b)(7)(C) per EOUSA>, "Bonamici, Debra (USAILN)" <(b)(6); (b)(7)(C) per EOUSA>, "Breneman, Debra (USAINE)" <(b)(6); (b)(7)(C) per EOUSA>, "Chartowitz, Dina (USAMA)" <(b)(6); (b)(7)(C) per EOUSA>, "Collette, Matthew (CIV)" <(b)(6)>, "Cooke, Richard (USAVAE)" <(b)(6); (b)(7)(C) per EOUSA>, "Counts, Lajuana (USAMOW)" <(b)(6); (b)(7)(C) per EOUSA>, "Coyne, Mark (USANJ)" <(b)(6); (b)(7)(C) per EOUSA>, "Hendrix, Wes (USATXN)" <(b)(6); (b)(7)(C) per EOUSA>, "Letter, Douglas (CIV)" <(b)(6)>, "McManus, Jennifer L. (USAMIW)" <(b)(6); (b)(7)(C) per EOUSA>, "Smachetti, Emily (USAFLS)" <(b)(6); (b)(7)(C) per EOUSA>, "Stemler, Patty (CRM)" <(b)(6); (b)(7)(C) per CRM>, "Stevens, Elizabethanne (USAUT)" <(b)(6); (b)(7)(C) per EOUSA>, "Tanner, Brian (USAGAS)" <(b)(6); (b)(7)(C) per EOUSA>, "Torrance, Benjamin (USANYS)" <(b)(6); (b)(7)(C) per EOUSA>, "Trosman, Elizabeth (USADC)" <(b)(6); (b)(7)(C) per EOUSA>, "White, Elizabeth O. (USANV)" <(b)(6); (b)(7)(C) per EOUSA>, "Wyderko, Joseph (CRM)" <(b)(6); (b)(7)(C) per CRM>  
**Cc:** "(b)(6) per NSD (NSD)" <(b)(6)>, "Limarzi, Kristen" <(b)(6)>, "Flynn, Diana K (CRT)" <(b)(6)>, "Kilbourne, Jim (ENRD)" <(b)(6)>, "Rothenberg, Gilbert S (TAX)" <(b)(6)>, "Feigin, Eric (OSG)" <(b)(6)>, "Parker, Robert (OSG)" <(b)(6)>, "Wroblewski, Jonathan (CRM)" <(b)(6); (b)(7)(C) per CRM>, "Bolitho, Zachary (ODAG)" <(b)(6)>, "Shapiro, Elizabeth (CIV)" <(b)(6)>, "Smith, Travis (USAE0)" <(b)(6)>  
**Date:** Mon, 13 Nov 2017 12:09:27 -0500  
**Attachments:** 9.2017 - Minutes - Update 1.docx (130.97 kB)

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Hi everyone,

Attached please find a draft of the minutes from our last meeting. I'll read it for typos before circulating, but if you have any edits, please let me know.

Thanks,

Wes Hendrix  
Chief, Appellate Division  
U.S. Attorney's Office  
Northern District of Texas  
1100 Commerce St., Suite 300  
Dallas, TX 75242  
(b)(6)  
(b)(6)

## Hunt Edits\_Letter to Evidence Committee re 702 +EJS

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**From:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>  
**Cc:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Thu, 05 Nov 2020 11:08:36 -0500  
**Attachments:** Hunt Edits\_Letter to Evidence Committee re 702 +EJS.docx (344 kB)

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Ted.  
(b)(5) per CIV [REDACTED] As you'll see from my note in the margin, I would (b)(5) per CIV [REDACTED]

Andrew, can you look at this today and provide any feedback? The sooner we can get this out the better. Once I get your comments, let me know if anyone else needs to review. I will also assemble the attachments based on what Ted sent.

Thanks,  
Betsy

# Letter to Federal Rules Advisory Committee

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**From:** "Hunt, Ted (ODAG)" <(b) (6)>  
**To:** "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Thu, 05 Nov 2020 18:10:20 -0500  
**Attachments:** Final Hunt Edits\_Letter to Evidence Committee re 702 +EJS\_11.5.20.docx (348.64 kB); United States v. Harris\_2020 U.S. Dist. LEXIS 205810.PDF (180.87 kB); United States v. Hunt\_2020 U.S. Dist. LEXIS 95471.PDF (201.06 kB)

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Betsy and Andrew,

See the attached draft of the letter with rewrite, minor edits, and my proofread for typos, etc.

(b)(5) per CIV  
[Redacted]

[Redacted]

[Redacted]

[Redacted]

Betsy, I assume you'll send me a quick final draft for a final look and signature before forwarding it to the committee tomorrow?

Let me know if you have any questions.

Ted

## United States v. Harris

United States District Court for the District of Columbia  
November 4, 2020, Decided; November 4, 2020, Filed  
Criminal Action No.: 19-358 (RC)

### Reporter

2020 U.S. Dist. LEXIS 205810 \*

UNITED STATES OF AMERICA, v. DEMONTRA  
HARRIS, Defendant.

## Core Terms

firearm, toolmark, identification, reliable, studies, AFTE, casings, scientific, tested, methodology, expert testimony, discipline, courts, Forensic, match, peer review, fired, error rate, testability, black-box, training, false positive, ballistics, recovered, argues, scientific community, limitations, cartridge, bullet, marks

**Counsel:** [\*1] For DEMONTRA HARRIS, Defendant: Manuel J. Retureta, LEAD ATTORNEY, RETURETA & WASSEM, P.L.L.C., Washington, DC.

For USA, Plaintiff: Christopher Berridge, LEAD ATTORNEY, U.S. ATTORNEY'S OFFICE FOR THE DISTRICT OF COLUMBIA, Washington, DC; Laura E. Crane, LEAD ATTORNEY, U.S. ATTORNEY'S OFFICE FOR THE DISTRICT OF COLUMBIA, Washington, DC; Michael Thomas Ambrosino, LEAD ATTORNEY, U.S. ATTORNEY'S OFFICE, Washington, DC.

**Judges:** RUDOLPH CONTRERAS, United States District Judge.

**Opinion by:** RUDOLPH CONTRERAS

## Opinion

### MEMORANDUM OPINION

#### **DENYING DEFENDANT'S MOTION IN LIMINE TO EXCLUDE EXPERT TESTIMONY AS TO FIREARM EXAMINATION TESTING**

#### **I. INTRODUCTION**

Defendant Demontra Harris is charged with unlawful possession of a firearm as a person previously convicted of a felony, assault with a dangerous weapon, and possession of a firearm during a crime of violence. Superseding Indictment at 1-2, ECF No. 39. On July 24, 2019, the D.C. Metropolitan Police Department ("MPD") responded to a report of gunshots and recovered four 9mm shell casings from the incident scene, which were then entered into the National Integrated Ballistic Information Network ("NIBIN"). A witness later provided MPD with a video filmed that night that allegedly shows [\*2] Mr. Harris holding and then discharging a firearm in the location where the shell casings were later discovered. No firearm was recovered at the time. Roughly six weeks later on September 8, 2019, during a response to a call for service for a person with a weapon, MPD recovered a Glock 17 Gen4 9x19 pistol ("Glock 17"). This recovered firearm was test-fired and the resulting casings were entered into the NIBIN, where a match was identified with the casings recovered on the night of July 24, 2019. The Government then submitted the relevant evidence to an independent firearms examiner for forensic examination. Chris Monturo, a tool mark examiner who operates the Ohio-based forensic services firm Precision Forensic Testing, examined the evidence and concluded in a

Ted Hunt

report that he believed the four recovered casings from the July 24, 2019 incident scene were fired by the recovered Glock 17. See March 14, 2020 Report of Chris Monturo ("Monturo Report"), ECF No. 22-2. The Government intends to call Mr. Monturo to testify regarding these findings at the upcoming trial in this matter.

This opinion addresses Mr. Harris's *motion in limine* to Exclude Expert Testimony as to Firearm Examination Testing [\*3] ("Def.'s Mot."), ECF No. 22, pursuant to [Daubert v. Merrell Dow Pharm. Inc., 509 U.S. 579 \(1993\)](#), [Federal Rule of Evidence 702](#), and [Federal Rule of Evidence 403](#). Def.'s Mot. at 1-2. The motion has been fully briefed, with both parties also filing supplemental motions. See generally Def.'s Mot.; Govt.'s Opp'n to Def.'s Mot. to Excl. Firearm and Toolmark Testimony ("Govt. Opp'n"), ECF No. 28; Def.'s Supp. Mot. to Excl. Expert Testimony as to Firearm Exam. Testing ("Def.'s Supp. Mot."), ECF No. 32; Govt.'s Opp'n to Def.'s Supp. to Excl. Firearm and Toolmark Testimony ("Govt. Supp. Opp'n"), ECF No. 33. In addition, the Court conducted a Daubert hearing on October 15, 2020 to consider this issue, taking the testimony of Todd Weller, an expert in the field. A jury trial in this matter is currently scheduled to begin on November 12, 2020.

Mr. Harris argues that the field of firearm and toolmark identification lacks a reliable scientific basis and is not premised on sufficient facts or data, is not the product of reliable principles and methods, and was not applied properly by Mr. Monturo to the facts of the case. Def.'s Mot. at 1-2. The Court disagrees, and will admit Mr. Monturo's testimony to the extent it falls within the Department of Justice's Uniform Language for Testimony of Reports for the [\*4] Forensic Firearms/Toolmarks Discipline — Pattern Matching Examination ("DOJ ULTR"). While Mr. Harris raises important issues as to the reliability of firearm and toolmark identification, memorialized most notably by the 2016 President's Council of Advisors on Science and Technology Report ("PCAST Report"), these issues are for cross-examination, not exclusion, as recent advancements in the field in the four years since the PCAST Report address many of Mr. Harris's concerns. Mr. Harris also remains free to have his own expert examine the firearm and ballistics evidence and contradict the Government's case.

## II. ANALYSIS

### A. Legal Standard

"Motions *in limine* are designed to narrow the evidentiary issues at trial." [Williams v. Johnson, 747 F. Supp. 2d 10, 14 \(D.D.C. 2010\)](#). "While neither the Federal Rules of Civil Procedure nor the Federal Rules of Evidence expressly provide for motions *in limine*, the Court may allow such motions 'pursuant to the district court's inherent authority to manage the course of trials.'" [Barnes v. District of Columbia, 924 F. Supp. 2d 74, 78 \(D.D.C. 2013\)](#) (quoting [Luce v. United States, 469 U.S. 38, 41 n.4 \(1984\)](#)).

[Federal Rule of Evidence 702](#) provides that qualified expert testimony is admissible if "(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) [\*5] the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case." [Fed. R. Evid. 702](#). "In general, [Rule 702](#) has been interpreted to favor admissibility." [Khairkhwa v. Obama, 793 F. Supp. 2d 1, 10 \(D.D.C. 2011\)](#) (citing [Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 587 \(1993\)](#); [Fed. R. Evid. 702](#) advisory committee's note to 2000 amendment ("A review of the caselaw after *Daubert* shows that the rejection of expert testimony is the exception rather than the rule.")). Indeed, the Supreme Court has clarified that it is not exclusion, but rather "vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof" that "are the traditional and appropriate means of attacking shaky but admissible evidence." [Daubert, 509 U.S. at 596](#).

When considering the admissibility of expert evidence under [Federal Rule of Evidence 702](#), district courts are required to "assume a 'gatekeeping role,' ensuring that the methodology underlying an expert's testimony is valid and the expert's conclusions are based on 'good grounds.'" [Chesapeake Climate Action Network v. Export-Import Bank of the U.S., 78 F. Supp. 3d 208, 219 \(D.D.C. 2015\)](#) (quoting [Daubert, 509 U.S. at 590-97](#)). This gatekeeping analysis is "flexible," and "the law grants a district court the same broad latitude when it decides how to determine reliability as it enjoys in respect to its ultimate reliability [\*6] determination." [Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141-42 \(1999\)](#) (emphasis omitted). While district courts may apply a variety of different factors to assess reliability, in

*Daubert* the Supreme Court provided a non-exhaustive list of five factors to guide the determination, including: (1) whether the technique has been or can be tested; (2) whether the technique has a known or potential rate of error; (3) if the technique has been subject to peer review and publishing; (4) the existence of controls that govern the technique's operation; and (5) whether the technique has been generally accepted within the relevant scientific community. See [Daubert, 509 U.S. at 593-94](#). In contrast, expert testimony "that rests solely on 'subjective belief or unsupported speculation' is not reliable." [Grobert v. President & Directors of Georgetown Coll., 219 F. Supp. 2d 1, 6](#) (citing [Daubert, 509 U.S. at 590](#)).

"The burden is on the proponent of [expert] testimony to show by a preponderance of the evidence that . . . the testimony is reliable." [Sykes v. Napolitano, 634 F. Supp. 2d 1, 6 \(D.D.C. 2009\)](#) (citing [Meister v. Med. Eng'g Corp., 267 F.3d 1123, 1127 n.9 \(D.C. Cir. 2001\)](#)). Even if the proposed expert testimony is reliable, the Court may nonetheless exclude it "if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence." [Fed. R. Evid. 403](#); see [\[\\*7\] Bazarian Int'l Fin. Assocs., LLC v. Desarrollos Aerohotelco, C.A., 315 F. Supp. 3d 101, 128 \(D.D.C. 2018\)](#) (analyzing expert testimony under [Rule 403](#)).

## B. Firearm and Toolmark Identification

### 1. Firearm and Toolmark Identification Science

Mr. Harris's motion challenges the reliability of the Government's proposed use of firearm toolmark identification as a discipline for expert testimony. Firearm identification began as a forensic discipline in the 1920s, see James E. Hamby, *The History of Firearm and Toolmark Identification*, 31 Ass'n of Firearm and Tool Mark Examiners J. 266, 266-284 (1999), and "for decades" has been routinely admitted as appropriate expert testimony in district courts. [United States v. Taylor, 663 F. Supp. 2d 1170, 1175 \(D.N.M. 2009\)](#); see also [United States v. Brown, 973 F.3d 667, 704 \(7th Cir. 2020\)](#) (noting firearm and toolmark identification has been "almost uniformly accepted by federal courts") (citations omitted).

Firearm and toolmark identification "is used to determine

whether a bullet or casing was fired from a particular firearm." [Brown, 973 F.3d at 704](#). A firearm and toolmark examiner will make this determination "by looking through a microscope to see markings that are imprinted on the bullet or casing by the firearm during the firing process," which will include marks left on the bullet by the firing pin as well as scratches that occur when the bullet travels down the barrel. *Id.*

A firearm examiner is trained [\[\\*8\]](#) to observe and classify these marks into three types of characteristics during a firearm toolmark examination, which include:

- (1) Class characteristics: i.e., the weight or caliber of the bullet, the number of lands and grooves, the twist of the lands and grooves, and the width of the lands and grooves, that appear on all bullet casings fired from the same type of weapon and are predetermined by the gun manufacturer;
- (2) Individual characteristics: unique, microscopic, random imperfections in the barrel or firing mechanism created by the manufacturing process and/or damage to the gun post-manufacture, such as striated and/or impressed marks, unique to a single gun; and
- (3) Subclass characteristics: characteristics that exist, for example, within a particular batch of firearms due to imperfections in the manufacturing tool that persist during the manufacture of multiple firearm components mass-produced at the same time.

*Ricks v. Pauch*, No. 17-12784, 2020 WL 1491750, at \*8-9 (E.D. Mich. Mar. 23, 2020). A qualified examiner can conclude that casings were fired by the particular firearm by "comparatively examining bullets and determining whether 'sufficient agreement' of toolmarks exist," which occurs when the class and individual characteristics match. [Id. at \\*9](#); see also [Brown, 973 F.3d at 704](#). The [\[\\*9\]](#) methodology of determining when sufficient agreement is present is detailed by the Association of Firearm Toolmark Examiners ("AFTE method"), and is "the field's established standard." [United States v. Ashburn, 88 F. Supp. 3d 239, 246 \(E.D.N.Y. 2015\)](#). Under the governing AFTE theory, no two firearms will bear the same microscopically identical toolmarks due to differences in individual characteristics. [United States v. Otero, 849 F. Supp. 2d 425, 427 \(D.N.J. 2012\)](#).

In recent years three scientific reports have examined the underlying scientific validity of firearm and toolmark identification. They include the 2008 Ballistic Imaging Report, Def.'s Supp. Mot. Ex. 1, ECF No. 32-1, the 2009

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National Academy of Science Report, Def.'s Supp. Mot. Ex. 2, ECF No. 32-2, and the 2016 President's Council of Advisors on Science and Technology Report ("PCAST Report"), Def.'s Supp. Mot. Ex. 3, ECF No. 32-3. Mr. Harris argues that these reports "reject the claim that firearms identification is a valid and reliable science." Def.'s Supp. Mot. at 2-3. The Court is generally convinced by the Government's arguments and ample citations to case law that the 2008 Ballistic Imaging Report and the 2009 National Academy of Science Report are both "outdated by over a decade" due to intervening scientific studies and as a result have [\*10] been repeatedly rejected by courts as a proper basis to exclude firearm and toolmark identification testimony. Govt. Supp. Opp'n at 2-4 (collecting cases holding firearms identification evidence admissible after considering these reports). The PCAST Report provides better support for Mr. Harris's arguments, given its more recent origin and use in recent opinions that have interrogated the danger of subjectivity in this discipline. See, e.g., *United States v. Tibbs*, No. 2016-CF1-19431, 2019 WL 4359486 (D.C. Super. Ct. Sept. 5, 2019).

The PCAST Report ultimately concluded that firearm and toolmark identification fell "short of the criteria for foundational validity," after raising a number of critiques of the science. PCAST Report at 11. Chief among them was that the report concluded that "foundational validity can only be established through multiple independent black-box studies"<sup>1</sup> and at the time the report was published in 2016, there had only been one black-box study conducted on the discipline to date. Def.'s Supp. Mot. at 4 (citing PCAST Report at 106, 111). In response, the Government has put forth sworn affidavits from researchers that speak to post-PCAST Report scientific studies that they argue contradicts the PCAST Report's [\*11] conclusions. The Government's Daubert hearing expert, Todd Weller, devoted much of his testimony to discussing the scientific advances that have occurred since the PCAST Report was published in 2016, all of which he posited affirms the discipline's

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<sup>1</sup> The PCAST report defined a black-box study as "an empirical study that assesses a subjective method by having examiners analyze samples and render opinions about the origin or similarity of samples." PCAST Report at 48. Mr. Weller added at the Evidentiary Hearing that a black-box study is one in which there are "question samples [given to examiners] that have a matching known, and question samples that do not have a matching known, and also that each of those comparisons is independent from each other." October 15, 2020 Evidentiary Hearing Tr. ("Evid. Hr'g Tr.") 49:6-12.

validity. See generally Evid. Hr'g Tr.

## 2. Mr. Monturo's Report Methodology

Mr. Harris's *motion in limine* specifically challenges the proposed testimony of the Government's firearm and ballistics expert Chris Monturo, who examined the firearms evidence at issue in this case. In creating his report for the Government, Mr. Monturo first test fired the Glock 17 and found it to be operable. Monturo Report at 2. He then used the Glock 17 to create test-fired cartridge cases. *Id.* Mr. Monturo then microscopically compared his test-fired cartridge cases to the cartridge cases recovered from the crime scene on July 26, 2019, and found the two sets of cartridges "to have corresponding individual characteristics." *Id.* These results were then verified that same day by Calissa Chapin, another qualified firearm and ballistics expert from Mr. Monturo's lab. March 14, 2020 Report of Chris Monturo Notes ("Monturo Report Notes") at 3, ECF No. 22-3. As a result, [\*12] Mr. Monturo is expected to testify that "[b]ased upon these corresponding individual characteristics. . . namely aperture shear marks,"<sup>2</sup> "along with Mr. Monturo's training and experience, [he] is of the opinion that the Glock firearm fired" the cartridge casings recovered from the July 26, 2019 crime scene. Govt. Opp'n at 11-12.

## C. The Subject Matter of Mr. Monturo's Testimony Meets [Rule 702's](#) Standards

Mr. Harris argues that the Government's proposed expert must be excluded under [Rule 702](#) and *Daubert* because the underlying firearm and toolmark identification discipline "is based not upon science but rather 'subjectivity.'"<sup>3</sup> Def.'s Supp. Mot. at 2. To address

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<sup>2</sup> As defined in the AFTE Glossary, 6th Edition, a firing pin aperture shear is "[s]triated marks caused by the rough edges of the firing pin aperture scraping the primer metal during unlocking of the breech." Govt. Supp. Opp'n, Ex. 15, ECF No. 33-15. It is these individual characteristics Mr. Monturo used to classify the cartridge cases at issue.

<sup>3</sup> Based on remarks such as these and his citation to *United States v. Glynn*, Mr. Harris appears to be peripherally raising the point that firearm and toolmark identification cannot "fairly be called 'science,'" [United States v. Glynn, 578 F. Supp. 2d 567, 570 \(S.D.N.Y. 2008\)](#), a preliminary inquiry some courts have investigated before proceeding to the *Daubert* analysis. The Court does not believe such an inquiry is required here, given that, as other courts have also found, firearm and

Mr. Harris's concerns about the admission of Mr. Monturo's expert testimony, the Court will undertake a factor-by-factor analysis of the discipline's reliability, using *Daubert* as a guide. Complicating this process is the fact that Mr. Harris did not specifically address the *Daubert* criteria in his briefing on this topic, so the Court will instead rely on the implications raised by the PCAST Report and other scientific reports he has brought to the Court's attention.

1. Whether the methodology [\*13] has been tested

As previously noted, the first *Daubert* factor asks whether the technique in question has been or can be tested. See *Daubert*, 509 U.S. at 593-94. This "testability" inquiry, as articulated in the Advisory Committee Notes to *Rule 702*, concerns "whether the expert's theory can be challenged in some objective sense, or whether it is instead simply a subjective, conclusory approach that cannot be reasonably assessed for reliability." *Fed. R. Evid. 702* advisory committee's note to 2000 amendment. Mr. Harris argues that firearm and toolmark identification is "unavoidably subjective," and also cites to the 2008 Ballistics Imaging Report which expressed concerns about "the fundamental assumptions of uniqueness and reproducibility of firearms-related toolmarks." Def.'s Supp. Mot. at 2-3. In response, the Government has put forth evidence to show "[f]irearms and toolmark identification has been thoroughly tested with ground-truth experiments designed to mimic casework." Govt. Opp'n at 1. The Court agrees with the Government that this factor supports admissibility.

A number of courts have examined this factor in depth to conclude that firearm toolmark identification can be tested and reproduced. See, e.g., *Otero*, 849 F. Supp. 2d at 432 ("The literature shows [\*14] that the many studies demonstrating the uniqueness and reproducibility of firearms toolmarks have been conducted."); *Taylor*, 663 F. Supp. 2d at 1175-76 (noting studies "demonstrating that the methods underlying firearms identification can, at least to some degree, be tested and reproduced."); *United States v. Diaz*, No. CR 05-00167, 2007 WL 485967, at \*6 (N.D. Cal. Feb. 12, 2007) (holding that "the theory of firearms identification, though based on examiners' subjective assessment of

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toolmaking identification is "clearly is technical or specialized, and therefore within the scope of *Rule 702*." *United States v. Hunt*, No. CR-19-073-R, 2020 WL 2842844, at \*3 n.2 (W.D. Okla. June 1, 2020) (citing *United States v. Willock*, 696 F. Supp. 2d 536, 571 (D. Md. 2010), *aff'd sub nom. United States v. Mouzone*, 687 F.3d 207 (4th Cir. 2012)).

individual characteristics, has been and can be tested."). Indeed, even Judge Edelman in the *Tibbs* opinion relied on by Mr. Harris concluded that "virtually every court that has evaluated the admissibility of firearms and toolmark identification has found the AFTE method to be testable and that the method has been repeatedly tested." *Tibbs*, 2019 WL 439486 at \*7 (collecting cases).

The fact that there are subjective elements to the firearm and toolmark identification methodology is not enough to show that the theory is not "testable." Indeed, studies have shown that "the AFTE theory is testable on the basis of achieving consistent and accurate results." *Otero*, 849 F. Supp. 2d at 433; see also July 7, 2017 Decl. of Todd Weller ("Weller I") at 2-6, ECF No. 28-5 (describing various studies that support the reproducibility of the AFTE identification [\*15] theory). This conclusion has only been further strengthened in recent years due to advances in three-dimensional imaging technology, which has allowed the field to interrogate the process and sources of "subjectivity" behind firearm and toolmark examiners' conclusions. For example, Mr. Weller testified regarding a study which used 3D image technology to assess the process used by trained firearm examiners when identifying casings to a particular firearm. See Sept. 19, 2019 Decl. of Todd Weller ("Weller II") at 15-16 (citing Pierre Duez et al., *Development and Validation of a Virtual Examination Tool for Firearm Forensics*, 63 J. Forensic Sci, 1069-84 (2018), ("Heat Map Study")), ECF No. 28-6. The Heat Map Study indicated that firearm examiners from fifteen different laboratories, all conducting an independent assessment, were "mostly using the same amount and same location of microscopic marks when concluding identification." Weller II at 16. Critically, the trained examiners also correctly reported 100% of known matches while reporting no false positives or false negatives. *Id.*

It is also important to note that the testability criticism leveled at the firearm and toolmark field in the PCAST Report—that at the time of publishing "there [was] only a single appropriately designed study to measure validity [\*16] and estimate reliability"—appears to now be out of date. PCAST Report at 112. As previously discussed, the PCAST Report only considered studies that were a "black-box" or "open-set" design, disregarding hundreds of validation studies in the process. See Evid. Hr'g Tr. 48:9-17 (noting that PCAST only evaluated nine of the hundreds of studies that were submitted for review). Setting aside for the moment the utility of this "black-box" requirement—which goes beyond what is required by *Rule 702*—the Government

has provided to the Court three recent scientific studies that meet the PCAST's black-box model requirements and demonstrate the reliability of the firearm and toolmark identification method. These include one of the tests administered during the Heat Map Study detailed above, see Weller II at 16 n. 84, along with another recent black box study testing the identification of fired casings, which resulted in a .433% false positive error rate from three errors among 693 total comparisons. See Lilien et al., *Results of the 3D Virtual Comparison Microscopy Error Rate (VCMER) Study for Firearm Forensics*, J. of Forensic Sci. Oct. 1, 2020 ("Lilien Study") at 1, ECF No. 41. A third post-PCAST Report study also followed [\*17] the PCAST recommended black-box model and found that of 1512 possible identifications tested, firearms examiners correctly identified 1508 casings to the firearm from which the casing was fired. Keisler et. al., *Isolated Pairs Research Study*, Ass'n of Firearm and Tool Mark Examiners J. 56, 58 (2018) ("Keisler Study"), ECF No. 33-9; see also Evid. Hr'g Tr. 65:3-11. This evidence indicates that even under the PCAST's stringent black-box only criteria, firearm and toolmark identification can be tested and reasonably assessed for reliability.

A final factor demonstrating the strength of the testability prong is that firearm and toolmark examiners are required, as Mr. Monturo has done here, to document their results and findings through written reports and photo documentation, and have these results validated by another qualified examiner. These elements "ensure sufficient testability and reproducibility to ensure that the results of the technique are reliable." Diaz, 2007 WL 485967 at \*5 (citing United States v. Monteiro, 407 F.Supp.2d 351, 369 (D. Mass. 2006)).<sup>4</sup> For all of these reasons, the Court concludes that the testability factor supports admissibility of Mr. Monturo's testimony.

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<sup>4</sup>Mr. Harris's only explicit acknowledgement of this Daubert factor is an assertion in a parenthetical that the court in *United States v. Green* found that "ballistic evidence fails to meet Daubert criteria regarding . . . testability." Def.'s Mot. at 7 (citing United States v. Green, 405 F. Supp. 2d 104, 120-22 (D. Mass. 2005)). But the facts at issue in *Green* were quite different than the instant case. *Green*'s holding that the methods at issue could not be tested rested on an absence of notes and photographs from the initial examination that "made it difficult, if not impossible" for another expert to verify the examination. Green, 405 F. Supp. 2d at 120. In contrast, Mr. Monturo documented his work in addition to having it verified that same day by another certified firearms analyst. Accordingly, reproducibility is not at issue here.

## 2. The known or potential error rate

The second *Daubert* factor inquires [\*18] as to whether the technique has a known or potential rate of error. See Daubert, 509 U.S. at 594. The PCAST Report concluded that non-black box studies had "inconclusive and false-positives rate that are dramatically lower (by more than 100-fold)" compared to partly black-box or fully black-box designed studies. PCAST Report at 109. The Government counters that "collectively, th[e] body of scientific data demonstrate[s] a low rate of error" for firearm and toolmark identification, and provides several recently published studies to refute the PCAST Report's finding of differences in rate of error tied to study design. Govt. Opp'n at 2; Govt. Supp. Opp'n at 13-14.

First, as the Government argues and this Court agrees, the critical inquiry under this factor is the rate of error in which an examiner makes a false positive identification, as this is the type of error that could lead to a conviction premised on faulty evidence. See Otero, 849 F. Supp. 2d at 434 (noting, "the critical validation analysis has to be the extent to which false positives occur").<sup>5</sup> Mr. Weller testified that "over the past couple of decades in research" he had seen a rate of false positives in research studies ranging from 0-1.6 percent. Evid. Hr'g Tr. 84:19-22. To [\*19] support this assertion, the Government provided the false positive error rates for nineteen firearm and toolmark validation studies conducted between 1998 and 2019, of which eleven studies had a false positive error rate of zero percent, and the highest false positive error rate calculated was 1.6%. Govt. Opp'n at 27-29. Other federal courts have also recognized that validation studies as a whole show a low rate of error for firearm and toolmark identification. See, e.g., United States v. Romero-Lobato, 379 F. Supp. 3d 1111, 1119 (D. Nev. 2019) ("[T]he studies cited by [the firearms examiner] in his testimony and by other federal courts examining the issue universally report a low error rate for the AFTE method."); Taylor, 663 F. Supp. 2d at 1177 ("[T]his number [less than 1%] suggests that the error rate is quite low").

As was the case under the testability prong of the *Daubert* analysis, here too recent studies have resolved some of the concerns raised by the PCAST Report. Mr. Weller described for the Court how three black box studies that post-date the PCAST Report all have

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<sup>5</sup> Perhaps the false negative rate could be important in a case where a defendant asserts his co-defendant (or a third party) was the culprit and examination of that person's firearm tested negative. But that situation does not apply here.

extremely low rates of error. Govt. Supp. Opp'n at 14, Evid. Hr'g Tr. 65:2-77:8. The Heat Map and Keisler studies both had an overall error rate of zero percent, and the Lilien study produced a false positive rate [\*20] of only 0.433%. Govt. Supp. Opp'n at 14. Because the evidence shows that error rates for false identifications made by trained examiners is low—even under the PCAST's black-box study requirements—this factor also weighs in favor of admitting Mr. Monturo's expert testimony.

### 3. Whether the methodology has been subject to peer review and publication

The third *Daubert* factor concerns if the methodology has been subject to peer review and published in scientific journals, a component the Supreme Court emphasized as critical to "good science" since "it increases the likelihood that substantive flaws in methodology will be detected." See [Daubert, 509 U.S. at 593-94](#). The Government contends that scientific data concerning firearms and toolmark identification "have been published in a multitude of scientific peer-reviewed journals," Govt. Opp'n at 1, and Mr. Weller presented evidence to this effect at the evidentiary hearing, describing the variety of scientists from different disciplines who have published on the topic in several different peer-reviewed journals. See Weller I at 9-10. The Court agrees with the Government that this factor weighs in favor of admissibility.

Much of the literature in this discipline has been published in [\*21] the AFTE Journal, a peer-reviewed journal that "publishes articles, studies and reports concerning firearm and toolmark evidence." *United States v. McCluskey*, No. CR 10-2734 JCH, 2013 WL 12335325, at \*6 (D.N.M. Feb. 7, 2013). The AFTE Journal uses a formal process for article submissions, including "specific instructions for writing and submitting manuscripts, assignment of manuscripts to other experts within the scientific community for a technical review, returning of manuscripts to other experts within the scientific community for clarification or re-write, and a final review by the Editorial Committee." *Id.* (quoting Richard Grzybowski, et al., *Firearm/Toolmark Identification: Passing the Reliability Test Under Federal and State Evidentiary Standards*, 35 AFTE J. 209, 220 (2003)).

Other courts have examined the scientific credibility of the AFTE Journal. Notably, the court in *Tibbs* concluded that the AFTE Journal's lack of a double-blind peer review process along with the fact that it is published by the group of practicing firearms and toolmark examiners

could create an "issue in terms of quality of peer review." *Tibbs*, 2019 WL 4359486, at \*10. In response, the Government asserts, citing to testimony from Dr. [\*22] Bruce Budowle, "the most published forensic DNA scientist in the world," that there is far from consensus in the scientific community that double-blind peer review is the only meaningful kind of peer review. Govt. Supp. Opp'n at 23; see also Affidavit of Bruce Budowle at 2, ECF No. 33-17. To this point, Mr. Weller described the various advantages and disadvantages of each type of peer review. Weller II at 22-24. Compellingly, the Government also refuted the allegation by Judge Edelman in *Tibbs* that the AFTE Journal does not provide "meaningful" review, by bringing to the Court's attention a study that was initially published in the AFTE Journal, and then was subsequently published in the Journal of Forensic Science with no further alterations. Govt. Supp. Opp'n at 27. Because the Journal of Forensic Science employs a double-blind peer review process, this indicates that at least in this instance, the open peer review process of the AFTE Journal led to the same outcome as a double-blind peer review. *Id.* In addition, numerous courts have concluded that publication in the AFTE Journal satisfies this prong of the *Daubert* admissibility analysis. See, e.g., [Romero-Lobato, 379 F. Supp. 3d at 1119](#); [United States v. Johnson, No. 16 Cr. 281, 2019 WL 1130258, at \\*16 \(S.D.N.Y. Mar. 11, 2019\)](#); [Ashburn, 88 F. Supp. 3d at 245-46](#); [Otero, 849 F. Supp. 2d at 433](#); [Taylor, 663 F. Supp. 2d at 1176](#); [Monteiro, 407 F. Supp. 2d at 366-67](#). The Court queries whether excluding [\*23] certain journals from consideration based on the type of peer review the journal employs goes beyond a court's appropriate gatekeeping function under *Daubert*.

And even if the Court were to discount the numerous peer-reviewed studies published in the AFTE Journal, Mr. Weller's affidavit also cites to forty-seven other scientific studies in the field of firearm and toolmark identification that have been published in eleven other peer-reviewed scientific journals. Weller II at Ex. A. This alone would fulfill the required publication and peer review requirement.

Because the toolmark identification methodology used by Mr. Monturo has been subject to peer review and publication, the Court finds this *Daubert* factor to also weigh in favor of admission.

### 4. The existence and maintenance of standards to control the methodology's operation

The fourth *Daubert* factor inquires as to whether there are proper standards and controls to govern the

operation of the technique in question. See [Daubert, 509 U.S. at 594](#). Mr. Harris argues that there are insufficient objective standards in place, citing to the PCAST Report to claim that the AFTE's "sufficient agreement" analysis that is used by examiners to reach their conclusions is [\*24] subjective and impermissibly based on the "personal judgment" of each examiner. Def.'s Supp. Mot. at 4 (citing PCAST Report at 47, 60, 104, 113). In opposition, the Government argues that "the firearms community has implemented standards," citing to a number of industry guidebooks and regulations. Govt. Opp'n at 2. While a close call, the Court finds that the lack of objective standards ultimately means this factor cannot be met.<sup>6</sup>

The Government identifies a number of what they refer to as "standards for professional guidance" for the firearm and toolmark profession, Govt. Opp'n at 32-33, but the primary standard that governs the discipline is the AFTE Theory of Identification, which describes the methodology examiners should undertake when "pattern matching" between firearms and cartridges. See, e.g., Govt. Opp'n at 8 (explaining that Theory of Identification was created "to explain the basis of opinion of common origin in toolmark comparisons"). According to the AFTE Theory of Identification, examiners can conclude that a firearm and cartridges have a common origin when a comparison of toolmarks shows there is "sufficient agreement" between "the unique surface contours of two [\*25] toolmarks." The Association of Firearm and Tool Mark Examiners, *AFTE Theory of Identification as It Relates to Toolmarks*, <https://afte.org/about-us/what-is-afte/afte-theory-of-identification> (last visited November 4, 2020). This theory of identification dictates that "sufficient agreement" between two toolmarks exists only when "the agreement of individual characteristics is of a quantity and quality that the likelihood another tool could have made the mark is so remote as to be considered a practical impossibility." *Id.* The Court finds this standard to be generally vague, and indeed, the AFTE Theory acknowledges that "the interpretation of individualization/identification is subjective in nature, founded on scientific principles and based on the examiner's training and experience." *Id.* As other courts have found, under this method "matching two tool marks essentially comes down to the examiner's subjective

judgment based on his training, experience, and knowledge of firearms." [Romero-Lobato, 379 F. Supp. 3d at 1121](#); [Glynn, 578 F. Supp. 2d at 572](#) ("[T]he standard defining when an examiner should declare a match — namely 'sufficient agreement' — is inherently vague.").

Accordingly, it is evident and hardly disputed that the "AFTE theory lacks objective [\*26] standards." [Ricks, 2020 WL 1491750, at \\*10](#). The entire process of reaching a conclusion regarding the "sufficient agreement in individual characteristics" is one that relies wholly on the examiner's judgment, without any underlying numerical standards or guideposts to direct an examiner's conclusion. See Evid. Hr'g Tr. 37:16-38:25 (noting the absence at this time of objective standards to guide an examiner's findings). And as Mr. Weller testified, even in contrast to other subjective disciplines such as fingerprint analysis, firearm toolmark identification does not provide objective standards even as a quality control measure, such as a baseline to trigger further verification. See Evid. Hr'g Tr. 112:18-113:17 (explaining that while fingerprint testing does not have an agreed-upon standard for the number of matching points required for an identification, it does use matching points as a quality control measure that triggers further verification if below a certain threshold). While Mr. Monturo's additional use of "basic scientific standards" through taking contemporaneous notes, documenting his comparison with photographs, and the use of a second reviewer for verification surely assist in maintaining reliable results, [\*27] without more the Court cannot conclude this *Daubert* factor is met.

It should be noted, however, that even if this factor cannot be met, a partially subjective methodology is not inherently unreliable, or an immediate bar to admissibility. [Rule 702](#) "does not impose a requirement that the expert must reach a conclusion via an objective set of criteria or that he be able to quantify his opinion with a statistical probability." [Romero-Lobato, 379 F. Supp. 3d at 1120](#). And indeed, "all technical fields which require the testimony of expert witnesses engender some degree of subjectivity requiring the expert to employ his or her individual judgment, which is based on specialized training, education, and relevant work experience." [Johnson, 2019 WL 1130258 at \\*18](#) (citations omitted); see also Evid. Hr'g Tr. at 30:14-31:6 (Mr. Weller testified that "all science involves some level of interpretation," and went on to describe subjective components to both drug testing and DNA interpretation). Accordingly, this factor weighs against the admission of Mr. Monturo's testimony, but does not

<sup>6</sup>This *Daubert* factor is, as the Government concedes, "the only *Daubert* factor that some courts have found lacking" in firearm toolmark identification. Govt. Opp'n at 33. This makes it all the more puzzling that the Government fails entirely to address this factor in its reply.

disqualify it.

5. Whether the methodology has achieved general acceptance in the relevant community

Finally, the fifth and last *Daubert* factor asks whether the technique has been generally accepted [\*28] within the relevant scientific community, reasoning that "a known technique which has been able to attract only minimal support within the community, may properly be viewed with skepticism." See *Daubert*, 509 U.S. at 594. The Court finds that the Government has put forth more than sufficient evidence to show that the AFTE theory as used by Mr. Monturo enjoys widespread scientific acceptance. See Govt. Opp'n at 2; Govt. Supp. Opp'n at 28.

Mr. Weller testified that firearm and toolmark identification is practiced by accredited laboratories in the United States and throughout the world, including England (Scotland Yard), New Zealand, Canada, South Africa, Australia, Germany, Sweden, Greece, Turkey, China, Mexico, Singapore, Malaysia, Belgium, Netherlands, and Denmark. See Weller II at 30. In the United States alone, there are 233 accredited firearm and toolmark laboratories, that often operate within a larger forensic laboratory providing chemistry, DNA, and fingerprint identification, and scientists from a variety of disciplines author studies within the area of firearms and toolmark identification. *Id.*

The criticism contained in the PCAST Report does not undermine this factor, as "techniques do not need to have universal acceptance [\*29] before they are allowed to be presented before a court." *Romero-Lobato*, 379 F. Supp. 3d at 1122. Even courts that have been critical of the validity of the discipline have conceded that it does enjoy general acceptance as a reliable methodology in the relevant scientific community of examiners. See *Otero*, 849 F. Supp. 2d at 435 (collecting cases). Furthermore, as Mr. Weller noted at the evidentiary hearing, the committee responsible for the PCAST Report did not include any firearm and toolmark examiners or researchers in the field, see Evid. Hr'g Tr. 47:18-23, thus raising the question of whether the PCAST Report criticism would even constitute a lack of acceptance from the "relevant scientific community." For all of these reasons, this factor weighs in favor of admitting Mr. Monturo's testimony.

6. The *Daubert* Analysis Urges Admission of Mr. Monturo's Testimony

Balancing all five *Daubert* factors, the Court finds that

the Government's proposed expert testimony of Mr. Monturo is reliable and admissible, though subject to what the Court considers prudent limitations, discussed in detail below. The only factor that does not favor admissibility is the lack of objective criteria under the fourth *Daubert* factor, but as discussed, "the subjectivity of a methodology [\*30] is not fatal under *Rule 702* and *Daubert*." *Ashburn*, 88 F. Supp. 3d at 246. And as other courts have also found, this deficiency "is countered by the method's relatively low rate of error, widespread acceptance in the scientific community, testability, and frequent publication in scientific journals." *Romero-Lobato*, 379 F. Supp. 3d at 1122. Accordingly, the Court will allow the admission of Mr. Monturo's expert testimony as to his firearm and toolmark identification analysis, subject to certain limitations.

D. *Federal Rule of Evidence 702(d)*

*Federal Rule of Evidence 702(d)* provides that qualified expert testimony is admissible only when "the expert has reliably applied the principles and methods to the facts of the case." *Fed. R. Evid. 702*. Mr. Harris challenges the admission of Mr. Monturo's testimony, asserting that he "has not applied the principles and methods reliably to the facts of the case." Def.'s Mot. at 1. However, he provides no evidence or further analysis to flesh out this conclusory claim. Accordingly, the Court finds this argument to be without merit.

As previously described, Mr. Monturo detailed the firearm and toolmark examination he conducted in his report, providing both a description of his process and photo documentation. See generally Monturo Report. Mr. Monturo's findings were then verified by another qualified examiner [\*31] the same day. Monturo Report Notes at 2. In contrast, Mr. Harris has not put forth any evidence to suggest that Mr. Monturo applied the firearm and toolmarking methodology in an unreliable manner. Mr. Monturo also appears to be well-qualified, with the Government noting that he "has significant training and experience, has not failed any proficiency exams, and has designed consecutively manufactured firearms test kits for training other firearms examiners," information that they plan to elicit at trial during qualification of his testimony and also set out in his curriculum vitae. Govt. Opp'n at 35. In light of his failure to identify any unreliability on Mr. Monturo's part, and also because Mr. Harris will have the ability to question Mr. Harris regarding his analysis during cross examination, the Court is convinced exclusion on this ground is not warranted. See *Daubert*, 509 U.S. at 596

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("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."). If Mr. Harris has lingering concerns about Mr. Monturo's application of the firearm and toolmark methodology in this case, [\*32] he is welcome to retain an independent expert to review Mr. Monturo's work, or have an independent examination of his own performed.

#### E. Federal Rule of Evidence 403

Next, Mr. Harris argues that even if the proposed testimony of Mr. Monturo is admissible pursuant to *Daubert* and Federal Rule of Evidence 702, it is inadmissible under Federal Rule of Evidence 403. Def. Mot. at 2. In support of this claim, Mr. Harris argues that Mr. Monturo's "conclusions appear to extend beyond his claimed expertise and are not reliable since they are not based on objective standards but rather his subjective observations and conclusions." *Id.* "The prejudice to Mr. Harris is simple, a connection to a firearm, a connection to a shell casing, all premised on analysis that at its best can only conclude that it 'may' be correct." Def. Supp. Mot. at 2.

Under Rule 403, a Court may exclude otherwise probative testimony if its value is substantially outweighed by unfair prejudice, confusing the issues, misleading the jury, undue delay, a waste of time, or cumulative evidence. Fed. R. Evid. 403. Mr. Harris's concern under Rule 403 appears to be that the value of Mr. Monturo's testimony will be substantially outweighed by the risk of him potentially misleading the jury through his reliance on a methodology Mr. Harris does not believe [\*33] is sufficiently reliable. First, Mr. Harris's concerns about the reliability of the firearm and toolmarking methodology have already been analyzed, and the Court has found the underlying analysis sufficiently reliable such that Mr. Harris's concerns do not "substantially outweigh" the value of Mr. Monturo's testimony. Additionally, the Court believes that the risk of prejudice raised here can be alleviated through alternatives to exclusion. Cross-examination of Mr. Monturo's testimony, in conjunction with the appropriate limiting instruction governing the degree of certainty Mr. Monturo can express about his conclusions will sufficiently deter the risks of harm Mr. Harris has raised.

#### F. Limiting Instruction

In his final request, Mr. Harris asks that if the testimony of Mr. Monturo is not excluded, then the Court put in place limitations on his testimony. Def. Supp. Mot. at 6-7. Specifically, he requests that Mr. Monturo not "use the term 'match'" but he "may be allowed to tell the jury that he could not exclude the gun as the weapon that produced a casing." *Id.*

Limitations restricting the degree of certainty that may be expressed on firearm and toolmark expert testimony are not uncommon. [\*34] See, e.g., Romero-Lobato, 379 F. Supp. 3d at 1117 (noting the "general consensus" of the courts "is that firearm examiners should not testify that their conclusions are infallible or not subject to any rate of error, nor should they arbitrarily give a statistical probability for the accuracy of their conclusions"); Ashburn, 88 F. Supp. 3d at 249 (limiting expressions of an expert's conclusions to that of a "reasonable degree of ballistics certainty" or a "reasonable degree of certainty in the ballistics field."); Diaz, 2007 WL 485967 at \*1 (same).

With respect to Mr. Harris's stated concerns, the Government has already agreed to a number of limitations on Mr. Monturo's testimony, chief among them that he will not use terms such as "match," he will "not state his expert opinion with any level of statistical certainty," and he will not use the phrases when giving his opinion of "to the exclusion of all other firearms" or "to a reasonable degree of scientific certainty." Govt. Opp'n at 12. These limitations are in accord with the Department of Justice Uniform Language for Testimony and Reports for the Forensic Firearms/Toolmarks Discipline—Pattern Matching Examination. See Govt. Opp'n, Ex. 4 ("DOJ ULTR"), ECF No. 28-4. The DOJ ULTR permits firearms examiners to conclude that casings [\*35] were fired from the same firearm when all class characteristics are in agreement, and "the quality and quantity of corresponding individual characteristics is such that the examiner would not expect to find that same combination of individual characteristics repeated in another source and has found insufficient disagreement of individual characteristics to conclude they originated from different sources." *Id.* at 2-3. This Court believes, as other courts have also concluded, see Hunt, 2020 WL 2842844, at \*8, that the testimony limitations as codified in the DOJ ULTR are reasonable and should govern the testimony at issue here. Accordingly, the Court instructs Mr. Monturo to abide by the expert testimony limitations detailed in the DOJ ULTR.

### III. CONCLUSION

For the foregoing reasons, Defendant's Motion to Exclude Expert Testimony as to Firearm Examination Testing, ECF No. 22, is DENIED. An order consistent with this Memorandum Opinion is separately and contemporaneously issued.

Dated: November 4, 2020

RUDOLPH CONTRERAS

United States District Judge

### ORDER

DENYING DEFENDANT'S MOTION IN LIMINE TO EXCLUDE  
EXPERT TESTIMONY AS TO FIREARM EXAMINATION TESTING

For the reasons stated in the Court's Memorandum Opinion separately issued, Defendant's [\*36] Motion to Exclude Expert Testimony as to Firearm Examination Testing (ECF No. 22) is **DENIED**.

**SO ORDERED.**

Dated: November 4, 2020

RUDOLPH CONTRERAS

United States District Judge

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As of: November 5, 2020 10:49 PM Z

## United States v. Hunt

United States District Court for the Western District of Oklahoma

June 1, 2020, Decided; June 1, 2020, Filed

Case No. CR-19-073-R

### Reporter

2020 U.S. Dist. LEXIS 95471 \*; 112 Fed. R. Evid. Serv. (Callaghan) 901; 2020 WL 2842844

UNITED STATES OF AMERICA, Plaintiff, v. DOMINIC EUGENE HUNT, Defendant.

**Prior History:** [United States v. Hunt, 2020 U.S. Dist. LEXIS 78860 \(W.D. Okla., May 5, 2020\)](#)

### Core Terms

firearm, toolmark, AFTE, identification, reliability, cases, methodology, tested, fired, peer review, studies, expert testimony, courts, error rate, limitations, bullet, weighs, gun, reasonable degree, ammunition, marks, district court, federal court, scientific, argues, caliber pistol, manufacture, probability, Ballistic, black-box

**Counsel:** [\*1] For Dominic Eugene Hunt, also known as Dime Sack, Defendant: Edward M Blau, Walter H Mengden, IV, Blau Law Firm PLLC, Oklahoma City, OK.

For United States of America, Plaintiff: Jacquelyn M Hutzell, LEAD ATTORNEY, David M McCrary, US Attorney's Office-OKC, Oklahoma City, OK.

**Judges:** DAVID L. RUSSELL, UNITED STATES DISTRICT JUDGE.

**Opinion by:** DAVID L. RUSSELL

### Opinion

#### ORDER

Before the Court is Defendant Dominic Hunt's Motion in Limine to Exclude Ballistic Evidence, or Alternatively, for a *Daubert* Hearing. Doc. No. 67. The Government has responded in opposition to the motion. Doc. No. 81. Upon review of the parties' submissions, the Court denies Defendant's motion.

#### I. Background

On November 6, 2019, a federal grand jury returned a nine-count, third superseding indictment charging Defendant with, as relevant here, two counts of being a felon in possession of ammunition. Doc. No. 41. The two counts—Counts Eight and Nine—stem from two shootings: One in January of 2019 and another in February of 2019. *Id.* During the Oklahoma Police Department's (OPD) investigation at the scene of the first shooting, officers found a Blazer 9mm Luger cartridge casing—the basis for Count Eight. *Id.* at 5-6. During the OPD's investigation at the scene [\*2] of the second shooting, officers found a Blazer 9mm Luger cartridge casing and two Winchester 9mm Luger cartridge casings—the basis for Count Nine. *Id.* at 6. Ronald Jones, a firearm and toolmark examiner for the OPD, examined the casings and concluded that all four casings were likely fired from the same unknown firearm, potentially a Smith & Wesson 9mm Luger caliber pistol. Doc. Nos. 81-1, 81-2. Howard Kong, a firearm and toolmark examiner for the Bureau of Alcohol, Tobacco, Firearms and Explosives' (ATF) Forensic Science Laboratory, found the same. Doc. No. 81-4. The Government anticipates calling Mr. Jones and Mr. Kong at trial to "testify regarding their training, experience, and qualifications, the basis for firearms

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identification, their methods of examination in this case, their findings, and the basis for those findings." Doc. No. 81, pp. 4-5. Specifically, the Government intends its experts to testify that:

(1) the ammunition charged in Count Eight was not fired from the Springfield Armory 9mm Luger caliber pistol [the Defendant's brother] had on March 11, 2019; (2) the ammunition charged in Count Eight was not fired from the Smith & Wesson .40 caliber pistol [the Defendant's cousin] [\*3] was convicted of possessing on January 20, 2019; (3) the probability the ammunition charged in Count Nine were fired in different firearms is so small it is negligible; (4) the ammunition charged in Count Nine was not fired from [the] Smith & Wesson .40 caliber pistol . . . ; (5) the probability the ammunition charged in Counts Eight and Nine were fired in different firearms is so small it is negligible; and (6) the unknown firearm was likely a Smith & Wesson 9mm Luger caliber pistol.

*Id.* Defendant now moves to exclude the testimony of Mr. Jones and Mr. Kong, or alternatively, for a *Daubert* hearing. Doc. No. 67.

## II. Legal Standard

When it comes to the admissibility of expert evidence, district courts maintain the role of gatekeeper. [Bitler v. A.O. Smith Corp.](#), 400 F.3d 1227, 1232 (10th Cir. 2005). In that role, district courts must adhere to [Federal Rule of Evidence 702](#), which demands that courts "assess proffered expert testimony to ensure it is both relevant and reliable." [United States v. Avitia-Guillen](#), 680 F.3d 1253, 1256 (10th Cir. 2012). To do this, "the district court generally must first determine whether the expert is qualified . . . ." [United States v. Nacchio](#), 555 F.3d 1234, 1241 (10th Cir. 2009) (en banc). If the expert is sufficiently qualified, then "the court must determine whether the expert's opinion is reliable . . . ." *Id.* "Although a district court has discretion in how it performs [\*4] its gatekeeping function, 'when faced with a party's objection, [the court] must adequately demonstrate by specific findings on the record that it has performed its duty as gatekeeper.'" [Avitia-Guillen](#), 680 F.3d at 1257 (quoting [Goebel v. Denver & Rio Grande W. R.R. Co.](#), 215 F.3d 1083, 1088 (10th Cir. 2000)). "The proponent of expert testimony bears the burden of showing that its proffered expert's testimony is admissible." [Nacchio](#), 555 F.3d at 1241.

Here, Defendant Hunt does not object to the relevancy of the experts' testimony nor to the experts' qualifications. Defendant objects only to the reliability of the experts' testimony. Doc. No. 67, pp. 11-18. Therefore, the Court need only address whether the experts' testimony is reliable. See [Avitia-Guillen](#), 680 F.3d at 1257.

"To determine reliability, courts assess the reasoning and methodology underlying the [experts'] opinion . . . ." [Thompson v. APS of Oklahoma, LLC](#), No. CIV-16-1257-R, 2018 U.S. Dist. LEXIS 164128, 2018 WL 4608505, at \*4 (W.D. Okla. Sept. 25, 2018) (internal quotation marks and citation omitted). "The reliability standard is lower than the merits standard of correctness, and plaintiffs need only show the Court that their experts' opinions are reliable, not that they are substantively correct." *Id.* (internal quotation marks and citation omitted). In [Daubert v. Merrell Dow Pharmaceuticals, Inc.](#), 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), the Supreme Court provided a non-exhaustive list of factors to aid in this determination:

(1) whether the particular [\*5] theory can be and has been tested; (2) whether the theory has been subjected to peer review and publication; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; and (5) whether the technique has achieved general acceptance in the relevant scientific or expert community.

[United States v. Baines](#), 573 F.3d 979, 985 (10th Cir. 2009) (citing [Daubert](#), 509 U.S. at 592-94).<sup>1</sup> The reliability inquiry, however, is fact- and case-specific: no one factor is dispositive or always applicable, and the goal remains "ensuring that an expert 'employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.'" [Bitler](#), 400 F.3d at 1233 (quoting [Kumho Tire Co. v. Carmichael](#), 526 U.S. 137, 152, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999)).

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<sup>1</sup> *Daubert* itself was limited to scientific evidence, see [United States v. Baines](#), 573 F.3d 979, 985 (10th Cir. 2009), but in [Kumho Tire Co. v. Carmichael](#), 526 U.S. 137, 119 S. Ct. 1167, 143 L. Ed. 2d 238 (1999), the Supreme Court made clear that the gatekeeping obligation of the district courts described in *Daubert* applies, not just to scientific testimony, but to all expert testimony. *Id.* at 141.

### III. Firearm Toolmark Identification

In his motion, Defendant challenges the Governments use of firearm toolmark identification. "Forensic toolmark identification is a discipline that is concerned with the matching of a toolmark to the specific tool that made it. Firearm identification is a specialized area of toolmark identification dealing with firearms, which involve a specific category of tools." [United States v. McCluskey, No. 10-2734, 2013 U.S. Dist. LEXIS 203723, 2013 WL 12335325, at \\*3 \(D.N.M. Feb. 7, 2013\)](#) (citation omitted). "Toolmark identification is based on the theory that tools used in the manufacture of a firearm [\*6] leave distinct marks on various firearm components, such as the barrel, breech face, or firing pins . . . [and] that the marks are individualized to a particular firearm through changes the tool undergoes each time it cuts and scrapes metal to create an item in the production of the weapon." [2013 U.S. Dist. LEXIS 203723, \[WL\] at 4](#). The field of firearm toolmark examination is based on the theory that some of these markings will be transferred to a bullet fired from the gun. *Id.* In conducting a firearm toolmark examination, a firearms examiner observes three types of characteristics:

- (1) Class characteristics: i.e., the weight or caliber of the bullet, the number of lands and grooves, the twist of the lands and grooves, and the width of the lands and grooves, that appear on all bullet casings fired from the same type of weapon and are predetermined by the gun manufacturer;
- (2) Individual characteristics: unique, microscopic, random imperfections in the barrel or firing mechanism created by the manufacturing process and/or damage to the gun post-manufacture, such as striated and/or impressed marks, unique to single gun; and
- (3) Subclass characteristics: characteristics that exist, for example, within a particular batch of firearms [\*7] due to imperfections in the manufacturing tool that persist during the manufacture of multiple firearm components mass-produced at the same time.

[Ricks v. Pauch, No. 17-12784, 2020 U.S. Dist. LEXIS 50109, 2020 WL 1491750, at \\*8-9 \(E.D. Mich., 2020\)](#).

Pursuant to the theory used by the Government's experts in this case—the Association of Firearms and Toolmark Examiners (AFTE) method—"a qualified examiner can determine whether two bullets were fired by the same gun by comparatively examining bullets and determining whether 'sufficient agreement' of

toolmarks exist," meaning that there is significant similarity in the individual markings found on each bullet. [2020 U.S. Dist. LEXIS 50109, \[WL\] at 9](#).

### IV. Daubert Analysis

The use of this type of firearm toolmark identification in criminal trials is "hardly novel." [United States v. Taylor, 663 F. Supp. 2d 1170, 1175 \(D.N.M. 2009\)](#). "For decades . . . admission of the type of firearm identification testimony challenged by the defendant[] has been semi-automatic . . . ." [United States v. Monteiro, 407 F. Supp. 2d 351, 364 \(D. Mass. 2006\)](#); see also, e.g., [United States v. Hicks, 389 F.3d 514 \(5th Cir. 2004\)](#); [United States v. Johnson, 875 F.3d 1265, 1281 \(9th Cir. 2017\)](#). Indeed, no federal court has deemed such evidence wholly inadmissible. See [United States v. Romero-Lobato, 379 F. Supp. 3d 1111, 1117 \(D. Nev. 2019\)](#). Having been routinely admitted, "[c]ourts [are] understandably . . . gun shy about questioning the reliability of [such] evidence," [Monteiro, 407 F.Supp.2d at 364](#). However, because of the seriousness of the criticisms launched against the methodology underlying firearms identification by Defendant in this case, [\*8] the Court will carefully assess the reliability of this methodology, using [Daubert](#) as a guide. See, e.g., [Taylor, 663 F. Supp. 2d at 1176](#).<sup>2</sup>

The first *Daubert* factor asks whether the experts' particular theory can be and has been tested. [Daubert, 509 U.S. at 592-94](#). Defendant argues—without citation—that the theory of firearm toolmark identification rests on an assumption that has not been properly tested. Doc. No. 67, pp. 13-14. The Government responds that its experts' testimony is based upon the theory and methodology developed by the Association of Firearms and Toolmark Examiners (AFTE), and that this theory has been well tested. Doc. No. 81, pp. 15-16. The Court agrees.

Put simply, the theory of firearm toolmark identification

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<sup>2</sup>Some Courts have analyzed whether firearm toolmark identification can fairly be called "science" before evaluating the *Daubert* factors. See [United States v. Glynn, 578 F. Supp. 2d 567, 570 \(S.D.N.Y. 2008\)](#). The Court need not conduct such an analysis here. Though Defendant argues firearm toolmark identification is not a science, Doc. No. 67, p. 14, it is clearly "technical or specialized, and therefore within the scope of [Rule 702](#)." [United States v. Willock, 696 F. Supp. 2d 536, 571 \(D. Md. 2010\)](#), *aff'd sub nom.* [United States v. Mouzone, 687 F.3d 207 \(4th Cir. 2012\)](#).

can be and has been tested. See, e.g., The Association of Firearm and Tool Mark Examiners, *Testability of the Scientific Principle* (last visited May 14, 2020), <https://tinyurl.com/yal3ja4t> (collecting studies). This conclusion is supported by other courts within the Tenth Circuit that have already addressed the issue at length, see, e.g., *United States v. Taylor*, 663 F. Supp. 2d 1170, 1176 (D.N.M. 2009) ("[T]he methods underlying firearms identification can, at least to some degree, be tested and reproduced"), in addition to a number of other courts outside [\*9] the Circuit, see, e.g., *Romero-Lobato*, 379 F. Supp. 3d at 1118-19 (collecting cases where "federal courts have held that the AFTE method can be and has been frequently tested" and holding the same). Accordingly, this first *Daubert* factor weighs in favor of admissibility.

The second *Daubert* factor asks whether the technique has been subjected to peer review and publication. *Daubert*, 509 U.S. at 593-94. Defendant argues that there have not been enough studies done of firearm toolmark identification, and that the studies available have not been subject to peer review. Doc. No. 67, p. 14. The Government contends that analysis recently provided by federal courts tells a different story. The Court agrees.

In evaluating whether AFTE's method of firearm toolmark identification satisfies the second *Daubert* factor, the United States District Court for the District of Nevada recently found that:

AFTE publishes its own journal, the appropriately named *ATFE Journal*, which is subject to peer review. According to AFTE's website, the *AFTE Journal*, "is dedicated to the sharing of information, techniques, and procedures," and the papers published within "are reviewed for scientific validity, logical reasoning, and sound methodology." [*What is the Journal?*, The Association [\*10] of Firearm and Tool Mark Examiners, <https://afte.org/afte-journal/what-is-the-journal> (last visited May 1, 2019)]. Several published federal decisions have also commented on the *AFTE Journal*, with all finding that it meets the *Daubert* peer review element. See *U.S. v. Ashburn*, 88 F.Supp.3d 239, 245-46 (E.D.N.Y. 2015) (finding that the AFTE method has been subjected to peer review through the *AFTE Journal*); *U.S. v. Otero*, 849 F.Supp.2d 425, 433 (D.N.J. 2012) (describing the *AFTE Journal's* peer reviewing process and finding that the methodology has been subjected to peer review); *U.S. v. Taylor*, 663 F.Supp.2d 1170, 1176

(*D.N.M. 2009*) (finding that the *AFTE* method has been subjected to peer review through the *AFTE Journal* and two articles submitted by the government in a peer-reviewed journal about the methodology); *U.S. v. Monteiro*, 407 F.Supp.2d 351, 366-67 (D. Mass. 2006) (describing the *AFTE Journal's* peer reviewing process and finding that it meets the *Daubert* peer review element). And of course, the NAS and PCAST Reports themselves constitute peer review despite the unfavorable view the two reports have of the *AFTE* method.

*Romero-Lobato*, 379 F. Supp. 3d at 1119. The second *Daubert* factor thus weighs in favor of admissibility.

Defendant suggests that the studies mentioned above are insufficient because they were not "black-box" studies.<sup>3</sup> Doc. No. 67, p. 14. Defendant then cites the PCAST Report, arguing that there has been only one black-box [\*11] study on firearms identification and that this one study has never been subject to peer review. *Id.* The PCAST Report cited by Defendant "rejected studies that it did not consider to be blind, such as where the examiners knew that a bullet or spent casing matched one of the barrels included with the test kit . . . ." However, "The PCAST Report did not reach a conclusion as to whether the *AFTE* method was reliable or not because there was only one study available that met its criteria." *Id.* The Court does not similarly restrict its judicial review to techniques tested through black-box studies. The Court does, however, approve of the PCAST Report's ultimate conclusion: "[W]hether firearms analysis should be deemed admissible based on the 'current evidence' is a decision that should be left to the courts." *Id.*

The third *Daubert* factor asks whether the technique has a known or potential rate of error. *Daubert*, 509 U.S. at 594. Defendant contends that because there is only one black-box study, there is not enough information available to determine a known or potential rate of error in the field of firearm toolmark identification. Doc. No.

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<sup>3</sup> A black-box study is a blind study where "many examiners are presented with many independent comparison problems—typically involving 'questioned' samples and one or more 'known' samples—and asked to declare whether the questioned samples came from the same sources as one of the known samples. The researchers then determine how often examiners reach erroneous conclusions." President's Council of Advisors on Science and Technology, Exec. Office of the President, Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods, 49 (2016), available at <https://tinyurl.com/j29c5ua>.

67, p. 14. The Government objects, citing federal cases discussing studies [\*12] that evidence a low rate of error in firearms analysis. Doc. No. 81, pp. 17-18. Again, the Court agrees with the Government.

As noted above, the Court declines Defendant's invitation to restrict judicial review to techniques tested through black-box studies. "*Daubert* does not mandate such a prerequisite for a technique to satisfy its error rate element." [Romero-Lobato, 379 F. Supp. 3d at 1120](#). Still, the Government bears the burden to demonstrate that its experts' methodology is reliable. See [Nacchio, 555 F.3d at 1241](#). To that end, the Government cites federal cases that discuss a number of studies which report a low error rate for the AFTE method. Doc. No. 81, p. 17 (citing [Romero-Lobato, 379 F. Supp. 3d at 1117-18](#) and [United States v. Otero, 849 F. Supp. 2d 425, 433-34 \(D.N.J. 2012\)](#)). Those cases discuss, for example, a Miami-Dade Study that reported a potential error rate of less than 1.2% and an error rate by the participants of 0.07%, in addition to an Ames Study that reported a false positive rate of 1.52%. *Id.*

Other federal courts examining the AFTE method's rate of error have likewise found it to be low. See, e.g., v. [Ashburn, 88 F. Supp. 3d 239, 246 \(E.D.N.Y. 2015\)](#) ("the error rate, to the extent it can be measured, appears to be low, weighing in favor of admission"); [United States v. Taylor, 663 F. Supp. 2d 1170, 1177 \(D.N.M. 2009\)](#) ("this number [less than 1%] suggests that the error rate is quite low"). Even courts that have found it impossible to calculate [\*13] an absolute error rate for firearm toolmark identification, have ultimately concluded that the known error rate is not "unacceptably high." [United States v. Monteiro, 407 F. Supp. 2d 351, 367-68 \(D. Mass. 2006\)](#). Defendant does not introduce any contradictory studies. See Doc. No. 67, p. 14. Based on the record before the Court, this third *Daubert* factor weighs in favor of admissibility.

The fourth *Daubert* factor asks whether there are standards that control the technique's operation. [Daubert, 509 U.S. 594](#). Defendant argues that there are no uniform standards controlling the AFTE method of firearm toolmark identification, and that instead, the AFTE method is based on subjective methodology. Doc. No. 67, p. 14. The Government argues that this subjectivity does not weigh against admissibility under the fourth *Daubert* factor. Doc. No. 81, p. 18. The Court disagrees.

A main criticism of the AFTE method is that firearm examiners do not reach their conclusions through

objective criteria. See [Romero-Lobato, 379 F. Supp. 3d at 1120-121](#). Instead, examiners use a high-powered microscope, in conjunction with their experience and training, to determine if there is "sufficient agreement" between the "unique surface contours" of two firearm toolmarks. *AFTE Theory of Identification*, The Association of Firearm and Tool Mark Examiners, [\*14] available at <https://afte.org/about-us/what-is-afte/afte-theory-of-identification> (last visited May 14, 2020). "The statement that "sufficient agreement" exists between two toolmarks means that the agreement of individual characteristics is of a quantity and quality that the likelihood another tool could have made the mark is so remote as to be considered a practical impossibility."<sup>4</sup> *Id.* Ultimately, the AFTE itself recognizes that their method is "is subjective in nature." *Id.* So too have other courts. See [Romero-Lobato, 379 F. Supp. 3d at 1121](#) (collecting cases). This fourth factor, unlike the previous three, weighs against admissibility.

The fifth and final *Daubert* factor asks whether the theory or technique enjoys general acceptance within the relevant community. [Daubert, 509 U.S. at 594](#). Defendant argues that the limitations of firearm toolmark identification is recent and growing, and that because courts have not seriously considered all aspects of the field or tested its reliability since the PCAST Report was published, the fifth *Daubert* factor is not satisfied here.

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<sup>4</sup>The AFTE further details their methodology in the following manner:

"[S]ufficient agreement" is related to the significant duplication of random toolmarks as evidence by the correspondence of a pattern or combination of patterns of surface contours. Significance is determined by the comparative examination of two or more sets of surface contour patterns comprised of individual peaks, ridges and furrows. Specifically, the relative height or depth, width, curvature and spatial relationship of the individual peaks, ridges and furrows within one set of surface contours are defined and compared to the corresponding features in the second set of surface contours. [\*15] Agreement is significant when the agreement in individual characteristics exceeds the best agreement demonstrated between toolmarks known to have been produced by different tools and is consistent with agreement demonstrated by toolmarks known to have been produced by the same tool.

*AFTE Theory of Identification*, The Association of Firearm and Tool Mark Examiners, available at <https://afte.org/about-us/what-is-afte/afte-theory-of-identification> (last visited May 14, 2020).

Doc. No. 67, p. 15. The Government responds arguing that nearly every court to have addressed the issue has found that the AFTE method enjoys general acceptance within the relevant community—both before and after publication of the PCAST Report. Doc. No. 81, p. 19. The Court agrees.

The AFTE method easily satisfies this final factor. See [Romero-Lobato, 379 F. Supp. 3d at 1122](#) (collecting cases finding the AFTE theory to be widely accepted in the relevant community and finding the same). In fact, [\*16] the AFTE method used by the Government's experts here, is "the field's established standard." See [Ashburn, 88 F. Supp. 3d at 246](#). That the NAS and PCAST Reports criticize the method does not undermine the Court's conclusion. "Techniques do not need to have universal acceptance before they are allowed to be presented before a court." [Romero-Lobato, 379 F. Supp. 3d at 1122](#) (citing [Daubert, 509 U.S. at 588-99](#)). Accordingly, this factor weighs in favor of admissibility.

Balancing the *Daubert* factors, the Court finds that the Government's expert testimony, derived from the AFTE methodology, is reliable and therefore admissible—though subject to the limitations discussed below. The only factor that weighs against admissibility is the fourth *Daubert* factor, which highlights the AFTE's subjective processes. But, "the subjectivity of a methodology is not fatal under [Rule 702](#) and *Daubert*." [United States v. Ashburn, 88 F. Supp. 3d 239, 246 \(E.D.N.Y. 2015\)](#). By its terms, [Federal Rule of Evidence 702](#) permits an expert with sufficient knowledge, experience, or training to testify about a particular subject matter. See [Fed. R. Evid. 702](#); [Romero-Lobato, 379 F. Supp. 3d at 1120](#). *Daubert* does not impose a rigid requirement that the expert reach a conclusion through an entirely objective set of criteria. See [Daubert, 509 U.S. at 594-595](#). Here, the lack of objective criteria is overcome by the Government's introduction of evidence demonstrating that the method has been tested, [\*17] reviewed by peers and subject to publication, found to have a potential low rate of error, and widely accepted in the relevant community. Moreover, Defendant has not cited a single case where a federal court has completely prohibited firearms toolmark identification testimony under *Daubert*.

#### V. [Federal Rules of Evidence 702\(d\)](#)

Next, Defendant argues that even if the expert testimony is admissible under *Daubert*, the Government

has not met its burden under [Rule 702\(d\)](#) to show that its experts reliably applied the AFTE method in this case. Under that Rule:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

...  
(d) the expert has reliably applied the principles and methods to the facts of the case.

[Fed. R. Evid. 702\(d\)](#). Here, Defendant makes four specific objections. He argues that the Government has not complied with [Rule 702\(d\)](#) because its experts failed to document the basis for their findings, that a second examiner did not verify or review the experts' work, and that the experts failed to comply with two "validity" requirements discussed by the PCAST Report. Doc. No. 67, p. 17. The Government denies the validity of each objection. Doc. No. 81, pp. 21-23.

First, [\*18] as the Government demonstrates, both Mr. Jones and Mr. Kong wrote detailed reports explaining their analysis. Doc. Nos. 81-9, 81-10. Second, those reports were reviewed by other examiners in the field. Doc. Nos. 81-1, 81-2, 81-3, 81-4. Finally, the two validity requirements discussed by the PCAST Report—that experts must provide evidence demonstrating their rigorous proficiency testing, in addition to whether they were aware of any facts of the case that might influence their conclusion—are not required under [Rule 702\(d\)](#). Nevertheless, the Government has presented evidence demonstrating the experience, certifications, and continued training of both experts. See Doc. Nos. 81-6, 81-7, 81-8; cf. Doc. No. 81-5. And both experts' examination reports detail what case-specific facts they were aware of when drawing their conclusions. See Doc. Nos. 81-1, 81-2. Accordingly, the Court finds that Defendant's objections are without merit.

#### VI. *Daubert* Hearing

As an alternative, Defendant requests a *Daubert* hearing to require the Government to prove that Mr. Jones's and Mr. Kong's testimony will be reliable before admitting their testimony. Doc. No. 17. Again, the Government objects. Doc. No. 81, pp. 24-25. Nothing [\*19] requires the Court to hold a formal *Daubert* hearing in advance of qualifying an expert. See [Goebel v. Denver and Rio Grande Western RR Co., 215 F.3d 1083, 1087 \(10th Cir. 2000\)](#); see also [Kumho Tire, 526 U.S. at 152](#) ("The trial court must have the . . . latitude . . . to decide whether or when special briefing

or other proceedings are needed to investigate reliability"). Considering the parties' briefing, in addition to the *Daubert* and [Rule 702](#) analysis above, the Court finds it unnecessary to conduct such a proceeding here. See, e.g., [Ashburn, 88 F. Supp. 3d at 244](#) (finding *Daubert* hearing unnecessary). The reliability of the Government's expert testimony has been sufficiently addressed on the briefs. See [Goebel, 215 F.3d at 1087](#) (noting that a *Daubert* hearing "is not mandated" and that a district court may "satisfy its gatekeeper role when asked to rule on a motion in limine").

## VII. Expert Testimony Limitations

In his penultimate argument, Defendant asks the Court to place limitations on the Government's firearm toolmark experts because the jury will be unduly swayed by the experts if not made aware of the limitations on their methodology. Doc. No. 67, p. 18. The Government responds that no limitation is necessary because Department of Justice guidance sufficiently limits a firearm examiner's testimony. Doc. No. 81, pp. 23-24.

Some federal courts have imposed [\*20] limitations on firearm and toolmark expert testimony. See, e.g., [Ashburn, 88 F. Supp. 3d at 249](#). However, many courts have continued to allow unfettered testimony. See, e.g., [Romero-Lobato, 379 F. Supp. 3d at 1117](#).

The general consensus is that firearm examiners should not testify that their conclusions are infallible or not subject to any rate of error, nor should they arbitrarily give a statistical probability for the accuracy of their conclusions. Several courts have also prohibited a firearm examiner from asserting that a particular bullet or shell casing could only have been discharged from a particular gun to the exclusion of all other guns in the world.

*Id.* (citing David H. Kaye, *Firearm-Mark Evidence: Looking Back and Looking Ahead*, [68 Case W. Res. L. Rev. 723, 734 \(2018\)](#)).

In accordance with recent guidance from the Department of Justice, see Doc. No. 81-11, the Government's firearm experts have already agreed to refrain from expressing their findings in terms of absolute certainty, and they will not state or imply that a particular bullet or shell casing could only have been discharged from a particular firearm to the exclusion of all other firearms in the world. Doc. No. 81, p. 24. The Government has also made clear that it will not elicit a statement that its experts' conclusions [\*21] are held to

a reasonable degree of scientific certainty. *Id.*

The Court finds that the limitations mentioned above and prescribed by the Department of Justice are reasonable, and that the Government's experts should abide by those limitations. See Doc. No. 81-11, p. 3. To that end, the Government's experts:

[S]hall not [1] assert that two toolmarks originated from the same source to the exclusion of all other sources. . . . [2] assert that examinations conducted in the forensic firearms/toolmarks discipline are infallible or have a zero error rate. . . . [3] provide a conclusion that includes a statistic or numerical degree of probability except when based on relevant and appropriate data. . . . [4] cite the number of examinations conducted in the forensic firearms/toolmarks discipline performed in his or her career as a direct measure for the accuracy of a proffered conclusion. . . . [5] use the expressions 'reasonable degree of scientific certainty,' 'reasonable scientific certainty,' or similar assertions of reasonable certainty in either reports or testimony unless required to do so by [the Court] or applicable law.

*Id.* As to the fifth limitation described above, the Court will permit [\*22] the Government's experts to testify that their conclusions were reached to a reasonable degree of ballistic certainty, a reasonable degree of certainty in the field of firearm toolmark identification, or any other version of that standard. See, e.g., [U.S. v. Ashburn, 88 F. Supp. 3d 239, 249 \(E.D.N.Y. 2015\)](#) (limiting testimony to a "reasonable degree of ballistics certainty" or a "reasonable degree of certainty in the ballistics field."); [U.S. v. Taylor, 663 F. Supp. 2d 1170, 1180 \(D.N.M. 2009\)](#) (limiting testimony to a "reasonable degree of certainty in the firearms examination field."). Accordingly, the Government's experts should not testify, for example, that "the probability the ammunition charged in Counts Eight and Nine were fired in different firearms is so small it is negligible," see Doc. No. 81, p. 5. To the extent Defendant wishes to question or clarify the experts' findings, he may do so through cross examination or through direct examination of his own firearm toolmark expert.

## VIII. Additional Expert Information

Defendant's final objection is to the alleged lack of information relating to Mr. Jones's expert testimony. Doc. No. 67, p. 19. Defendant claims that the Government should be required to provide "a

significantly more detailed summary of what it expects Mr. Jones will testify [\*23] about." *Id.* Notably, Defendant provides no support for his objection, and the Government has failed to respond in opposition. Upon review, the Court finds that the Government has provided sufficient information relating to Mr. Jones's expert testimony. See Doc. No. 81, pp. 4-5; Doc. Nos. 81-1, 81-6, 81-7, 81-9.

### **IX. Conclusion**

For the forgoing reasons, the Court denies Defendant Hunt's Motion in Limine to Exclude Ballistic Evidence, or Alternatively, for a *Daubert* Hearing, Doc. No. 67.

**IT IS SO ORDERED** this 1st day of June 2020.

/s/ David L. Russell

**DAVID L. RUSSELL**

**UNITED STATES DISTRICT JUDGE**

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End of Document

## Re: Letter to Federal Rules Advisory Committee

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**From:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>  
**Cc:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Thu, 05 Nov 2020 20:09:26 -0500  
**Attachments:** Final Hunt Edits\_Letter to Evidence Committee re 702 +EJS\_11.5.20.docx (348.64 kB); ATT00001.htm (219 bytes); United States v. Harris\_2020 U.S. Dist. LEXIS 205810.PDF (180.87 kB); ATT00002.htm (219 bytes); United States v. Hunt\_2020 U.S. Dist. LEXIS 95471.PDF (201.06 kB); ATT00003.htm (178 bytes)

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Yes, I will review first thing tomorrow and send you a final to proofread. Thanks!

Sent from my iPhone

On Nov 5, 2020, at 6:10 PM, Hunt, Ted (ODAG) <(b) (6)> wrote:

Duplicative Information - See Document ID 20220314-07367



# RE: Letter to Federal Rules Advisory Committee

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**From:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 13:08:44 -0500

---

Ted. reading the letter now. (b)(5) per CIV

[Redacted]

---

**From:** Hunt, Ted (ODAG) <(b) (6)>  
**Sent:** Thursday, November 05  
**To:** Shapiro, Elizabeth (CIV) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** Letter to Federal Rules Advisory Committee

Duplicative Information - See Document ID 20220314-07367

[Redacted]

## RE: Letter to Federal Rules Advisory Committee

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**From:** "Hunt, Ted (ODAG)" <(b) (6)>  
**To:** "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 13:31:07 -0500  
**Attachments:** U.S. v. Harris.pdf (219.23 kB)

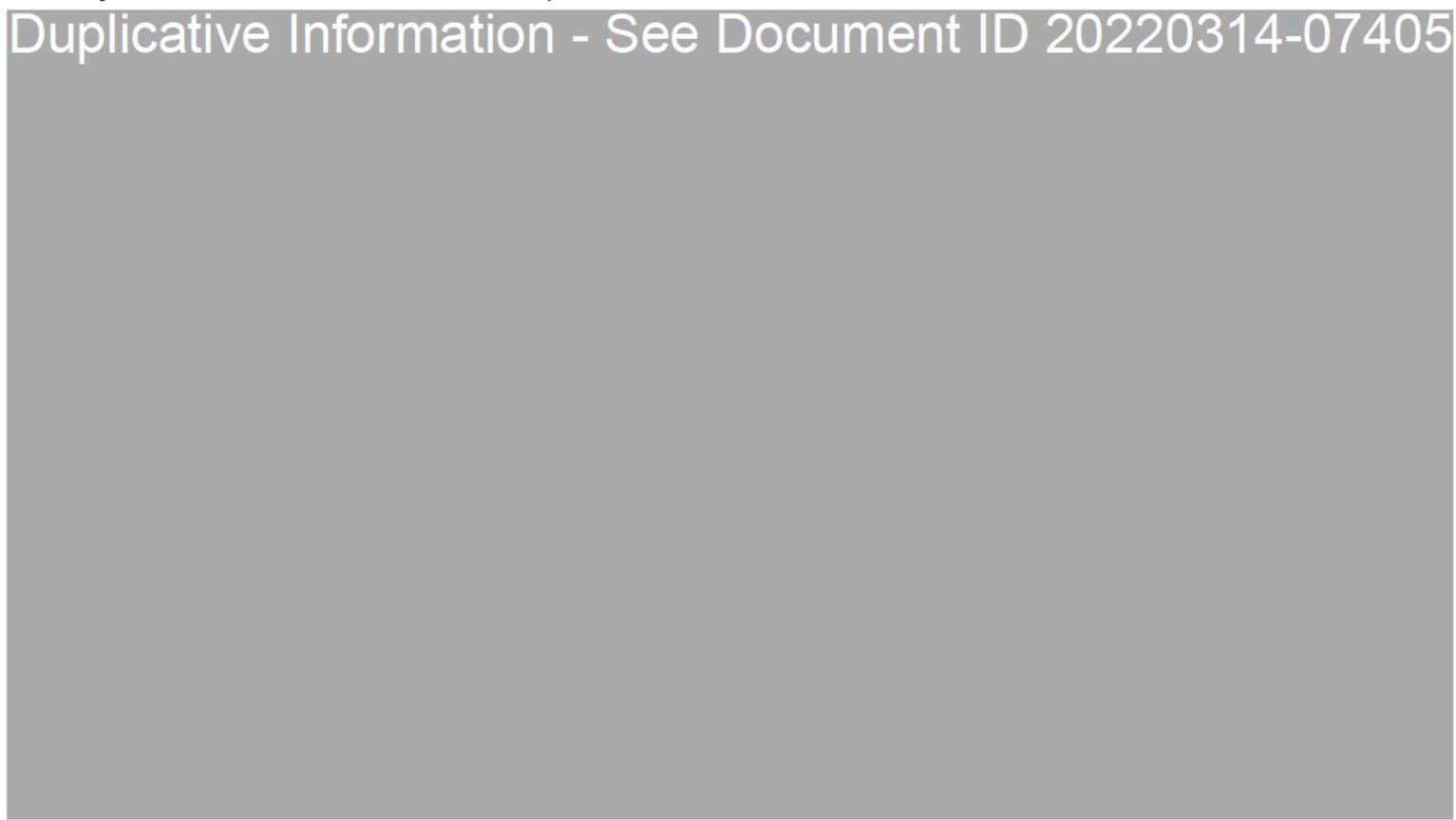
---

U.S. v. Harris (court version attached)  
U.S. v. Hunt 2020 WL 2842844

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**From:** Shapiro, Elizabeth (CIV) <(b) (6)>  
**Sent:** Friday, November 6, 2020 1:09 PM  
**To:** Hunt, Ted (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** RE: Letter to Federal Rules Advisory Committee

Duplicative Information - See Document ID 20220314-07405



# Final Hunt Edits\_Letter to Evidence Committee re 702 +EJS\_11.5.20 FOR FINAL REVIEW

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**From:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>  
**Cc:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 15:08:40 -0500  
**Attachments:** Final Hunt Edits\_Letter to Evidence Committee re 702 +EJS\_11.5.20 FOR FINAL REVIEW.docx (344.97 kB); Kaplan\_Public Beliefs About Accuracy and Importance of FS in the US\_Sci + Justice 2020.pdf (636.38 kB); U.S. v. Harris.pdf (219.23 kB); Beretta Barrel Fired Bullet Open Set Validation Study (JFS 2020).pdf (871.08 kB); United States v Hunt.pdf (294.64 kB)

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Ted,  
Attached is the letter with one question for you in the margin. (b)(5) per CIV

Thanks for all the work. (b)(5) per CIV

2020 WL 2842844

United States District Court, W.D. Oklahoma.

UNITED STATES of America, Plaintiff,

v.

Dominic Eugene HUNT, Defendant.

Case No. CR-19-073-R

|

Signed 06/01/2020

**Synopsis**

**Background:** Defendant was charged with being a felon in possession of ammunition. Defendant moved in limine to exclude ballistic evidence, or alternatively, for  *Daubert* hearing.

**Holdings:** The District Court, [David L. Russell](#), Senior District Judge, held that:

[1] expert testimony derived from Association of Firearms and Toolmark Examiners (AFTE) methodology was reliable and therefore admissible;

[2] experts reliably applied AFTE method;

[3] formal  *Daubert* hearing in advance of qualifying expert was not required; and

[4] experts could testify that their conclusions were reached to reasonable degree of ballistic certainty.

Motion denied.

**Procedural Posture(s):** Pre-Trial Hearing Motion.

West Headnotes (13)

[1] **Criminal Law**  **Subjects of Expert Testimony**

When it comes to the admissibility of expert evidence, a district court maintains the role of gatekeeper. [Fed. R. Evid. 702](#).

[2] **Criminal Law**  **Knowledge, Experience, and Skill**

**Criminal Law**  **Necessity and sufficiency**

A court assesses proffered expert testimony to ensure it is both relevant and reliable; to do this, the court generally first determines whether the expert is qualified, and if the expert is sufficiently qualified, the court then determines whether the expert's opinion is reliable. [Fed. R. Evid. 702](#).

[3] **Criminal Law**  **Hearing, ruling, and objections**

When faced with a party's objection to proffered expert testimony, a court must adequately demonstrate by specific findings on the record that it has performed its duty as gatekeeper, although it has discretion in how it performs its gatekeeping function. [Fed. R. Evid. 702](#).

[4] **Criminal Law**  **Preliminary evidence as to competency**

The proponent of expert testimony bears the burden of showing that its proffered expert's testimony is admissible. [Fed. R. Evid. 702](#).

[5] **Criminal Law**  **Necessity and sufficiency**

A court assesses the reasoning and methodology underlying the expert's opinion to determine reliability. [Fed. R. Evid. 702](#).

[6] **Criminal Law**  **Necessity and sufficiency**

The proponent has to show a court only that its expert opinion is reliable, not that it is substantively correct, because the reliability standard is lower than the merits standard of correctness.

[7] **Criminal Law**  **Necessity and sufficiency**

The reliability inquiry for expert testimony is specific to the case and facts: no one factor is dispositive or always applicable, and the goal

remains ensuring that an expert employs the same level of intellectual rigor in the courtroom that characterizes the practice of an expert in the relevant field. [Fed. R. Evid. 702](#).

**[8] Criminal Law** 🔑 Identification of persons, things, or substances

Expert testimony derived from Association of Firearms and Toolmark Examiners (AFTE) methodology was reliable and therefore admissible in defendant's trial on felon in possession charges; although AFTE's processes were subjective and some peer review was unfavorable, method had been tested, it had been reviewed by peers and subject to publication, it had been found to have potential low rate of error, and it had been widely accepted in relevant community. [Fed. R. Evid. 702](#).

**[9] Criminal Law** 🔑 Necessity and sufficiency

 *Daubert* does not mandate a technique, such as a black-box study, to satisfy its error rate element.

**[10] Criminal Law** 🔑 Identification of persons, things, or substances

Experts reliably applied Association of Firearms and Toolmark Examiners (AFTE) method, as required for expert testimony to be admissible in defendant's trial on felon in possession charges, where experts wrote detailed reports explaining their analysis, those reports were reviewed by other examiners in field, experts' examination reports detailed what case-specific facts of which they were aware when drawing their conclusions, and they demonstrated their experience, certifications, and continued training. [Fed. R. Evid. 702\(d\)](#).

**[11] Criminal Law** 🔑 Hearing, ruling, and objections

Formal  *Daubert* hearing in advance of qualifying expert on Association of Firearms and

Toolmark Examiners (AFTE) method was not required for expert testimony to be admissible in defendant's trial on felon in possession charges, since reliability of government's expert testimony was sufficiently addressed on the briefs. [Fed. R. Evid. 702](#).

**[12] Criminal Law** 🔑 Hearing, ruling, and objections

A court is not required to hold a formal  *Daubert* hearing in advance of qualifying an expert. [Fed. R. Evid. 702](#).

**[13] Criminal Law** 🔑 Identification of persons, things, or substances

In defendant's trial on felon in possession charges, experts on Association of Firearms and Toolmark Examiners (AFTE) method could testify that their conclusions were reached to reasonable degree of ballistic certainty, reasonable degree of certainty in field of firearm toolmark identification, or any other version of that standard, but they could not assert that two toolmarks originated from same source to exclusion of all other sources, assert that examinations conducted in forensic firearms-toolmarks discipline were infallible or had zero error rate, provide conclusion that included statistic or numerical degree of probability except when based on relevant and appropriate data, or cite number of examinations conducted in forensic firearms-toolmarks discipline performed in his or her career as direct measure for accuracy of proffered conclusion. [Fed. R. Evid. 702](#).

[1 Cases that cite this headnote](#)

**Attorneys and Law Firms**

Jacquelyn M. Hutzell, US Attorney's Office, Oklahoma City, OK, for Plaintiff.

## ORDER

DAVID L. RUSSELL, UNITED STATES DISTRICT JUDGE

\*1 Before the Court is Defendant Dominic Hunt's Motion in Limine to Exclude Ballistic Evidence, or Alternatively, for a  *Daubert* Hearing. Doc. No. 67. The Government has responded in opposition to the motion. Doc. No. 81. Upon review of the parties' submissions, the Court denies Defendant's motion.

### I. Background

On November 6, 2019, a federal grand jury returned a nine-count, third superseding indictment charging Defendant with, as relevant here, two counts of being a felon in possession of ammunition. Doc. No. 41. The two counts—Counts Eight and Nine—stem from two shootings: One in January of 2019 and another in February of 2019. *Id.* During the Oklahoma Police Department's (OCPD) investigation at the scene of the first shooting, officers found a Blazer 9mm Luger cartridge casing—the basis for Count Eight. *Id.* at 5–6. During the OCPD's investigation at the scene of the second shooting, officers found a Blazer 9mm Luger cartridge casing and two Winchester 9mm Luger cartridge casings—the basis for Count Nine. *Id.* at 6. Ronald Jones, a firearm and toolmark examiner for the OCPD, examined the casings and concluded that all four casings were likely fired from the same unknown firearm, potentially a Smith & Wesson 9mm Luger caliber pistol. Doc. Nos. 81–1, 81–2. Howard Kong, a firearm and toolmark examiner for the Bureau of Alcohol, Tobacco, Firearms and Explosives' (ATF) Forensic Science Laboratory, found the same. Doc. No. 81–4. The Government anticipates calling Mr. Jones and Mr. Kong at trial to “testify regarding their training, experience, and qualifications, the basis for firearms identification, their methods of examination in this case, their findings, and the basis for those findings.” Doc. No. 81, pp. 4–5. Specifically, the Government intends its experts to testify that:

- (1) the ammunition charged in Count Eight was not fired from the Springfield Armory 9mm Luger caliber pistol [the Defendant's brother] had on March 11, 2019; (2) the

ammunition charged in Count Eight was not fired from the Smith & Wesson .40 caliber pistol [the Defendant's cousin] was convicted of possessing on January 20, 2019; (3) the probability the ammunition charged in Count Nine were fired in different firearms is so small it is negligible; (4) the ammunition charged in Count Nine was not fired from [the] Smith & Wesson .40 caliber pistol ...; (5) the probability the ammunition charged in Counts Eight and Nine were fired in different firearms is so small it is negligible; and (6) the unknown firearm was likely a Smith & Wesson 9mm Luger caliber pistol.

*Id.* Defendant now moves to exclude the testimony of Mr. Jones and Mr. Kong, or alternatively, for a  *Daubert* hearing. Doc. No. 67.

### II. Legal Standard

[1] [2] [3] [4] When it comes to the admissibility of expert evidence, district courts maintain the role of gatekeeper.  *Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1232 (10th Cir. 2005). In that role, district courts must adhere to [Federal Rule of Evidence 702](#), which demands that courts “assess proffered expert testimony to ensure it is both relevant and reliable.” *United States v. Avitia-Guillen*, 680 F.3d 1253, 1256 (10th Cir. 2012). To do this, “the district court generally must first determine whether the expert is qualified ....”  *United States v. Nacchio*, 555 F.3d 1234, 1241 (10th Cir. 2009) (en banc). If the expert is sufficiently qualified, then “the court must determine whether the expert's opinion is reliable ....”  *Id.* “Although a district court has discretion in how it performs its gatekeeping function, ‘when faced with a party's objection, [the court] must adequately demonstrate by specific findings on the record that it has performed its duty as gatekeeper.’ ” *Avitia-Guillen*, 680 F.3d at 1257 (quoting  *Goebel v. Denver & Rio Grande W. R.R. Co.*, 215 F.3d 1083, 1088 (10th Cir. 2000)). “The proponent of expert testimony bears the burden of showing that its proffered expert's testimony is admissible.”  *Nacchio*, 555 F.3d at 1241.

\*2 Here, Defendant Hunt does not object to the relevancy of the experts' testimony nor to the experts' qualifications. Defendant objects only to the reliability of the experts' testimony. Doc. No. 67, pp. 11–18. Therefore, the Court need only address whether the experts' testimony is reliable. *See Avitia-Guillen*, 680 F.3d at 1257.

[5] [6] [7] “To determine reliability, courts assess the reasoning and methodology underlying the [experts'] opinion ....” *Thompson v. APS of Oklahoma, LLC*, No. CIV-16-1257-R, 2018 WL 4608505, at \*4 (W.D. Okla. Sept. 25, 2018) (internal quotation marks and citation omitted). “The reliability standard is lower than the merits standard of correctness, and plaintiffs need only show the Court that their experts' opinions are reliable, not that they are substantively correct.” *Id.* (internal quotation marks and citation omitted).

In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993), the Supreme Court provided a non-exhaustive list of factors to aid in this determination:

- (1) whether the particular theory can be and has been tested;
- (2) whether the theory has been subjected to peer review and publication;
- (3) the known or potential rate of error;
- (4) the existence and maintenance of standards controlling the technique's operation; and
- (5) whether the technique has achieved general acceptance in the relevant scientific or expert community.

*United States v. Baines*, 573 F.3d 979, 985 (10th Cir. 2009)

(citing *Daubert*, 509 U.S. at 592–94, 113 S.Ct. 2786).<sup>1</sup> The reliability inquiry, however, is fact- and case-specific: no one factor is dispositive or always applicable, and the goal remains “ensuring that an expert ‘employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.’ ” *Bitler*, 400 F.3d at 1233 (quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999)).

### III. Firearm Toolmark Identification

In his motion, Defendant challenges the Governments use of firearm toolmark identification. “Forensic toolmark identification is a discipline that is concerned with the matching of a toolmark to the specific tool that made it. Firearm identification is a specialized area of toolmark identification dealing with firearms, which involve a specific category of tools.” *United States v. McCluskey*, No. 10-2734, 2013 WL 12335325, at \*3 (D.N.M. Feb. 7, 2013) (citation omitted). “Toolmark identification is based on the theory that tools used in the manufacture of a firearm leave distinct marks on various firearm components, such as the barrel, breech face, or firing pins ... [and] that the marks are individualized to a particular firearm through changes the tool undergoes each time it cuts and scrapes metal to create an item in the production of the weapon.” *Id.* at \*4. The field of firearm toolmark examination is based on the theory that some of these markings will be transferred to a bullet fired from the gun. *Id.* In conducting a firearm toolmark examination, a firearms examiner observes three types of characteristics:

\*3 (1) Class characteristics: i.e., the weight or caliber of the bullet, the number of lands and grooves, the twist of the lands and grooves, and the width of the lands and grooves, that appear on all bullet casings fired from the same type of weapon and are predetermined by the gun manufacturer;

(2) Individual characteristics: unique, microscopic, random imperfections in the barrel or firing mechanism created by the manufacturing process and/or damage to the gun post-manufacture, such as striated and/or impressed marks, unique to single gun; and

(3) Subclass characteristics: characteristics that exist, for example, within a particular batch of firearms due to imperfections in the manufacturing tool that persist during the manufacture of multiple firearm components mass-produced at the same time.

*Ricks v. Pauch*, No. 17-12784, 2020 WL 1491750, at \*8–9 (E.D. Mich., 2020). Pursuant to the theory used by the Government's experts in this case—the Association of Firearms and Toolmark Examiners (AFTE) method—“a qualified examiner can determine whether two bullets were fired by the same gun by comparatively examining bullets and determining whether ‘sufficient agreement’ of toolmarks exist,” meaning that there is significant similarity in the individual markings found on each bullet. *Id.* at \*9.

#### IV. *Daubert* Analysis

[8] The use of this type of firearm toolmark identification in criminal trials is “hardly novel.”  *United States v. Taylor*, 663 F. Supp. 2d 1170, 1175 (D.N.M. 2009). “For decades ... admission of the type of firearm identification testimony challenged by the defendant[ ] has been semi-automatic ....”  *United States v. Monteiro*, 407 F. Supp. 2d 351, 364 (D. Mass. 2006); *see also, e.g., United States v. Hicks*, 389 F.3d 514 (5th Cir. 2004);  *United States v. Johnson*, 875 F.3d 1265, 1281 (9th Cir. 2017). Indeed, no federal court has deemed such evidence wholly inadmissible. *See United States v. Romero-Lobato*, 379 F. Supp. 3d 1111, 1117 (D. Nev. 2019). Having been routinely admitted, “[c]ourts [are] understandably ... gun shy about questioning the reliability of [such] evidence,”  *Monteiro*, 407 F.Supp.2d at 364. However, because of the seriousness of the criticisms launched against the methodology underlying firearms identification by Defendant in this case, the Court will carefully assess the reliability of this methodology, using  *Daubert* as a guide. *See, e.g., Taylor*, 663 F. Supp. 2d at 1176.<sup>2</sup>

The first  *Daubert* factor asks whether the experts' particular theory can be and has been tested.  *Daubert*, 509 U.S. at 592–94, 113 S.Ct. 2786. Defendant argues—without citation—that the theory of firearm toolmark identification rests on an assumption that has not been properly tested. Doc. No. 67, pp. 13–14. The Government responds that its experts' testimony is based upon the theory and methodology developed by the Association of Firearms and Toolmark Examiners (AFTE), and that this theory has been well tested. Doc. No. 81, pp. 15–16. The Court agrees.

\*4 Put simply, the theory of firearm toolmark identification can be and has been tested. *See, e.g.,* The Association of Firearm and Tool Mark Examiners, *Testability of the Scientific Principle* (last visited May 14, 2020), <https://tinyurl.com/ya13ja4t> (collecting studies). This conclusion is supported by other courts within the Tenth Circuit that have already addressed the issue at length, *see, e.g., United States v. Taylor*, 663 F. Supp. 2d 1170, 1176 (D.N.M. 2009) (“[T]he methods underlying firearms identification can, at least to some degree, be tested and reproduced”), in addition to a number of other courts outside the Circuit, *see, e.g., Romero-*

*Lobato*, 379 F. Supp. 3d at 1118–19 (collecting cases where “federal courts have held that the AFTE method can be and has been frequently tested” and holding the same).

Accordingly, this first  *Daubert* factor weighs in favor of admissibility.

The second  *Daubert* factor asks whether the technique has been subjected to peer review and publication.  *Daubert*, 509 U.S. at 593–94, 113 S.Ct. 2786. Defendant argues that there have not been enough studies done of firearm toolmark identification, and that the studies available have not been subject to peer review. Doc. No. 67, p. 14. The Government contends that analysis recently provided by federal courts tells a different story. The Court agrees.

In evaluating whether AFTE's method of firearm toolmark identification satisfies the second  *Daubert* factor, the United States District Court for the District of Nevada recently found that:

AFTE publishes its own journal, the appropriately named *ATFE Journal*, which is subject to peer review. According to AFTE's website, the *ATFE Journal*, “is dedicated to the sharing of information, techniques, and procedures,” and the papers published within “are reviewed for scientific validity, logical reasoning, and sound methodology.” [*What is the Journal?*, The Association of Firearm and Tool Mark Examiners, <https://afte.org/afte-journal/what-is-the-journal> (last visited May 1, 2019) ]. Several published federal decisions have also commented on the *ATFE Journal*, with all finding that it meets the  *Daubert* peer review element. *See U.S. v. Ashburn*, 88 F.Supp.3d 239, 245–46 (E.D.N.Y. 2015) (finding that the AFTE method has been subjected to peer review through the *ATFE Journal*);  *U.S. v. Otero*, 849 F.Supp.2d 425, 433 (D.N.J. 2012) (describing the *ATFE Journal*'s peer reviewing process and finding that the methodology has been subjected to peer review);  *U.S. v. Taylor*, 663 F.Supp.2d 1170, 1176 (D.N.M. 2009) (finding that the *ATFE* method has been subjected to peer review through the *ATFE Journal* and two articles submitted by the government in a peer-reviewed journal about the methodology);  *U.S. v. Monteiro*, 407 F.Supp.2d 351, 366–67 (D. Mass. 2006) (describing the *ATFE Journal*'s peer reviewing process and finding that it meets the  *Daubert* peer review element).

And of course, the NAS and PCAST Reports themselves constitute peer review despite the unfavorable view the two reports have of the AFTE method.

*Romero-Lobato*, 379 F. Supp. 3d at 1119. The second *Daubert* factor thus weighs in favor of admissibility.

Defendant suggests that the studies mentioned above are insufficient because they were not “black-box” studies.<sup>3</sup> Doc. No. 67, p. 14. Defendant then cites the PCAST Report, arguing that there has been only one black-box study on firearms identification and that this one study has never been subject to peer review. *Id.* The PCAST Report cited by Defendant “rejected studies that it did not consider to be blind, such as where the examiners knew that a bullet or spent casing matched one of the barrels included with the test kit...” However, “The PCAST Report did not reach a conclusion as to whether the AFTE method was reliable or not because there was only one study available that met its criteria.” *Id.* The Court does not similarly restrict its judicial review to techniques tested through black-box studies. The Court does, however, approve of the PCAST Report’s ultimate conclusion: “[W]hether firearms analysis should be deemed admissible based on the ‘current evidence’ is a decision that should be left to the courts.” *Id.*

\*5 The third *Daubert* factor asks whether the technique has a known or potential rate of error. *Daubert*, 509 U.S. at 594, 113 S.Ct. 2786. Defendant contends that because there is only one black-box study, there is not enough information available to determine a known or potential rate of error in the field of firearm toolmark identification. Doc. No. 67, p. 14. The Government objects, citing federal cases discussing studies that evidence a low rate of error in firearms analysis. Doc. No. 81, pp. 17–18. Again, the Court agrees with the Government.

[9] As noted above, the Court declines Defendant’s invitation to restrict judicial review to techniques tested through black-box studies. “*Daubert* does not mandate such a prerequisite for a technique to satisfy its error rate element.” *Romero-Lobato*, 379 F. Supp. 3d at 1120. Still, the Government bears the burden to demonstrate that its experts’ methodology is reliable. See *Nacchio*, 555 F.3d at 1241. To that end, the Government cites federal cases that discuss a number of studies which report a low error rate for the AFTE method. Doc. No. 81, p. 17 (citing *Romero-Lobato*, 379 F.

Supp. 3d at 1117–18 and *United States v. Otero*, 849 F. Supp. 2d 425, 433–34 (D.N.J. 2012)). Those cases discuss, for example, a Miami-Dade Study that reported a potential error rate of less than 1.2% and an error rate by the participants of 0.07%, in addition to an Ames Study that reported a false positive rate of 1.52%. *Id.*

Other federal courts examining the AFTE method’s rate of error have likewise found it to be low. See, e.g., v. *Ashburn*, 88 F. Supp. 3d 239, 246 (E.D.N.Y. 2015) (“the error rate, to the extent it can be measured, appears to be low, weighing in favor of admission”); *United States v. Taylor*, 663 F. Supp. 2d 1170, 1177 (D.N.M. 2009) (“this number [less than 1%] suggests that the error rate is quite low”). Even courts that have found it impossible to calculate an absolute error rate for firearm toolmark identification, have ultimately concluded that the known error rate is not “unacceptably high.” *United States v. Monteiro*, 407 F. Supp. 2d 351, 367–68 (D. Mass. 2006). Defendant does not introduce any contradictory studies. See Doc. No. 67, p. 14. Based on the record before the Court, this third *Daubert* factor weighs in favor of admissibility.

The fourth *Daubert* factor asks whether there are standards that control the technique’s operation. *Daubert*, 509 U.S. at 113 S.Ct. 2786594. Defendant argues that there are no uniform standards controlling the AFTE method of firearm toolmark identification, and that instead, the AFTE method is based on subjective methodology. Doc. No. 67, p. 14. The Government argues that this subjectivity does not weigh against admissibility under the fourth *Daubert* factor. Doc. No. 81, p. 18. The Court disagrees.

A main criticism of the AFTE method is that firearm examiners do not reach their conclusions through objective criteria. See *Romero-Lobato*, 379 F. Supp. 3d at 1120-121. Instead, examiners use a high-powered microscope, in conjunction with their experience and training, to determine if there is “sufficient agreement” between the “unique surface contours” of two firearm toolmarks. *AFTE Theory of Identification*, The Association of Firearm and Tool Mark Examiners, available at <https://afte.org/about-us/what-is-afte/afte-theory-of-identification> (last visited May 14, 2020). “The statement that “sufficient agreement” exists between two toolmarks means that the agreement of individual characteristics is of a quantity and quality that the likelihood

another tool could have made the mark is so remote as to be considered a practical impossibility.”<sup>4</sup> *Id.* Ultimately, the AFTE itself recognizes that their method is “is subjective in nature.” *Id.* So too have other courts. See *Romero-Lobato*, 379 F. Supp. 3d at 1121 (collecting cases). This fourth factor, unlike the previous three, weighs against admissibility.

\*6 The fifth and final [Daubert](#) factor asks whether the theory or technique enjoys general acceptance within the relevant community. [Daubert](#), 509 U.S. at 594, 113 S.Ct. 2786. Defendant argues that the limitations of firearm toolmark identification is recent and growing, and that because courts have not seriously considered all aspects of the field or tested its reliability since the PCAST Report was published, the fifth [Daubert](#) factor is not satisfied here. Doc. No. 67, p. 15. The Government responds arguing that nearly every court to have addressed the issue has found that the AFTE method enjoys general acceptance within the relevant community—both before and after publication of the PCAST Report. Doc. No. 81, p. 19. The Court agrees.

The AFTE method easily satisfies this final factor. See *Romero-Lobato*, 379 F. Supp. 3d at 1122 (collecting cases finding the AFTE theory to be widely accepted in the relevant community and finding the same). In fact, the AFTE method used by the Government's experts here, is “the field's established standard.” See [Ashburn](#), 88 F. Supp. 3d at 246. That the NAS and PCAST Reports criticize the method does not undermine the Court's conclusion. “Techniques do not need to have universal acceptance before they are allowed to be presented before a court.” *Romero-Lobato*, 379 F. Supp. 3d at 1122 (citing [Daubert](#), 509 U.S. at 588–99, 113 S.Ct. 2786). Accordingly, this factor weighs in favor of admissibility.

Balancing the [Daubert](#) factors, the Court finds that the Government's expert testimony, derived from the AFTE methodology, is reliable and therefore admissible—though subject to the limitations discussed below. The only factor that weighs against admissibility is the fourth [Daubert](#) factor, which highlights the AFTE's subjective processes. But, “the subjectivity of a methodology is not fatal under [Rule 702](#) and [Daubert](#).” [United States v. Ashburn](#), 88 F. Supp. 3d 239, 246 (E.D.N.Y. 2015). By its terms, [Federal Rule of Evidence 702](#) permits an expert with sufficient knowledge, experience, or training to testify about a particular subject matter. See

[Fed. R. Evid. 702](#); *Romero-Lobato*, 379 F. Supp. 3d at 1120.

[Daubert](#) does not impose a rigid requirement that the expert reach a conclusion through an entirely objective set of criteria. See [Daubert](#), 509 U.S. at 594–595, 113 S.Ct. 2786. Here, the lack of objective criteria is overcome by the Government's introduction of evidence demonstrating that the method has been tested, reviewed by peers and subject to publication, found to have a potential low rate of error, and widely accepted in the relevant community. Moreover, Defendant has not cited a single case where a federal court has completely prohibited firearms toolmark identification testimony under [Daubert](#).

#### V. Federal Rules of Evidence 702(d)

[10] Next, Defendant argues that even if the expert testimony is admissible under [Daubert](#), the Government has not met its burden under [Rule 702\(d\)](#) to show that its experts reliably applied the AFTE method in this case. Under that Rule:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

...

(d) the expert has reliably applied the principles and methods to the facts of the case.

[Fed. R. Evid. 702\(d\)](#). Here, Defendant makes four specific objections. He argues that the Government has not complied with [Rule 702\(d\)](#) because its experts failed to document the basis for their findings, that a second examiner did not verify or review the experts' work, and that the experts failed to comply with two “validity” requirements discussed by the PCAST Report. Doc. No. 67, p. 17. The Government denies the validity of each objection. Doc. No. 81, pp. 21–23.

\*7 First, as the Government demonstrates, both Mr. Jones and Mr. Kong wrote detailed reports explaining their analysis. Doc. Nos. 81–9, 81–10. Second, those reports were reviewed by other examiners in the field. Doc. Nos. 81–1, 81–2, 81–3, 81–4. Finally, the two validity requirements discussed by the PCAST Report—that experts must provide evidence demonstrating their rigorous proficiency testing, in addition to whether they were aware of any facts of the case that might influence their conclusion—are not required under [Rule 702\(d\)](#). Nevertheless, the Government has presented evidence demonstrating the experience, certifications, and

continued training of both experts. *See* Doc. Nos. 81–6, 81–7, 81–8; *cf.* Doc. No. 81–5. And both experts' examination reports detail what case-specific facts they were aware of when drawing their conclusions. *See* Doc. Nos. 81–1, 81–2. Accordingly, the Court finds that Defendant's objections are without merit.

## VI. [Daubert](#) Hearing

[11] [12] As an alternative, Defendant requests a [Daubert](#) hearing to require the Government to prove that Mr. Jones's and Mr. Kong's testimony will be reliable before admitting their testimony. Doc. No. 17. Again, the Government objects. Doc. No. 81, pp. 24–25. Nothing requires the Court to hold a formal [Daubert](#) hearing in advance of qualifying an expert. *See* [Goebel v. Denver and Rio Grande Western RR Co.](#), 215 F.3d 1083, 1087 (10th Cir. 2000); *see also* [Kumho Tire](#), 526 U.S. at 152, 119 S.Ct. 1167 (“The trial court must have the ... latitude ... to decide whether or when special briefing or other proceedings are needed to investigate reliability”). Considering the parties' briefing, in addition to the [Daubert](#) and Rule 702 analysis above, the Court finds it unnecessary to conduct such a proceeding here. *See, e.g.*, [Ashburn](#), 88 F. Supp. 3d at 244 (finding [Daubert](#) hearing unnecessary). The reliability of the Government's expert testimony has been sufficiently addressed on the briefs. *See* [Goebel](#), 215 F.3d at 1087 (noting that a [Daubert](#) hearing “is not mandated” and that a district court may “satisfy its gatekeeper role when asked to rule on a motion in limine”).

## VII. Expert Testimony Limitations

[13] In his penultimate argument, Defendant asks the Court to place limitations on the Government's firearm toolmark experts because the jury will be unduly swayed by the experts if not made aware of the limitations on their methodology. Doc. No. 67, p. 18. The Government responds that no limitation is necessary because Department of Justice guidance sufficiently limits a firearm examiner's testimony. Doc. No. 81, pp. 23–24.

Some federal courts have imposed limitations on firearm and toolmark expert testimony. *See, e.g.*, [Ashburn](#), 88 F. Supp. 3d at 249. However, many courts have continued to allow

unfettered testimony. *See, e.g.*, [Romero-Lobato](#), 379 F. Supp. 3d at 1117.

The general consensus is that firearm examiners should not testify that their conclusions are infallible or not subject to any rate of error, nor should they arbitrarily give a statistical probability for the accuracy of their conclusions. Several courts have also prohibited a firearm examiner from asserting that a particular bullet or shell casing could only have been discharged from a particular gun to the exclusion of all other guns in the world.

*Id.* (citing David H. Kaye, *Firearm-Mark Evidence: Looking Back and Looking Ahead*, 68 Case W. Res. L. Rev. 723, 734 (2018)).

In accordance with recent guidance from the Department of Justice, *see* Doc. No. 81–11, the Government's firearm experts have already agreed to refrain from expressing their findings in terms of absolute certainty, and they will not state or imply that a particular bullet or shell casing could only have been discharged from a particular firearm to the exclusion of all other firearms in the world. Doc. No. 81, p. 24. The Government has also made clear that it will not elicit a statement that its experts' conclusions are held to a reasonable degree of scientific certainty. *Id.*

\*8 The Court finds that the limitations mentioned above and prescribed by the Department of Justice are reasonable, and that the Government's experts should abide by those limitations. *See* Doc. No. 81–11, p. 3. To that end, the Governments experts:

[S]hall not [1] assert that two toolmarks originated from the same source to the exclusion of all other sources.... [2] assert that examinations conducted in the forensic firearms/toolmarks discipline are infallible or have a zero error rate.... [3] provide a conclusion that includes a statistic

or numerical degree of probability except when based on relevant and appropriate data.... [4] cite the number of examinations conducted in the forensic firearms/toolmarks discipline performed in his or her career as a direct measure for the accuracy of a proffered conclusion..... [5] use the expressions ‘reasonable degree of scientific certainty,’ ‘reasonable scientific certainty,’ or similar assertions of reasonable certainty in either reports or testimony unless required to do so by [the Court] or applicable law.

*Id.* As to the fifth limitation described above, the Court will permit the Government's experts to testify that their conclusions were reached to a reasonable degree of ballistic certainty, a reasonable degree of certainty in the field of firearm toolmark identification, or any other version of that standard. *See, e.g.,* [U.S. v. Ashburn](#), 88 F. Supp. 3d 239, 249 (E.D.N.Y. 2015) (limiting testimony to a “reasonable degree of ballistics certainty” or a “reasonable degree of certainty in the ballistics field.”); [U.S. v. Taylor](#), 663 F. Supp. 2d 1170, 1180 (D.N.M. 2009) (limiting testimony to a “reasonable degree of certainty in the firearms examination field.”). Accordingly, the Government's experts should not testify, for example, that “the probability the ammunition

charged in Counts Eight and Nine were fired in different firearms is so small it is negligible,” *see* Doc. No. 81, p. 5. To the extent Defendant wishes to question or clarify the experts' findings, he may do so through cross examination or through direct examination of his own firearm toolmark expert.

### VIII. Additional Expert Information

Defendant's final objection is to the alleged lack of information relating to Mr. Jones's expert testimony. Doc. No. 67, p. 19. Defendant claims that the Government should be required to provide “a significantly more detailed summary of what it expects Mr. Jones will testify about.” *Id.* Notably, Defendant provides no support for his objection, and the Government has failed to respond in opposition. Upon review, the Court finds that the Government has provided sufficient information relating to Mr. Jones's expert testimony. *See* Doc. No. 81, pp. 4–5; Doc. Nos. 81–1, 81–6, 81–7, 81–9.

### IX. Conclusion

For the forgoing reasons, the Court denies Defendant Hunt's Motion in Limine to Exclude Ballistic Evidence, or Alternatively, for a [Daubert](#) Hearing, Doc. No. 67.

**IT IS SO ORDERED** this 1<sup>st</sup> day of June 2020.

### All Citations

--- F.Supp.3d ----, 2020 WL 2842844, 112 Fed. R. Evid. Serv. 901

### Footnotes

<sup>1</sup> [Daubert](#) itself was limited to scientific evidence, *see* [United States v. Baines](#), 573 F.3d 979, 985 (10th Cir. 2009), but in [Kumho Tire Co. v. Carmichael](#), 526 U.S. 137, 119 S.Ct. 1167, 143 L.Ed.2d 238 (1999), the Supreme Court made clear that the gatekeeping obligation of the district courts described in [Daubert](#) applies, not just to scientific testimony, but to all expert testimony. *Id.* at 141, 119 S.Ct. 1167.

<sup>2</sup> Some Courts have analyzed whether firearm toolmark identification can fairly be called “science” before evaluating the [Daubert](#) factors. *See* [United States v. Glynn](#), 578 F. Supp. 2d 567, 570 (S.D.N.Y. 2008). The Court need not conduct such an analysis here. Though Defendant argues firearm toolmark identification is not a science, Doc. No. 67, p. 14, it is clearly “technical or specialized, and therefore within the scope of

Rule 702.”  *United States v. Willock*, 696 F. Supp. 2d 536, 571 (D. Md. 2010), *aff'd sub nom.*  *United States v. Mouzone*, 687 F.3d 207 (4th Cir. 2012).

3 A black-box study is a blind study where “many examiners are presented with many independent comparison problems—typically involving ‘questioned’ samples and one or more ‘known’ samples—and asked to declare whether the questioned samples came from the same sources as one of the known samples. The researchers then determine how often examiners reach erroneous conclusions.” President’s Council of Advisors on Science and Technology, Exec. Office of the President, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods*, 49 (2016), available at <https://tinyurl.com/j29c5ua>.

4 The AFTE further details their methodology in the following manner:  
“[S]ufficient agreement” is related to the significant duplication of random toolmarks as evidence by the correspondence of a pattern or combination of patterns of surface contours. Significance is determined by the comparative examination of two or more sets of surface contour patterns comprised of individual peaks, ridges and furrows. Specifically, the relative height or depth, width, curvature and spatial relationship of the individual peaks, ridges and furrows within one set of surface contours are defined and compared to the corresponding features in the second set of surface contours. Agreement is significant when the agreement in individual characteristics exceeds the best agreement demonstrated between toolmarks known to have been produced by different tools and is consistent with agreement demonstrated by toolmarks known to have been produced by the same tool.

*AFTE Theory of Identification*, The Association of Firearm and Tool Mark Examiners, available at <https://afte.org/about-us/what-is-afte/afte-theory-of-identification> (last visited May 14, 2020).

# RE: Final Hunt Edits Letter to Evidence Committee re 702 +EJS\_11.5.20 FOR FINAL REVIEW

---

**From:** "Hunt, Ted (ODAG)" <(b) (6)>  
**To:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**Cc:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 17:01:25 -0500  
**Attachments:** Final Letter to Evidence Committee re FRE 702\_11.6.20.docx (343.55 kB)

---

Betsy and Andrew:

I made the suggested change (b)(5) per CIV [REDACTED]

I also caught a few last minute typos that are corrected in the attached final version above.

I'm good to go with this draft.

Betsy, I assume you will sign so I don't need to do that?

Thanks,

Ted

---

**From:** Shapiro, Elizabeth (CIV) <(b) (6)>  
**Sent:** Friday, November [REDACTED]  
**To:** Hunt, Ted (ODAG) <(b) (6)>  
**Cc:** Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** Final Hunt Edits Letter to Evidence Committee re FRE 702 +EJS\_11.5.20 FOR FINAL REVIEW

Duplicative Information - See Document ID 20220314-07407

[REDACTED]

# Re: Final Hunt Edits Letter to Evidence Committee re 702 +EJS\_11.5.20 FOR FINAL REVIEW

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**From:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>  
**Cc:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 17:06:56 -0500  
**Attachments:** Final Letter to Evidence Committee re FRE 702\_11.6.20.docx (343.55 kB); ATT00001.htm (178 bytes)

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Yes, I will print, sign and scan, and draft an email to Dan & company. (b)(5) per CIV

Sent from my iPhone

On Nov 6, 2020, at 5:01 PM, Hunt, Ted (ODAG) <(b) (6)> wrote:

Duplicative Information - See Document ID 20220314-07445

## FW: FRE 702

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**From:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>, "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 17:54:17 -0500  
**Attachments:** Beretta Barrel Fired Bullet Open Set Validation Study (JFS 2020).pdf (871.08 kB); Kaplan\_Public Beliefs About Accuracy and Importance of FS in the US.pdf (585.96 kB); United States v Hunt.pdf (294.64 kB); U.S. v. Harris.pdf (219.23 kB); Letter to Evidence Committee re FRE 702\_11.6.20 FINAL.pdf (237.47 kB)

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FYI

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**From:** Shapiro, Elizabeth (CIV)  
**Sent:** Friday, November 06, 2020 5:53 PM  
**To:** (b)(6) Daniel Capra <(b)(6) Daniel Capra>, (b)(6) Patrick Schiltz <(b)(6) Patrick Schiltz>  
**Cc:** (b)(6) Rebecca Worneldori <(b)(6) Rebecca Worneldori>, (b)(6) Liesa Richter <(b)(6) Liesa Richter>  
**Subject:** FRE 702

Dear Dan and Judge Schiltz:

Judge Schiltz, welcome to the Evidence Committee! I look forward to working with you again. Attached is a letter addressing FRE 702, and some other materials, that I hope can be circulated to the advisory committee members in advance of our meeting next Friday. The goal was to provide the Department's views, and to update the Committee on developments in the field since we last discussed Rule 702 a year ago. Some of the discussion will sound familiar, but much of the information is more current and responds to specific concerns expressed in the meeting memo. Although we were loath to add to the reading materials, it has been a while, and we wanted to ensure that everyone had the opportunity to digest the information in advance. As Dan and Liesa well know, the Department has strong views on this particular issue.

Thank you in advance, and I look forward to seeing everyone (virtually) next week.

All best,  
Betsy



# Public beliefs about the accuracy and importance of forensic evidence in the United States



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## ARTICLE INFO

### Keywords:

forensic science  
forensic evidence  
CSI effect  
public perceptions

## ABSTRACT

Recent advances in forensic science, especially the use of DNA technology, have revealed that faulty forensic analyses may have contributed to miscarriages of justice. In this study we build on recent research on the general public's perceptions of the accuracy of 10 forensic science techniques and of each stage in the investigation process. We find that individuals in the United States hold a pessimistic view of the forensic science investigation process, believing that an error can occur about half of the time at each stage of the process. We find that respondents believe that forensics are far from perfect, with accuracy rates ranging from a low of 55% for voice analysis to a high of 83% for DNA analysis, with most techniques being considered between 65% and 75% accurate. Nevertheless, respondents still believe that forensic evidence is a key part of a criminal case, with nearly 30% of respondents believing that the absence of forensic evidence is sufficient for a prosecutor to drop the case and nearly 40% believing that the presence of forensic evidence – even if other forms of evidence suggest that the defendant is not guilty – is enough to convict the defendant.

## 1. Introduction

The collection and use of forensic evidence have increasingly become vital to criminal investigations and prosecutions [22]. Forensic evidence has been valuable in establishing key elements of a crime, identifying people who were at the crime scene, exonerating innocent defendants, and corroborating victim testimonies [10]. However, recent advances in forensic science, especially the use of DNA technology, have revealed that faulty forensic analyses have contributed to miscarriages of justice. This has led to calls to strengthen scientific foundations of the analysis and presentation of forensic evidence by identifying the types of errors that could occur, describing key concepts that clarify the sources of error, and developing strategies for how to reduce error in forensic analyses [34,35]. Given the importance of recognizing the limitations of forensic science, and the potential devastating consequences that the misuse of forensic science can yield, research on perceptions of forensic science is an important endeavor.

In the United States (US) criminal justice system, jurors are expected to determine guilt based upon relevant facts of a case. While there are attempts to minimize biases in juries, there remains concern that jurors may still hold preconceptions that influence their decisions. In recent years, one such concern relates to juror perceptions of forensic science. Dubbed the “CSI effect”, this term refers to how television crime shows

may affect juror expectations and perceptions, including creating unreasonable expectations among jurors; elevating forensic evidence over other forms of evidence; and perceiving forensic evidence as infallible, objective and free from human judgement or error [2,25,29]. While there have been multiples studies examining the influence of television crime shows on perceptions of forensic evidence or testimony, to the authors' knowledge, only one study to date [29] has directly examined public beliefs about how accurate various forensic techniques are and the role that human judgements plays in the forensic science investigation process. Ribeiro et al. [29] surveyed 101 members of the public in Australia to measure general perceptions of human judgement and error involved in forensic techniques and did not find support for a CSI effect. In fact, their findings suggest that participants believed forensic science was relatively error-prone, involved an appreciable amount of human judgement, and that different forensic techniques yielded different levels of accuracy.

While Ribeiro et al.'s [29] study provides important insights into perceptions of human judgement and error in the context of forensic science, the study was based upon an Australian sample, so it may not immediately translate to the American context. The Australian legal system is similar to that of the US in many ways (e.g., presumption of innocence, requirements to ensure voluntariness of confessions), but there are also crucial differences. These differences include whether

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<sup>1</sup> Joint first authorship.

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illegally obtained evidence is excluded from trial, who has the power to determine charges (prosecutors in the United States but police officers and other criminal investigative units in Australia) as well as plea bargaining and sentencing practices [21,37]. Differences between the US and Australian criminal justice system more broadly necessitate an investigation into US perceptions of forensic science. The US serious crime rate, as well as its high rate of incarceration, give the criminal justice system a much broader role in public life in the United States than in Australia because it affects a far greater percent of the population. Moreover, while there have been acknowledgements of national reports outlining forensic science reliability concerns and errors among legal practitioners in the United States, other countries, such as Australia, have been slower to conduct independent inquiries into the validity and reliability of claims made in forensic science [9]. While there is some evidence that this situation is changing [20], there are differences between the two countries in the knowledge of legal practitioners regarding the fallibility of forensic science, and it is unknown whether such differences also exist among in the general public. Differences of opinion between the two populations could also be attributed to cultural differences distinct from institutional differences between the criminal justice systems of each nation. A sociological comparison of attitudes towards forensic science between Australia and the United States would be an interesting contribution to this discussion. However, this article will focus on documenting the differences in opinion rather than on attempting to explain their cause. As such, it is important to understand the extent to which Ribeiro et al.'s [29] findings are generalizable.

1.1. Miscarriages of justice

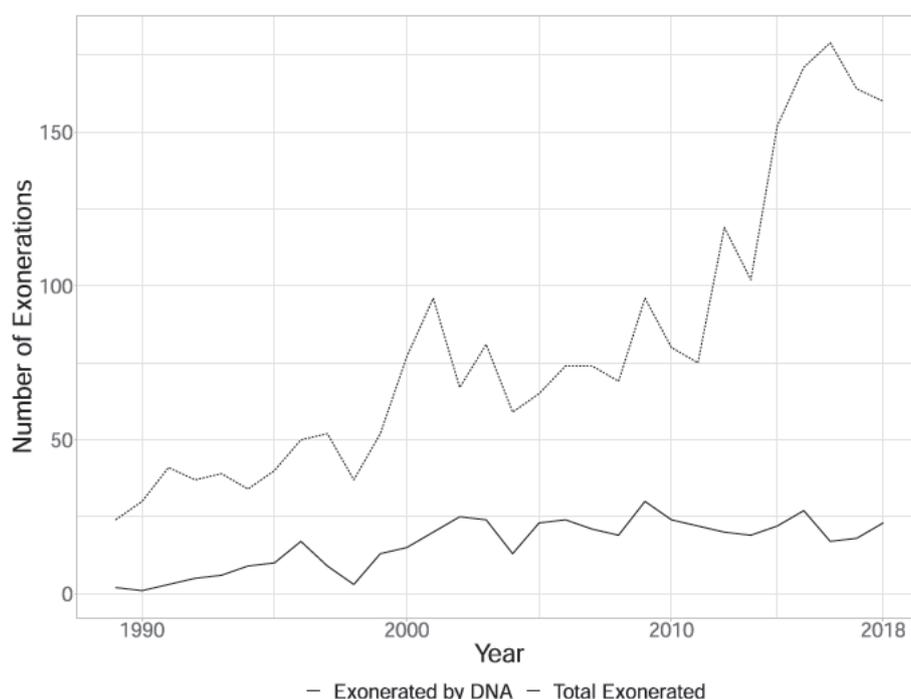
1.1.1. Exonerations

With the increased use and application of forensic science over the years come increasing concern over the misuse of forensic evidence. The inappropriate use or application of forensic science has been estimated to contribute to almost a quarter of all wrongful convictions nation-wide [27]. In a study by Garrett and Neufeld [12], 60% of cases involved unsubstantiated or misleading forensic testimonies. There is

an increasing trend in the annual number of exonerations in the United States (Fig. 1) and the number of exonerations due, at least in part, to inaccurate or misleading forensic evidence (Fig. 2) over the last two decades. These concerns are especially troubling when considering potential racial disparities in exoneration rates, with evidence that Blacks are exonerated at higher rates than Whites [31]. In an effort to review, rectify, and prevent cases of wrongful convictions, a growing number of prosecutorial offices are establishing conviction integrity units (CIUs). One tool that CIUs use to review cases involves the re-examination of forensic evidence. In 2018, CIUs have been responsible for 58 exonerations, some of which involved official misconduct such as falsifying forensic results [23]. Ultimately, flawed interpretations or misrepresentation by forensic analysts may negatively impact jury perceptions. This has augmented concerns about how forensic science may contribute to miscarriages of justice, and how pre-existing and contextual biases may play a role in how forensic evidence is perceived [16].

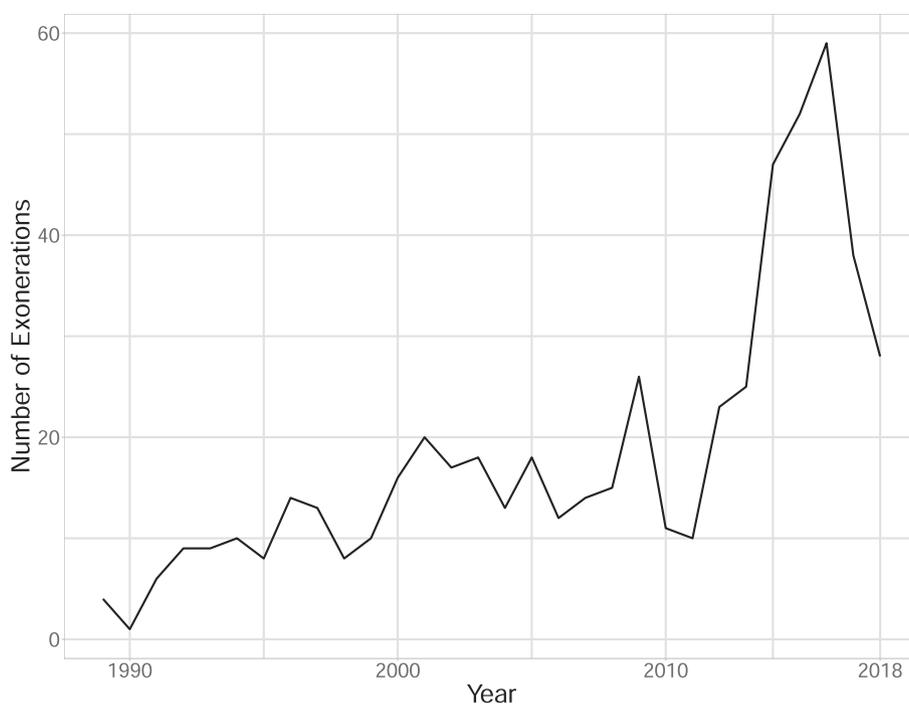
1.1.2. Community relations

The consequences of erroneous use or interpretation of forensic techniques may disproportionately affect racial and ethnic minorities in the US, who have disproportionate contact throughout the criminal justice system. In recent years, there has been a spotlight on compounding racial tensions between criminal justice system and minority community members in particular. This has manifested in several ways, including the establishment and growth of the Black Lives Matters movement as well as the elections of progressive prosecutors. These efforts are part of a growing movement seeking to redress perceived wrongs that certain groups disproportionately experience within the criminal justice system. Indeed, perceptions of injustice or unfair treatment by the criminal justice system can undermine the perception of legitimacy of the system as a whole. This could foster distrust of certain types of evidence during trials, such as police or eyewitness testimony, if they are perceived as biased or subjective. If forensic evidence is seen as more objective than other types of evidence, there may be more reliance on these measures to avoid the flaws of other evidence types. However, there remain ethical concerns over various



Source: National Registry of Exonerations, <http://www.law.umich.edu/special/exoneration/Pages/browse.aspx>

Fig. 1. Annual Number of People Exonerated in the United States.



Note: Source: National Registry of Exonerations, <http://www.law.umich.edu/special/exoneration/Pages/browse.aspx>.

Fig. 2. Annual Number of People Exonerated in the United States Whose Conviction Included Inaccurate or Misleading Forensic Evidence.

aspects of forensic evidence. The existence of DNA databases, for example, may be helpful in identifying DNA recovered from a crime scene if the perpetrator has a record in the DNA database already. However, Amankwaa [1] and Machado and Silva [19] identify key risks that may occur with the improper use of these databases, including exacerbating existing stigmas and stereotypes due to the over-representation of certain social and racial groups in criminal DNA databases, as well as mistaken identification resulting from erroneous interpretations of the information provided by DNA profiles that can lead to wrongful convictions.

### 1.2. How frequently is forensic evidence used?

A study analyzing forensic science collection practices by law enforcement in Denver and San Diego found that in nearly all homicide cases, at least one type of forensic evidence – primarily DNA, fingerprints, evidence from the weapon used, or hair – was collected [22]. For the crime of sexual assault, over half of cases in Denver and two-thirds of cases in San Diego collected forensic evidence, with the vast majority being DNA or hair. Forensic evidence collection is far less common in other crimes with under one-third of burglaries in San Diego and < 16% of burglaries in Denver having a single type of forensic evidence collected. The cases which do collect evidence primarily collect fingerprints. While forensic evidence is primarily collected in cases of violent crime, there is growing interest in collecting forensic evidence – in particular DNA evidence – at property crime scenes, vastly expanding the scope of cases in which forensic evidence may play a role [30]. Recent advances in technology have reduced the cost of DNA collection and dramatically increased the speed at which DNA collected at a crime scene can be compared against a DNA registry [14]. This had led to even small police agencies collecting forensic evidence for violent as well as property crimes. As forensic evidence becomes increasingly common in criminal cases, research on how the general public – specifically, jury-eligible members of the public – respond to this evidence is crucial to understanding how they will behave when presented with forensic evidence in a criminal trial.

### 1.3. Levels of accuracy from literature reports

While differences in public opinion about the validity and reliability of forensic methods are of intrinsic interest to policy makers and other researchers, it is also important to compare public opinion to the findings of scientific experts about the validity and reliability of these methods. At the time of this writing, the authors are not aware of a single standard by which the claims of forensic science can be evaluated. However, a number of studies have been conducted in the US to determine the validity and reliability of forensic methods. In this study, we will compare our survey findings to the expert opinions articulated in one prominent report from the United States, the President's Council of Advisors on Science and Technology (PCAST) report [35]. We use this report because it is a recent, careful analysis by independent scientists of the validity and reliability of a number of forensic methods.

There is no simple score from zero to 100 for the levels of accuracy of forensic methods. However, there are available reviews about whether these methods are valid, meaning accurate and consistent. In the United States, Rule 702 (Fed. R. Evid. 702), from the Federal Rules of Evidence sets the standards of admissibility of scientific evidence in court.<sup>2</sup> Among other sections, it states that the expert may testify if the testimony is “the product of reliable principles and methods” and “the expert has reliably applied the principles and methods to the facts of the case.” PCAST called these two standards *foundational validity* and *validity as applied*, respectively. The report reviewed the research about seven forensic disciplines (DNA single-source and simple mixture, DNA complex mixture, bitemarks, fingerprint, firearms, footwear, and hair). The reviewed research consisted of studies of error rates of the methods, and consistency if an analyst performs the analysis at different times and if different analysts perform the same analysis with the same

<sup>2</sup> While Rule 702 establishes federal standards for the admissibility of evidence, the standards within states are somewhat more heterogeneous. States typically adopt the Frye (Frye v. United States, 293F. 1013 (D.C. Cir. 1923)) or Daubert (Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579 (1993) at 592) standards, which are based on precedents from case law.

materials. While PCAST is not the only review that could be used for comparison (for instance, The National Research Council [34] could be used as well), we chose it because it is a recent, careful analysis by independent scientists that provides a clear and supported categorization of the validity and reliability of a number of forensic methods. It is left as future work to use other reviews for comparison with our survey responses.

PCAST [35] determined that, out of the seven disciplines reviewed, only DNA analysis of single-source simple mixture (two sources where one source is known) samples and latent fingerprint analysis were foundationally valid. DNA analysis of complex-mixture samples with probabilistic genotyping and firearms analysis were not foundationally valid, but had the potential to be so with current and future research. DNA analysis of complex-mixture samples with combined-probability-of-inclusion (CPI) methods, bitemark analysis, footwear analysis, and microscopic hair comparison were not foundationally valid and/or were missing serious research.

Regarding the techniques from our survey not included in the PCAST report, there is no single review that gives a definitive answer about their foundational validity. The National Research Council [34] concluded that for bloodstain analysis, “some experts extrapolate far beyond what can be supported” and “the uncertainties associated with bloodstain pattern analysis are enormous.” For gunshot residue, there are no studies of which the authors are aware that estimate the accuracy or evaluate the validity of the technique, and thus they have not been demonstrated to be foundationally valid. For voice analysis, there is a recent review of the scientific validity of various methods by the Scientific Literature Working Group [36]. The review does not make a final conclusion about the scientific validity, but it does show promising research on the accuracy of various methods. For this study we leave voice analysis unranked in terms of actual accuracy. Toxicology is multidisciplinary since it uses analytical chemistry, pharmacology, and clinical chemistry to aid medical or legal investigation of death, poisoning, and drug use. There are studies of the accuracy of many of the methods used, so it should be considered foundationally valid. However, neither the National Research Council nor the PCAST present a careful review of its methodologies. Finally, while the current study includes brain imaging as a technique, it is not a traditional forensic discipline or a component of crime scene investigation. However, it has been offered as a potential method of gaining insight into individuals’ psychological states after a suspect is in custody, and has been used as evidence in multiple phases of criminal trials by prosecutors and defense attorneys [6,7,13].

#### 1.4. Current study

The current study aims to bridge the gap between the increasing importance of forensic evidence in criminal cases and the dearth of knowledge of the US public’s view of that evidence. We do so by surveying members of the US public to assess their beliefs on the accuracy of forensic evidence and the process of collecting, analyzing, and reporting of such evidence. We approach this study with four hypotheses:

1. Respondents will have a high level of confidence in the forensic science investigation process as well as for the accuracy of each forensic science technique. Given the relatively high confidence found in Ribeiro et al.’s [29] Australian sample, we expect that our US sample will have a similar high degree of confidence in forensic science.
2. Respondents will overestimate the accuracy of forensic evidence. While determining the objective accuracy of forensic evidence is a difficult and ongoing process, we expect that respondents will perceive the evidence to be of a higher quality than supported by research.
3. Respondents will support the *CSI* effect by believing that what they see on fictional TV shows about forensic science reflects actual forensic science techniques and outcomes.

4. Forensic evidence will be given great weight in criminal trials and be considered a decisive factor in whether a defendant is considered guilty or not guilty. We expect that respondents will prioritize forensic evidence in criminal trials over other types of evidence, and consider its presence to be strong evidence that the defendant is guilty.

## 2. Method

### 2.1. Participants

This study utilized Amazon’s Mechanical Turk, an online survey platform, to collect information about the general public’s perceptions of various forensic science techniques. The survey consisted of 49 questions and took approximately 24 min to complete. Only Mechanical Turk users in the United States were eligible to take the survey. All surveys were collected between June 26th and 27th, 2019. Participants were financially compensated up to \$1 for their participation. All study procedures were approved by the University of Pennsylvania’s institutional review board. Users who agreed to take the survey were directed to a link on the Mechanical Turk website to the survey which was administered through the Qualtrics survey software.

In total, 180 people completed the survey. Two attention-check questions were used to determine whether responses were reliable. Following the introductory page explaining the purpose and topic of the survey, respondents were asked a multiple-choice question (the first attention-check question) on what the survey was about. Fifteen respondents chose an option other than “Forensic evidence.” The second attention-check asked if the respondent had “ever been a victim of murder?” An additional 10 respondents said that they had. In total, 25 respondents failed the attention check and were dropped from the study analyses. Responses from the remaining 155 participants were used for the analyses.

Respondents varied in age from 19 to 70 with most respondents being in their 30s (Mean = 35.6, SD = 10.6). The majority of respondents identified as male (59%), 39% identified as female, and 2% identified as neither male nor female. Over two-thirds (70%) identified as White-only, 10% identified as Black-only, 6.5% identified as Asian or Pacific Islander, and 9% identified as Hispanic. The remaining respondents identified as mixed-race or as American Indians. This is similar to the United States population as a whole where 60.4% of residents are White-only, 13.4% are Black-only, and 5.9% are Asian-only, and 18% are Hispanic. These respondents are more educated than the United States general public. In the present sample, 87.2% have graduated high school, nearly the same as the 87.3% of the general public. However, approximately 52% had earned a four-year degree or higher in the sample compared to 31% in the entire United States. Twenty respondents (12.9% of the sample) had served on a jury, with 65% (13 respondents) of these being involved in a case that included forensic evidence.

The survey utilized in the current study is a modified version of the Ribeiro et al. [29] study (see Ribeiro et al. [29] for how to access their survey).

### 2.2. Forensic science investigation process

To understand public perceptions of the likelihood of an error occurring during the forensic science investigation process, we asked respondents “how likely is it that an error could occur” at each stage. The six stages of the forensic science investigation process are: collection, storage, testing, analysis, reporting, and presenting. The respondents’ answers were on a slider from 0 to 100 with the default position set at 50.<sup>3</sup> Respondents

<sup>3</sup> Analyses were conducted in a separate pilot study to determine whether a default anchor of 0, 50, or 100 would affect participant responses. Results indicated that responses between the three anchors were similar on average, thus suggesting respondents were not influenced by the initial position of the anchor.

were required to select a value to proceed to the next question, even if they selected the value of 50. For each process, respondents were also asked “to what extent does the [process] involve human judgement?” with a 7-point Likert scale answer from *None at all* (1) to *Entirely* (7).

### 2.3. Forensic science techniques

Respondents were then asked how accurate they perceive each of 10 forensic science techniques to be and whether there was significant human judgement involved.<sup>4</sup> As with the forensic science investigation process questions, the accuracy was measured on a slider from 0 to 100 with the default position set to 50. We included 10 techniques or analyses in this survey: bloodstain pattern, brain imaging, DNA, dental, fingerprint, firearm and toolmark, footwear, gunshot residue, toxicology (e.g. urine, drugs), and voice analysis.

Eight of these techniques (all except for brain imaging and footwear analysis) were studied by Ribeiro et al. [29], allowing for a comparison of perceptions between US and Australian populations. In addition to the eight techniques shared with Ribeiro et al. [29], we included footwear analysis, since it is one of the primary methods in feature-comparison and is commonly used in forensic laboratories, and brain imaging because it has been used as evidence during criminal cases as a method of demonstrating defendants’ mental states and capabilities. We decided not to include some of the techniques studied in Ribeiro et al. [29] (anthropological, document, faces, fire/explosives, geological materials, image, materials, and wildlife) because they were not included in reports that review the state of forensic science [35] and in the interest of focusing more heavily on feature-comparison methods.

Human judgement was measured by asking whether they believed there to be “key procedures that involve significant human judgement” in that forensic science technique. Respondents could answer *No*, *Yes*, or *Not Sure*.

### 2.4. CSI effect

The popularity of TV shows depicting forensic science such as *CSI* and *Law & Order* has led to concerns about a “CSI effect” where watchers believe that the shows accurately depict forensic science and use standards based on the show’s inaccurate depictions as their basis for judging the validity of the techniques [29,5]. These shows often depict forensic science as infallible, nearly instantaneous, and entirely objective. If jurors do indeed base their opinion of forensic science on what is depicted on these shows, they may conclude that a piece of forensic evidence is more powerful than it actually is. Conversely, the lack of forensic evidence - which is found in nearly all crime scenes on these shows - may be seen as evidence that the defendant is not guilty.

Past studies of this topic primarily use TV viewing habits to measure whether watching these shows affects perceptions of forensic evidence [29,32,26]. This method has a number of limitations as it is unclear whether watching more of these shows reflects merely that the respondents watch more TV overall, if they are particularly interested in forensic evidence - and what other material they use to learn about forensic evidence - and only indirectly measures how watching these shows affects perceptions of forensic evidence. In this study we attempt to address the CSI effect directly by asking respondents how accurate they believe the “most accurate fictional show” and the “average fictional show” is in depicting forensic science. Respondents could choose from a 4-point Likert-scale from *Not Accurate at all* to *Very Accurate*, as well as *Not Sure*. As these shows are largely fictitious or a gross exaggeration of real forensic evidence techniques, asking respondents directly how accurate they believe these shows to be allows for a better measure of the CSI effect than previously evaluated [15].

<sup>4</sup> We did not define any of the forensic techniques to avoid biasing responses. As such, the results should be interpreted as baseline knowledge.

### 2.5. Importance of forensic evidence during criminal cases

Jurors may believe that there are substantial flaws in the accuracy of individual techniques or the forensic science investigation process yet may still be willing to accept forensic evidence presented at trial if they believe that only the strongest evidence - that which has avoided the concerns that they have for the evidence - will be presented. To assess this, we asked respondents how strongly they agreed with four statements about the usability and importance of evidence in criminal trials. These questions come from the Forensic Evidence Evaluation Bias Scale (FEEBS), a questionnaire designed and validated by Smith and Bull [32–33], to evaluate people’s perceptions of forensic evidence.

1. Forensic evidence always provides a conclusive answer.
2. Forensic evidence always identifies the guilty person.
3. If no forensic evidence is recovered from a crime scene, then the prosecutor should drop the case.
4. If forensic evidence suggests a defendant is guilty, this should be enough to convict even if other evidence (e.g., eyewitness testimony, alibi) suggest otherwise.

## 3. Results

### 3.1. Forensic science investigation process

#### 3.1.1. Estimates of error

Table 1 shows how prone to error respondents believe the forensic process to be. Columns (1–2) show the results from the current study with Column (1) showing the percent likelihood of an error occurring and Column (2) showing the cumulative chance of an error occurring at each consecutive stage of the process. Columns (4–5) follow this same pattern and show results from Ribeiro et al.’s [29] study of the general public in Australia. To allow easy comparison between the US and Australian results, the final three columns are the difference between US and Australian values.

At each stage in the forensic science investigation process, respondents believe there to be a high chance of an error occurring. The first stage, collection, was perceived to be the riskiest stage with a 56% chance of an error occurring. The least risky stage, reporting, fared a little better with a perceived 44% chance of an error occurring. The forensic science investigation process is considered to be rife with possibilities for errors, with respondents perceiving that an error could occur about half the time at each stage. The Australian sample believed that an error would occur about 40% of the time on average, approximately 10 percentage points lower than the American sample. For each stage, American respondents believed that an error was more likely to occur - with differences ranging from +2.82 for presenting to +13.26 for collection - than Australian respondents did.

#### 3.1.2. Human judgement

For each stage in the forensic process, respondents were asked how much human judgement was involved in that stage. This question used a seven-point Likert-scale from *None at all* (1) to *Entirely* (7). Column (3) of Table 1 shows the mean respondent score. Respondents believed that there was a high level of human judgement involved at each stage, with all except two stages - storage at 4.65 and testing at 4.78 - having a score above 5. Because variables were nonnormally distributed, Kendall’s tau-b correlations were run to examine the association between the likelihood of an error and the level of human judgement involved for each stage of the forensic process. There was a positive correlation between how likely an error could occur and how much human judgement was involved for all six stages: collection ( $\tau_b = 0.363$ ,  $p < .001$ ), storage ( $\tau_b = 0.412$ ,  $p < .001$ ), testing ( $\tau_b = 0.289$ ,  $p < .001$ ), analysis ( $\tau_b = 0.229$ ,  $p < .001$ ), reporting ( $\tau_b = 0.350$ ,  $p < .001$ ), and presentation ( $\tau_b = 0.218$ ,  $p < .001$ ). These correlational results suggest that respondents believe that people involved in

**Table 1**  
Perceived Accuracy and Level of Human Judgement for Each Stage of the Forensic Science Process.

Process Stage	US Sample		Australian Sample			US – Australian Difference			
	Error	Cumulative Error	Human Judgement	Error	Cumulative Error	Human Judgement	Error	Cumulative Error	Human Judgement
Collection	55.74 (27.37)	55.74	5.39 (1.47)	42.48 (27.12)	42.48	5.55 (1.60)	13.26	13.26	–0.16
Storage	48.45 (26.29)	104.19	4.65 (1.67)	39.35 (28.11)	81.83	5.15 (1.66)	9.10	22.36	–0.50
Testing	45.26 (27.07)	149.45	4.78 (1.58)	39.27 (27.77)	121.10	4.94 (1.70)	5.99	28.35	–0.16
Analysis	52.45 (26.28)	201.90	5.57 (1.46)	44.55 (27.60)	165.65	5.25 (1.52)	7.90	36.25	0.32
Reporting	44.25 (27.38)	246.15	5.06 (1.71)	40.69 (26.87)	206.34	5.43 (1.53)	3.56	39.81	–0.37
Presenting	45.04 (26.97)	291.19	5.37 (1.63)	42.22 (29.64)	248.56	5.55 (1.53)	2.82	42.63	–0.18

*Note:* This table shows the mean and (standard deviation) for the perceived likelihood that an error could occur during each stage in the forensic science process. Error is measured on a scale from 0 to 100. Human judgement is measured on a seven-point scale from 1 to 7. A value of one indicates that no human judgement is involved in the process; a value of seven indicates that the process is entirely based on human judgement. Responses of “Not sure” for the amount of human judgement involved are excluded. The US sample is from the present study, the Australian sample is from Ribeiro et al.’s [29] study of 101 members of the public in Australia.

**Table 2**  
Perceived Accuracy and Level of Human Judgement for Each Forensic Evidence Technique.

Type of Forensic Evidence	US Sample		Australian Sample		US – Australian <i>t</i> value
	Accuracy	Human Judgement	Accuracy	Accuracy	
DNA	83.09 (17.92)	58% (49%)	89.95 (15.85)	3.13**	
Fingerprints	78.62 (17.47)	54% (50%)	88.15 (17.66)	4.25***	
Toxicology (e.g. urine, drugs)	76.12 (18.21)	43% (50%)	86.66 (13.75)	4.97***	
Dental	75.88 (22.02)	41% (49%)	89.26 (12.04)	5.58***	
Firearms and toolmarks	68.15 (19.41)	82% (38%)	79.63 (16.77)	4.87***	
Gunshot residue	67.98 (19.66)	65% (48%)	78.87 (17.97)	4.48***	
Bloodstain pattern	64.28 (20.50)	85% (36%)	78.53 (19.03)	5.59***	
Brain imaging	60.74 (24.92)	58% (50%)	–	–	
Footwear	56.98 (23.44)	82% (39%)	–	–	
Voice	55.30 (22.25)	86% (35%)	71.47 (19.16)	6.00***	

*Note:* This table shows the mean and (standard deviation) for perceived accuracy of each forensic science technique. Accuracy is measured on a scale from 0 to 100. Human judgement asks respondents whether they believe each technique involves ‘key procedures that involve significant human judgement?’ Responses shown are the percent the responded ‘Yes’, excluding those who responded ‘Not Sure’. The US sample is from the present study, the Australian sample is from Ribeiro et al.’s [29] study of 101 members of the public in Australia. The final column shows the *t*-value from a *t*-test comparing US responses to Australian responses from Ribeiro et al. [29].

\**p* < 0.05.  
\*\**p* < 0.01.  
\*\*\**p* < 0.001.

the forensic science investigation process are liable to make mistakes that reduce the accuracy of the evidence. US respondents believe that there is slightly less human judgement than the general public in Australia (Column 6) do.

### 3.2. Forensic evidence techniques

#### 3.2.1. Estimates of accuracy

Table 2 assesses how accurate respondents believe each of the 10 forensic techniques examined are. Column (1) shows how accurate respondents believe each technique to be, from 0 to 100. Based on the perceived accuracy, the most accurate to least accurate technique are: DNA, fingerprints, toxicology, dental, firearms/toolmarks, gunshot residue, bloodstain pattern, brain imaging, footwear, and voice.

Respondents believe that DNA analysis is the most accurate forensic technique at 83% accurate, followed by fingerprint analysis at 79%. DNA analysis is the only technique considered above 80% accurate, with most within the range of 65–75% accurate. Two analyses are considered below 60% accurate: voice analysis is considered to be 55% accurate and footwear analysis is considered to be 57% accurate.

For a comparison to Ribeiro et al.’s [29] Australian sample, Column (3) show the accuracy rate among their participants. Column (4) shows the *t*-value from a *t*-test comparing the current study’s responses to Ribeiro et al.’s [29] Australian sample. For each type of forensic

evidence, there is a statistically significant (*p* < 0.01) difference between each sample’s perceptions of accuracy. Relative to the Australian sample studied by Ribeiro et al. [29], American respondents viewed forensic techniques as less accurate. For the eight techniques studied which overlap with Ribeiro et al. [29], US respondents believed that the techniques were on average 12 percentage points less accurate than Australians did.<sup>5</sup> For every comparable technique, US respondents rated it as less accurate than Australian respondents did. In six of the eight comparable techniques, US respondents perceived it to be around 10 percentage points less accurate than Australian respondents.<sup>6</sup> These results may suggest that Americans are less trusting of forensic science overall, though they have relatively similar perceptions of the accuracy of forensic techniques relative to each other.

#### 3.2.2. Comparison between survey responses and levels of accuracy from reports

Table 3 shows the comparison of accuracy rankings between the

<sup>5</sup> Bloodstain pattern, DNA, dental, fingerprints, firearm and toolmarks, gunshot residue, toxicology, and voice analysis overlapped with the Ribeiro et al. [29] study. Brain imaging and footwear analysis were examined in this study but not Ribeiro et al.’s [29] study.

<sup>6</sup> The two exceptions are DNA at 6.86% less accurate and fingerprints at 9.53% less accurate.

**Table 3**

PCAST report conclusions about foundational validity, which requires a method to be repeatable, reproducible, and accurate, of forensic disciplines [35]. The conclusions derived from the PCAST report have been interpreted and summarized by the authors of this article.

Conclusion by PCAST authors	Discipline
Foundationally valid	DNA Fingerprints
Not foundationally valid yet	Dental*
	Firearms/toolmarks**
	Footwear***
Unranked	Bloodstain pattern
	Voice
	Gunshot residue
	Brain imaging
	Toxicology

\* There are low prospects of developing bitemark analysis into a scientifically valid method, according to PCAST.

\*\* There is one appropriate study so far, but more are needed to show the technique is reproducible.

\*\*\* Source identification was found to not be foundationally valid, but the validity of class characteristic identification was not evaluated by PCAST.

survey responses and the conclusions from reports (see Section 1.3).<sup>7</sup> It is not possible to make a numerical comparison between these two sources, so instead we analyze the differences in ordering. Other researchers might have different opinions about the ordering of the levels of accuracy of the forensic disciplines.

Toxicology, gunshot residue, bloodstain pattern analysis, brain imaging, and voice analysis were unranked by PCAST, so it is not surprising that they are scattered in the survey responses (they are in places 3, 6, 7, 8, 10, respectively in the survey responses).

Of the techniques that are ranked, the top two disciplines in the survey responses (DNA and fingerprints) are also the only two that are considered foundationally valid by PCAST. It is notable that dental analysis scored high (4 out of 10) in the survey since it is considered not foundationally valid by PCAST. Indeed, PCAST found that “available scientific evidence strongly suggests that examiners not only cannot identify the source of bitemark with reasonable accuracy, they cannot even consistently agree on whether an injury is a human bitemark” [35]. In fact, dental scored higher than firearms and toolmarks, even though PCAST found that firearms and toolmarks was almost shown to be foundationally valid, but it was not yet because there was only one appropriate study of scientific validity instead of multiple, which are required to show reproducibility.

Similar to Ribeiro et al.’s [29] study, we did not separate the DNA analysis into different types (single-source, simple mixture, complex mixture) for the survey, but PCAST did make this important distinction. It would be interesting to study whether the general public is aware of these differences and whether it considers some more accurate than others, but that is left as future work. Thus, for our comparison in Table 3, we refer to any type of DNA evidence as just “DNA”. Moreover, the survey asks about firearms/toolmarks, but most of the current research about the accuracy of these methods is about firearms, not toolmarks in general, such as the marks left by screwdrivers or wire cutters. It is common to present firearms and toolmarks as a single category, since imprints on a used bullet or cartridge (considered marks) were made by the firearm (considered a tool). These are issues for future research on forensic techniques to consider.

### 3.2.3. Human judgement

To judge how objective respondents believed each technique to be, we asked whether they believed there to be “key procedures” in the technique involving human judgement. The percent of respondents who

answered *Yes* are shown in Column (3) of Table 2, excluding those who responded *Not sure*.<sup>8</sup> Respondents believe that there is a high level of human judgement involved in each technique. Over 50% of respondents believe that human judgement is involved in the forensic technique for all except for toxicology (43% of respondents) and dental analysis (41% of respondents). Even for the two most trusted analyses, DNA and fingerprints, over half of respondents believe that human judgement is involved in “key procedures” for that analysis with 58% and 54% reporting so, respectively. Because responses were non-normally distributed, Mann-Whitney *U* tests were conducted to examine differences in perception of accuracy between those who perceived the technique to involve human judgement or not. Individuals who believed no human judgement was involved in brain imaging (mean rank = 71.17) thought that this technique was more accurate than those who believed brain imaging involved human judgement (mean rank = 57.93),  $U = 1528, p = .044$ . Similarly, respondents who believed no human judgement (mean rank = 79.15) was involved in toxicology thought this technique was more accurate than individuals who believed the technique involved with human judgement (mean rank = 62.39),  $U = 1914.5, p = .017$ . For all other techniques, there were no significant differences in perception of accuracy between those who believed human judgement was involved and those who did not.

### 3.3. CSI effect

Table 4 shows the percent of respondents who chose each answer for the two questions used to measure the CSI effect. Column (1) shows the responses for the “most accurate fictional show” while Column (2) shows responses for the “average fictional show” that depicts forensic science. In both cases the vast majority of respondents believe that the shows are between slightly and moderately accurate. For the “most accurate” show, 43% of respondents believe it to be “moderately accurate,” more than the 26% who say the “average” show is “moderately accurate.” Approximately 10% of respondents believe that these shows are “very accurate.” For the “most accurate show,” the same number of respondents believe it to be “not at all accurate” as to be “very accurate.” For the “average show,” however, nearly twice as many (18%) of respondents believe it to be “not at all accurate.”

When asked whether watching these shows changed their interest in forensic science, nearly three-quarters of respondents (99 of 135 respondents; 20 respondents in the sample did not watch these shows) claimed they are “Much more interested” or “Somewhat more interested” in forensic science as a result of these shows.

### 3.4. Importance of forensic evidence during criminal cases

Table 5 shows the responses to the four questions regarding the importance and reliability of forensic evidence during the criminal justice process. Each row is a single question and Columns (1–5) show the percent of respondents who choose each answer. Respondents could select if they strongly or somewhat agree or disagree, or if they are not sure.

Row (1) shows responses to the statement that “forensic evidence always provides a conclusive answer” and the majority of respondents (52%) somewhat or strongly agree. A smaller amount, 41%, agree that “forensic evidence always identifies the guilty person” while the majority of respondents (55%) somewhat or strongly disagreed (Row (2)). These results seem contradictory to previous sections which showed that the forensic science investigation process and many forensic science techniques were perceived to have high levels of human judgement involved and to be relatively inaccurate. It is unclear why

<sup>8</sup>Ribeiro et al. [29] also assessed the degree of human judgement for each forensic technique. However, their question was a Likert-scale question, preventing a comparison from our *Yes-No* question.

<sup>7</sup>The conclusions from reports are summarized by the authors of this article and are not a consensus that exists in the forensic science community.

**Table 4**  
Perceived accuracy of fictional TV shows that depict forensic science.

	Most Accurate Show	Average Show
Very accurate	9.68	9.68
Moderately accurate	43.23	26.45
Slightly accurate	33.55	41.94
Not accurate at all	9.68	18.06
Not sure	3.87	3.87

*Note:* Respondents were asked “How accurate do you think the [most accurate/average] fictional show is in depicting forensic science?” This table shows the percent of respondents who gave each answer to the questions. Column percentages may not total to 100 due to rounding.

respondents appear to be more supportive of “forensic evidence” abstractly yet hold relatively negative views of each specific technique or stage of the forensic science investigation process.

Row (3) demonstrates the extent to which respondents agree that prosecutors should drop a case if there is no forensic evidence collected at the crime scene. Nearly a third of respondents (29%) somewhat or strongly agreed with this statement while 65% disagreed and 6.5% were not sure. This suggests that, even though overall forensic evidence is considered to be relatively inaccurate, a nontrivial number of respondents would be unwilling to convict a defendant without it. As this study did not assess perceptions of other forms of evidence, such as eyewitness testimony, it is unclear whether this group believes that forensic evidence itself is particularly strong or that other forms of evidence are less valid. Finally, Row (4) reflects how strongly respondents agree that if forensic evidence suggests that the defendant is guilty, they should convict that defendant even if other evidence suggests that the defendant is not guilty. Here, 37% of respondents either somewhat or strongly agreed with this statement. These results indicate that while overall respondents believe there to be serious flaws in forensic evidence, an appreciable portion are willing to make decisions on the defendant’s guilt based solely on forensic evidence.

#### 4. Discussion

This study sought to understand public perceptions of forensic science by surveying members of the general public in the United States. Overall, our hypotheses in general were not supported. While we expected respondents to have a high level of confidence in the forensic science investigation process and for the accuracy of each forensic science technique (Hypothesis 1), our results suggest that members of the US public hold significant doubts about the accuracy of forensic techniques and believe that each technique contains high levels of human judgement. The technique perceived to be most accurate was DNA evidence at 83% accuracy, while voice analysis at 55% and footwear analysis at 57% were perceived to be least reliable. Most forensic techniques were considered to be in the range of 65–75% accurate. Our results align with prior work indicating that DNA is often perceived to be among the most accurate forensic techniques, though our study yields lower perceptions of accuracy for DNA than reported elsewhere [18]. Additionally, respondents indicated that they believed there was a substantial risk of error at each stage of the forensic science process, and that each stage involves a large amount of human judgement. Relative to Ribeiro et al.’s [29] study in Australia, our sample reported a higher likelihood of error at every stage, especially in the collection, storage, and analysis stages.

Our second hypothesis reflected our expectation that respondents would overestimate the accuracy of forensic evidence. When comparing the accuracy rankings between the survey responses and the conclusions from reports, it was notable that the top two disciplines in the survey responses (DNA and fingerprints) were also the only two that were considered foundationally valid by the relevant literature [35]. Furthermore, dental analysis ranked 4th most accurate in the survey,

although it is considered not foundationally valid by PCAST. In fact, PCAST considers that it is far from being so as examiners “cannot even consistently agree on whether an injury is a human bitemark.” In fact, dental analysis scored higher than firearms and toolmarks in the survey, even though PCAST found that firearms and toolmarks was almost shown to be foundationally valid.<sup>9</sup> Several techniques that were ranked in the survey (toxicology, gunshot residue, bloodstain pattern analysis, brain imaging, and voice analysis) were not in the PCAST report, thus, we could not compare their rankings. Overall, there was mixed support for Hypothesis 2.

We also hypothesized that respondents would believe fictional forensic science television shows would be highly accurate (Hypothesis 3). Ribeiro et al. [29] used the number of hours of forensic science-related TV shows that a respondent watched as a measure of their interest in the field and examined the correlations between this measure and respondents’ attitudes toward the likelihood of an error in the forensic science investigation process and for individual techniques. They found that there was no significant relationship between the number of hours watched and opinions on the likelihood of an error to occur. In this study we attempted to address the *CSI* effect directly by asking respondents how accurate they believe the “most accurate fictional show” and the “average fictional show” is in depicting forensic science. Our findings indicate that respondents believed that the average forensic science shows were only slightly accurate, and that even the “most accurate fictional show” was only moderately accurate. Arguably, a *CSI* effect would have been contingent on individuals believing what they see in forensic science-related TV shows (i.e., having most people report a *Very Accurate* rating), but the current results suggest that people do not blindly believe the accuracy of these shows. Respondents generally believe that such shows are slightly to moderately accurate at best. These results thus did not seem to indicate a *CSI* effect, and did not support our hypothesis. While this study measured the *CSI* effect in a different way than Ribeiro et al.’s [29] did, our findings are similar as neither study found support for a *CSI* effect.

Finally, we expected that respondents would give great weight to forensic evidence in criminal trials such that the evidence would be considered a decisive factor in whether a defendant is considered guilty or not guilty (Hypothesis 4). Results partially support this hypothesis as nearly 30% of respondents believe that the absence of forensic evidence is sufficient for a prosecutor to drop the case and almost 40% believed that the presence of forensic evidence, even if other forms of evidence suggest the defendant is not guilty, is enough to convict the defendant.

While the current study provides insights into public perceptions of forensic science, the impact of the current study may be limited in scope. In the US criminal justice system, jurors hold immense power during trials, determining whether the defendant is guilty of the crimes they are accused of committing. The Sixth Amendment to the United States Constitution guarantees that defendants the right to be judged by an “impartial jury” consisting of members of the public. In practice, however, juries only impact a small number of criminal cases as in nearly all but the most serious cases, the defendant pleads guilty or the case is dismissed before trial [17,4,28,3]. For the crime of murder, however, nearly 40% of cases do proceed to trial, where jury perceptions of the usefulness and validity of forensic science techniques can play an outsized role in determination of guilt. In the vast majority of murder cases at least one form of forensic evidence was collected by investigators at the scene [22].

However, juries are not presented only with forensic evidence during a trial. Their decision is likely based on other evidence involved in the case, personal biases, and how these factors interact with the forensic evidence presented. Therefore, asking respondents to rate the

<sup>9</sup> Firearms and toolmarks are not considered foundationally valid as there is only one appropriate study of scientific validity instead of multiple, which are required to show reproducibility.

**Table 5**  
Importance of Forensic Evidence in Determining Guilt in a Criminal Trial.

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Not Sure
Forensic evidence always provides a conclusive answer.	16.13	36.13	28.39	16.13	3.23
Forensic evidence always identifies the guilty person.	10.32	30.32	37.42	17.42	4.52
If no forensic evidence is recovered from a crime scene, then the prosecutor should drop the case.	10.32	18.71	29.68	34.84	6.45
If forensic evidence suggests a defendant is guilty, this should be enough to convict even if other evidence (e.g., eyewitness testimony, alibi) suggest otherwise.	10.32	27.10	37.42	19.35	5.81

Note: This table shows the percent of respondents who gave each answer to the questions. Row percentages may not total to 100 due to rounding.

accuracy and degree of human judgement involved in each step on the forensic process or for each type of forensic science technique only captures some of the factors that potential jurors consider when deciding on a verdict. Future research may consider interviewing members of a jury whose case involved forensic science to determine how that piece of evidence influenced their decision. Additional research could use a vignette-design to simulate a juror’s experience in a case and vary the forensic science technique involved to measure how much each technique influences their decision and what other variables matter in such a decision.

This study did not define any of the forensic science techniques, allowing the respondent to respond based on what knowledge they already have on the topic. While most of the techniques are self-explanatory, the interpretation of dental analysis may have needed to be clarified. It is unclear whether participants interpreted this as bite mark analysis, as was intended, or if they believed this item to refer to the identification of human remains based on teeth examination. This is a limitation that should be considered and clarified in future studies. In a trial, both the prosecution and the defense would likely explain to the jury what the technique is and argue about its accuracy and relevance. Therefore, this study measures people’s baseline beliefs about each forensic technique rather than beliefs at the time that a juror must render a verdict. These results may be useful to attorneys who argue in front of a jury as it provides a guide on the techniques the jurors will expect to be accurate and those that prompt more skepticism. Lawyers may use these results to argue more forcefully for or against certain evidence with the knowledge that jurors already have certain beliefs about these techniques. In addition to its impact on lawyers, these results may be useful to investigative teams who can prioritize techniques that are both based in evidence and have a high degree of support by the public.

This study used data from 155 participants during late June 2019 through Mechanical Turk. Having a larger sample size and utilizing additional recruitment sources may provide more representative responses. The results of the current study may be a reflection of the characteristics of the sample and methods employed, thus replication is needed to assess the ecological validity of the current findings. Moreover, during the past several years the rise of movements such as Black Lives Matters and the election of progressive prosecutors in a number of major cities in the United States reflects a shift in attention towards negative aspects of the criminal justice system such as racial bias and miscarriages of justice. While a majority of those in the US overall remain confident in the police, a growing number – 14% in 2018 – report “very little” confidence [11]. Among Blacks and Hispanics in the US, groups which are over-represented in the criminal justice system, confidence in the police has fallen significantly with fewer than half of Hispanic people and fewer than a third of Black people having a “great deal or quite a lot” of confidence in police [24]. This attention towards negative aspects of the criminal justice system may have affected our results if respondents with low trust of the police cause low trust in the forensic evidence process - or in the people tasked at each stage of the forensic evidence process. A longitudinal study of this topic could detect whether perceptions of forensics change over

time and if there is any relationship between trust in the criminal justice system and beliefs towards forensic evidence.

#### 4.1. Implications and future directions

Based on our findings, US respondents believe that there is less human judgement but more errors at each stage of the forensic science process than their counterparts in Australia. It is unclear why this is the case, but this may suggest that US respondents believe that the science itself is more prone to error. Future research should investigate precisely which aspects of each stage is considered at risk of an error occurring. They should also continue to examine perceptions in different countries to better understand how people from different cultures understand and evaluate forensic evidence.

Our results also indicate that while fictional shows depicting forensic science are considered relatively accurate, the vast majority of US respondents do not believe that they are a perfect, or even near-perfect, representation of forensic science practices. The large difference in perceptions of accuracy between the “most accurate” and the “average” shows also indicate that people believe that they have enough knowledge of the field of forensic science to make this distinction between shows. Further studies of this topic should examine this question further, helping to distinguish how accurate these shows truly are and which specific features people believe to be accurate. While the *CSI* effect has been hypothesized to change viewers’ opinions on forensic science because they believe that the shows are accurate, it may be that people already interested in forensic science are more likely to watch these shows. Watching shows may also change a person’s belief in forensic science if they decide to look up the techniques that they see on the show to read more about them. In the current study, most respondents (99 of 135) acknowledged that their interest in forensic science increased as a result of forensic science-related shows. While this study did not ask if respondents did any research on the forensic science they saw, it does offer avenues for future research to examine if there was a behavioral change as a result of these shows.

### 5. Conclusion

This study found that US respondents believe that there is a high degree of human judgement involved and high risk of an error occurring at each stage of the forensic science process. When considering forensic science techniques specifically, those in the US hold a skeptical view of the vast majority of techniques, viewing some of them as little more accurate than a coin flip, and no technique more than 84% accurate. When compared to their counterparts in Australia, as studied by Ribeiro et al. [29], members of the US general public have a similar though more negative view of the field of forensic science than Australians.

Inaccurate perceptions of jurors towards forensic techniques likely has a severe and detrimental effect on the criminal justice system as it may influence their decisions of guilt or innocence. As the use of forensic science becomes more common in criminal cases that go before juries, it is increasingly important that we understand preconceptions

that jurors hold towards this field to better reduce biases during trials. Juries during criminal cases, however, are rare in the US justice system. The vast majority of criminal cases, over 90%, are settled through plea bargains, causing an outsized role of prosecutors in the criminal justice system [8]. However, little is known about prosecutors' perceptions of forensic science or how they use the evidence collected during the plea-bargaining process. It is important, therefore, for research in this field to continue to examine perceptions among members of the general public, who decide guilt for a small number of serious cases, and among prosecutors, whose decisions affect nearly all cases in the criminal justice system.

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- [35] The President's Council of Advisors on Science and Technology. Report to the President - Forensic science in criminal courts: Ensuring scientific validity of feature-comparison methods. Executive Office of the President. (2016). Retrieved from [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast\\_forensic\\_science\\_report\\_final.pdf](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf).
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- [37] V. Wayne, P. Marcus, Australia and the United States: Two common criminal justice systems uncommonly at odds, Part 2, *Tulane Journal of International and Comparative Law* 18 (2) (2010) 335–402.

# Re: Upcoming Evidence Committee Meeting

**From:** "Burch, Alan (USAEO)" <(b) (6)>  
**To:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Cc:** "Smith, David L. (USAEO)" <(b) (6)>, "Rolley, Karen (USAEO)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Hunt, Ted (ODAG)" <(b) (6)>  
**Date:** Sun, 08 Nov 2020 09:58:58 -0500

Not yet but we are still looking at it. Is Tuesday still the deadline?

Thanks,  
Alan  
(b)(6) per EOUSA (cell)

On Nov 8, 2020, at 6:59 AM, Goldsmith, Andrew (ODAG) <(b) (6)> wrote:

Dave/Karen/Alan did we receive any comments so far? Thanks Andrew

**From:** Shapiro, Elizabeth (CIV) <(b) (6)>  
**Sent:** Thursday, October 29, 2020 10:02 PM  
**To:** Smith, David L. (USAEO) <(b) (6)>  
**Cc:** Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** FW: Upcoming Evidence Committee Meeting

Dave,

Can you please transmit this email and attachment to the Civil, Criminal, and Appellate USAO working groups? A response no later than November 10<sup>th</sup> would be greatly appreciated.

Thanks, and hope all is well with you --

Betsy

**From:** Shapiro, Elizabeth (CIV)  
**Sent:** Thursday, October 29, 2020 9:58 PM  
**To:** Gardner, Joshua E (CIV) <(b) (6)>; Byron, H. Thomas (CIV) <(b) (6)>;  
Reno, Tammy (USAEO) <(b) (6)>; Montague, Rich (CIV) <(b) (6)>; Bain, Adam  
(CIV) <(b) (6)>; Dintzer, Kenneth (ATR) <(b) (6)>; Huntley, Colin (CIV)  
<(b) (6)>; Leigh, Peter (ENRD) <(b) (6)>; Amber (ENRD)  
<(b) (6)>; Benson, Barry (CIV) <(b) (6)>; Goldberg, Stuart M. (TAX)  
<(b) (6)>; Himmelhoch, Sarah (ENRD) <(b) (6)>; Stemler,  
Paul (CRIM) <(b) (6); (b) (7) (C) per CRM >; Wroblewski, Jonathan (CRIM)  
<(b) (6); (b) (7) (C) per CRM >; er, Joshua E (CIV) <(b) (6)>; Smith, David L.  
(USAEO) <(b) (6)>; Lyons, Samuel R (TAX) <(b) (6)>; Fountain, Dorothy  
(ATR) <(b) (6)>  
**Cc:** Hunt, Ted (ODAG) <(b) (6)>; Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** Upcoming Evidence Committee Meeting

All,

The Evidence Rules Advisory Committee is meeting on Friday, November 13. This is the first meeting in over a year since this year's spring meeting was cancelled due to the pandemic. (b)(5) per CIV

[Redacted]

[Redacted] I've attached the agenda

[Redacted] (b)(5) per CIV

(b)(5) per CIV

[Redacted]

(b)(5) per CIV

[Redacted]

(b)(5) per CIV

[Redacted]

(b)(5) per CIV

[Redacted]

All best,  
Betsy

\*\*\*\*\*

(b)(5) per CIV

[Redacted]

(b)(5) per CIV [Redacted]

(b)(5) per CIV [Redacted]

## Re: Upcoming Evidence Committee Meeting

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**From:** "Rolley, Karen (USAEO)" <(b) (6)>  
**To:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Cc:** "Smith, David L. (USAEO)" <(b) (6)>, "Burch, Alan (USAEO)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Hunt, Ted (ODAG)" <(b) (6)>  
**Date:** Sun, 08 Nov 2020 21:32:29 -0500

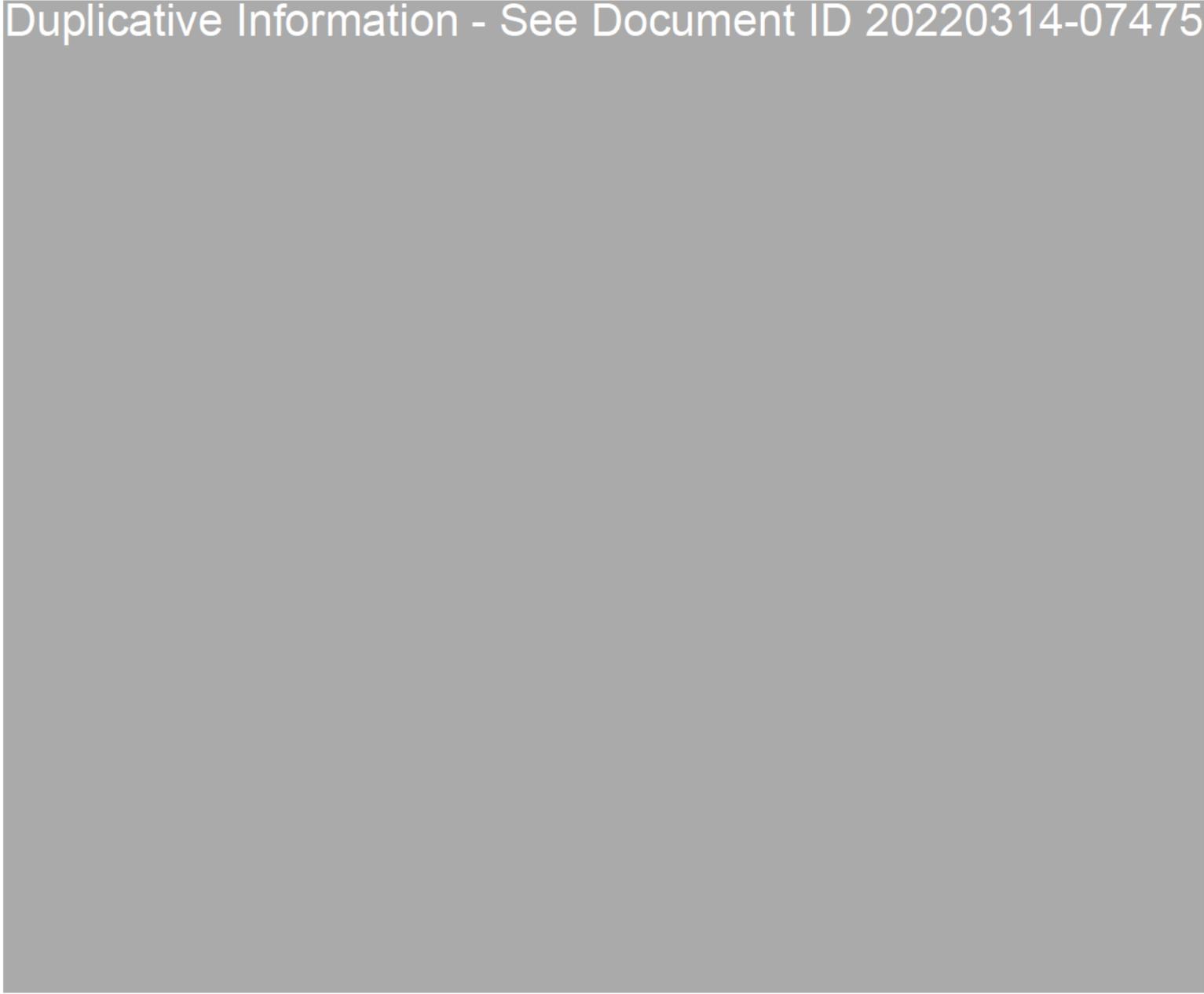
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Emily instructed folks to send comments directly to Betsy by November 10.

Sent from my iPhone

On Nov 8, 2020, at 6:59 AM, Goldsmith, Andrew (ODAG) <(b) (6)> wrote:

Duplicative Information - See Document ID 20220314-07475



## Re: Upcoming Evidence Committee Meeting

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**From:** "Smith, David L. (USAEO)" <(b) (6)>  
**To:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**Cc:** "Rolley, Karen (USAEO)" <(b) (6)>, "Burch, Alan (USAEO)" <(b) (6)>, "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Hunt, Ted (ODAG)" <(b) (6)>  
**Date:** Sun, 08 Nov 2020 23:22:19 -0500

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I have not received any comments yet from the Crim Chiefs.

Sent from my iPhone

On Nov 8, 2020, at 9:32 PM, Goldsmith, Andrew (ODAG) <(b) (6)> wrote:

Great, thanks.

Sent from my iPhone

On Nov 8, 2020, at 9:32 PM, Rolley, Karen (USAEO) <(b) (6)> wrote:

Duplicative Information - See Document ID 20220314-07478

## Re: Upcoming Evidence Committee Meeting

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**From:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**To:** "Shapiro, Elizabeth (CIV)" <(b) (6)>  
**Cc:** "Hunt, Ted (ODAG)" <(b) (6)>  
**Date:** Tue, 03 Nov 2020 16:03:41 -0500

---

Betsy -exactly what time is the meeting, and what time are we expected to be attending virtually? And do you know the platform? Thanks – Andrew

Sent from my iPhone

On Oct 30, 2020, at 12:14 PM, Shapiro, Elizabeth (CIV) <(b) (6)> wrote:

Thanks!

Sent from my iPhone

On Oct 30, 2020, at 12:12 PM, Smith, David L. (USAE0) <(b) (6)> wrote:

Yes, Will do.

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**From:** Shapiro, Elizabeth (CIV) <(b) (6)>  
**Sent:** Thursday, October 29, 2020 10:02 PM  
**To:** Smith, David L. (USAE0) <(b) (6)>  
**Cc:** Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** FW: Upcoming Evidence Committee Meeting

Duplicative Information - See Document ID 20220314-07475



**RE: Final Hunt Edits\_Letter to Evidence Committee re 702  
+EJS\_11.5.20 FOR FINAL REVIEW**

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**From:** "Goldsmith, Andrew (ODAG)" <(b) (6)>  
**To:** "Shapiro, Elizabeth (CIV)" <(b) (6)>, "Hunt, Ted (ODAG)" <(b) (6)>  
**Date:** Fri, 06 Nov 2020 15:49:15 -0500

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I think (b)(5) per CIV

[REDACTED]

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**From:** Shapiro, Elizabeth (CIV) <(b) (6)>  
**Sent:** Friday, November 6, 2020  
**To:** Hunt, Ted (ODAG) <(b) (6)>  
**Cc:** Goldsmith, Andrew (ODAG) <(b) (6)>  
**Subject:** Final Hunt Edits\_Letter to Evidence Committee re 702 +EJS\_11.5.20 FOR FINAL REVIEW

Duplicative Information - See Document ID 20220314-07407

[REDACTED]

## RE: Couple Things

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**From:** "Donoghue, Richard (ODAG)" (b) (6)  
**To:** "Hunt, Ted (ODAG)" <(b) (6)>  
**Date:** Wed, 18 Nov 2020 18:33:14 -0500  
**Attachments:** Approval of DAG Memo Requesting OLC Opinion.pdf (752.02 kB)

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Ted,  
With apologies for the delays, the approval for the OLC opinion request is attached. Furthermore, your PCAST response is good to go out.

Thanks for fighting the good fight on these challenging issues.

Rich

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**From:** Hunt, Ted (ODAG) <(b) (6)>  
**Sent:** Tuesday, November 17, 2020  
**To:** Donoghue, Richard (ODAG) <(b) (6)>  
**Subject:** Couple Things

Rich,

I'm checking back in about two things:

- 1) The status of the request for DAG clearance of an OLC opinion on (b) (5) that we need to address before (b) (5) can be released.
- 2) A few weeks ago I sent you a draft of a technical paper I wrote under the DOJ name addressing certain aspects of the PCAST Report for general release. It's been reviewed by the DOJ forensic working group that I chair. I'd like to send it out soon. Is any further review needed, or can I start the publication process?

Thanks,

Ted