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STATE OF CONNECTICUT *v.* HORVIL F. LEBRICK
(SC 20083)

Robinson, C. J., and Palmer, McDonald, D'Auria, Mullins and Ecker, Js.

Syllabus

Convicted of the crimes of felony murder, home invasion, conspiracy to commit home invasion, burglary in the first degree, attempt to commit robbery in the first degree, and assault in the first degree in connection with the shooting deaths of the victim and two of the defendant's accomplices, A and M, the defendant appealed to the Appellate Court, claiming, *inter alia*, that the trial court had violated his constitutional right to confrontation when it admitted into evidence the former testimony of a purportedly unavailable witness, P, and the testimony of the state's expert witness, S, about ballistic evidence. Pursuant to a court order, P reluctantly testified at the defendant's probable cause hearing. P testified that she had met with the defendant in Brooklyn, New York, on the day after the shootings in question and that the defendant confessed that he had gone to East Hartford with A and M intending to rob B, a drug dealer. According to P, the defendant stated that he had kicked open the door to B's apartment and encountered the victim, who was armed with a gun. The defendant disarmed the victim and proceeded to another room of the apartment, from where he heard several gunshots and the shooter ask the victim how many people remained in the apartment. P further testified that the defendant had told her that he then used the gun he had taken from the victim to shoot his way out of the apartment and past the bodies of A and M, both of whom apparently had been shot. The state could not locate P before the defendant's trial and sought to admit her former testimony from the probable cause hearing pursuant to the provision (§ 8-6 [1]) of the Connecticut Code of Evidence allowing for the admission at a subsequent trial of an unavailable witness' prior testimony. The defendant moved to suppress P's former testimony on the ground that the state had failed to establish P's unavailability insofar as it had not made diligent and good faith efforts to procure her attendance at trial. The court held a hearing on the motion at which an inspector for the state's attorney's office, H, testified about his efforts to locate P. H testified that he first conducted electronic searches in the Hartford Police Department's in-house computer database and the National Crime Information Center (NCIC) database, a national repository of criminal records, but that those searches yielded no results. He then used CLEAR, a subscription based search engine that aggregates publicly available data, which revealed two addresses for P and one address for P's mother, all of which were in New York, as well as several phone numbers for P, none of which was in service or receiving calls. H forwarded the addresses to the Kings County District Attorney's Office in Brooklyn, and an investigator in that office, G, was assigned to serve an interstate summons on P. Over two days, G visited one of P's addresses on three occasions and P's other address and her mother's address one time each, but no one was home on any of those occasions. The trial court denied the defendant's motion to suppress P's former testimony, concluding that the state's efforts to locate P were sufficient to establish her unavailability under both § 8-6 (1) of the Connecticut Code of Evidence and the confrontation clause of the federal constitution. The defendant also moved to suppress S's expert testimony about ballistic evidence, arguing that its admission would violate his right to confrontation because it was based on a ballistic report, which the defendant claimed contained testimonial hearsay, prepared by a former employee of the state forensic laboratory who had examined the ballistic evidence recovered from the crime scene but who was unavailable to testify because he died before the defendant's trial. The trial court denied the defendant's motion to suppress S's testimony, agreeing with the state that there was no confrontation clause issue because S had formed his own independent conclusions after reviewing the former employee's report and photographs, and the defendant could cross-examine S at trial. S ultimately testified, and the state emphasized during its closing

argument that the ballistic evidence indicated that the bullet that killed the victim came from the gun used by the defendant. The Appellate Court affirmed the judgment of the trial court, concluding, *inter alia*, that the defendant's right to confrontation was not violated by the admission of P's former testimony. On the granting of certification, the defendant appealed to this court. *Held*:

1. The Appellate Court incorrectly concluded that the admission of P's former testimony did not violate the defendant's right to confrontation, the state having failed to establish that it undertook a reasonable, diligent, and good faith effort to procure P's attendance at the defendant's trial: this court, having concluded that the issue of whether a witness is unavailable for purposes of the confrontation clause presents a mixed question of law and fact subject to plenary review, employed four objective criteria for determining the reasonableness of the state's efforts to demonstrate the unavailability of a witness, including the importance of the witness to the state's case, the seriousness of the crimes for which the defendant was tried, whether the witness had reason to favor the prosecution, and whether the state made the same sort of effort to procure the witness for trial that it would have made if it did not have the witness' prior testimony available; in the present case, although the record did not reflect that P received any consideration for her testimony, such as an immunity arrangement, the other three criteria weighed in favor of the defendant because the defendant was charged with extremely serious crimes, P's testimony was critical to the state's case as she provided crucial, inculpatory testimony regarding the defendant's role in the commission of the crimes that directly contradicted the defendant's own statements about his version of the events and that was not provided by any other witness, namely, that the defendant had confessed that he had gone to the apartment intending to commit a robbery, he was armed with a gun that he had taken from the victim, and he had used that gun to shoot his way out of the apartment, and, in light of the crucial nature of P's testimony, the serious nature of the crimes, and the state's knowledge that P was a reluctant witness who had been compelled to testify at the probable cause hearing by court order, this court could not conclude that the state's efforts to locate P were as vigorous as they would have been if the state did not have her former testimony to rely on, as H conducted electronic searches for P in only three content limited databases, the usefulness of his searches in two of those databases was of questionable value in light of H's knowledge that P was a New York resident with no known criminal record, H's search in the third database was limited to only basic location information, H did not search any New York governmental databases for P's motor vehicle, social service, housing court, family court, or child support records, H did not conduct any routine Internet searches on Google or social media sites, once H had forwarded the three addresses he found for P to G, he never spoke to or requested that G, who visited the addresses associated with P only during normal business hours, make any additional efforts to locate her by returning to the addresses at other times of day, speaking with neighbors or landlords, or conducting surveillance, and, after G failed to locate P at any of the three addresses that H had provided, the state made no further efforts to locate her.
2. The admission of S's expert testimony did not violate the defendant's sixth amendment right to confrontation because, even if it was predicated in part on testimonial hearsay purportedly contained in a ballistic report prepared by a former employee of the state forensics laboratory and photographs that S had reviewed, such hearsay was not admitted into evidence or otherwise introduced to the jury for the truth of the matter asserted; although the jury had been informed that S had reviewed certain reports and photographs in preparation of his testimony, neither those materials nor the out-of-court statements that they contained were admitted into evidence as an exhibit or through the conduit of S's in-court testimony, the jury was not informed of the nature of the reports, who had prepared them, or whether S's opinions were consistent with those contained in the reports, and the trial court sustained the defendant's objection when the state attempted to question S as to which materials he had reviewed and ruled that S's testimony must be limited to S's own conclusions; accordingly, this court concluded that S applied his training and experience to reach an independent judgment about the ballistic evidence, the basis of which could be tested through cross-

examination at the defendant's trial, and that S did not merely transmit the testimonial hearsay purportedly contained in the ballistic report prepared and photographs generated by the former employee of the state forensics laboratory.

(Two justices concurring in part and dissenting in part in one opinion)

Argued January 23, 2019—officially released January 28, 2020

Procedural History

Substitute information charging the defendant with the crimes of felony murder, home invasion, conspiracy to commit home invasion, burglary in the first degree, conspiracy to commit burglary in the first degree, attempt to commit robbery in the first degree, conspiracy to commit robbery in the first degree, and assault in the first degree, brought to the Superior Court in the judicial district of Hartford, and tried to the jury before *Dewey, J.*; subsequently, the court denied the defendant's motions to preclude certain evidence; verdict of guilty; thereafter, the court vacated the jury's finding of guilty as to conspiracy to commit burglary in the first degree and conspiracy to commit robbery in the first degree and rendered judgment thereon, from which the defendant appealed to the Appellate Court, *Alvord, Prescott and Pellegrino, Js.*, which affirmed the judgment of the trial court, and the defendant, on the granting of certification, appealed to this court. *Reversed; new trial.*

Raymond L. Durelli, assigned counsel, for the appellant (defendant).

Kathryn W. Bare, assistant state's attorney, with whom, on the brief, were *Gail P. Hardy*, state's attorney, *John F. Fahey* and *Robert Diaz*, senior assistant state's attorneys, and *Allen M. Even*, certified legal intern, for the appellee (state).

Opinion

ECKER, J. The defendant, Horvil F. Lebrick, claims in this certified appeal that the Appellate Court improperly affirmed his judgment of conviction because the trial testimony of two witnesses should have been excluded from evidence under the Connecticut Code of Evidence and the confrontation clause of the sixth amendment to the United States constitution.¹ Specifically, the defendant contends that (1) the state failed to establish adequately that a nonappearing witness named Keisha Parks was unavailable to testify at trial, and, therefore, her former testimony improperly was admitted under § 8-6 (1) of the Connecticut Code of Evidence² and in violation of the confrontation clause, and (2) the testimony of James Stephenson, the state's expert witness on firearm and tool mark identification, was predicated on inadmissible hearsay and, therefore, improperly was admitted in violation of the confrontation clause. We agree with the defendant that the admission of Parks' former testimony violated his constitutional right of confrontation, but we disagree that the admission of Stephenson's testimony was unconstitutional. We therefore reverse the judgment of the Appellate Court and remand the case for a new trial.

The jury reasonably could have found the following facts. During the early morning hours of May 6, 2010, the defendant and his cousins, twin brothers Andrew and Andrew Moses, traveled from New York to East Hartford in a Ford Econoline van driven by a fourth, unidentified man. At approximately 8 a.m., the van arrived at an apartment complex located at 115 Nutmeg Avenue, where a purported drug dealer, Omari Barrett, rented an apartment on the third floor. The plan was to rob Barrett of money and/or drugs. In order to gain entry into the apartment, the Moses twins dressed as workmen and armed themselves with guns. The defendant accompanied the Moses twins to Barrett's apartment, where they knocked on the door multiple times. When no one answered, the defendant kicked the door open, and the three men entered the apartment.

The victim, Shawna Lee Hudson, was alone in the apartment at the time. The victim telephoned Barrett when the three men initially knocked on the door, and Barrett informed her that he had not requested any maintenance at the apartment. Shortly thereafter, the victim called Barrett a second time and told him that the three men were "breaking down the door to get in the apartment." Barrett informed the victim that he was on his way and instructed her to arm herself with a .357 magnum revolver located inside the apartment. Soon thereafter, the victim called Barrett a third time and whispered to him that the men were inside the apartment and that she was hiding in a closet. At this point, Barrett had arrived at the apartment complex and was on his way up to the third floor. Barrett could

hear a voice in the background on the open phone line of someone saying, “[w]here’s the money? Shut the fuck up,” and then the phone line went dead.

Barrett, who was armed with a nine millimeter revolver, arrived outside the apartment and noticed that the door was ajar and looked “like somebody [had] kicked it in” After entering the apartment, Barrett encountered the Moses twins, whom he fatally shot. Barrett then called out to the victim to ask how many people were left in the apartment, and she responded that there was one more. Barrett and the defendant then exchanged gunfire, and Barrett was shot twice—once in the leg and once in the arm. Barrett retreated from the apartment to an alcove down the hallway by the elevators. He then heard a single gunshot and saw someone exit the apartment and flee in the opposite direction down the hallway. Barrett returned to the apartment, where he found the victim, who had been shot fatally once in the chest. Additional facts will be set forth as necessary.

Following a jury trial, the defendant was convicted of felony murder in violation of General Statutes (Rev. to 2009) § 53a-54c, home invasion in violation of General Statutes §§ 53a-8 (a) and 53a-100aa (a) (2), conspiracy to commit home invasion in violation of General Statutes §§ 53a-48 (a) and 53a-100aa (a) (2), burglary in the first degree in violation of General Statutes §§ 53a-8 (a) and 53a-101 (a) (1), attempt to commit robbery in the first degree in violation of General Statutes §§ 53a-49 (a) (2) and 53a-134 (a) (2), and assault in the first degree in violation of General Statutes §§ 53a-8 (a) and 53a-59 (a) (5).³ The trial court sentenced the defendant to a total effective sentence of ninety years of imprisonment.

The Appellate Court affirmed the defendant’s judgment of conviction. See *State v. Lebrick*, 179 Conn. App. 221, 246, 178 A.3d 1064 (2018). As relevant to the issues before us, the Appellate Court determined that the trial court had not abused its discretion in admitting the former testimony of Parks, a witness who did not appear at trial but who reluctantly testified at the defendant’s probable cause hearing, because the state had made a diligent and good faith effort to secure her attendance at the defendant’s trial. *Id.*, 229–36. The Appellate Court held, for this reason, that Parks’ former testimony was admissible under both § 8-6 (1) of the Connecticut Code of Evidence and the confrontation clause. *Id.*, 233, 236. The Appellate Court also determined that the admission of Stephenson’s expert testimony did not violate the defendant’s sixth amendment right of confrontation because, even if Stephenson had relied on testimonial hearsay in formulating his expert opinion, he was “fully available for cross-examination at trial regarding his own scientific conclusions and the factual basis underpinning his opinion.”⁴ *Id.*, 245. This

certified appeal followed.⁵

I

The defendant's first claim of error involves the admissibility of the former testimony of Parks, who was Andrew Moses' fiancée at the time of the underlying events. The following additional facts and procedural history are relevant to our review of this claim.

After hearing a rumor on May 6, 2010, that the Moses twins had been killed in Connecticut, Parks contacted the East Hartford Police Department to find out if the rumor was true. Two days later, Parks provided the East Hartford police with a written statement, and, after the defendant's arrest, she reluctantly testified at his probable cause hearing pursuant to a court order.

Parks testified to the following facts at the defendant's probable cause hearing. On the evening of May 5, 2010, Parks observed the Moses twins enter the defendant's Ford Econoline van in Brooklyn.⁶ The next day, after learning that the twins had been killed, Parks and Andrew Moses' wife spent several hours searching for the defendant. The defendant finally contacted Parks and Andrew Moses' wife, and they then met the defendant in Brooklyn. The defendant explained at the meeting that he had traveled to Connecticut with the twins and the unidentified driver of the van to commit a robbery. After knocking on an apartment door and receiving no answer, the defendant kicked the door open and found a girl inside the apartment with a gun. The defendant grabbed the gun from the girl and made his way to another room of the apartment. The defendant heard gunshots while he was in the other room, and one of the Moses twins went to investigate. The defendant heard another shot, and the other twin followed his brother to investigate. The defendant then heard another shot, followed by the shooter's asking the girl how many people were left in the apartment. The defendant proceeded to shoot his way out of the apartment using the gun he had taken from the girl, observing the twins' bodies lying on the floor as he left. He then exited the building, told the driver of the van that the twins were dead, and fled to New York.

In late August or early September of 2014,⁷ around the time that jury selection in the defendant's trial commenced, the state began to search for Parks in order to secure her in-court testimony at the defendant's trial. Emory L. Hightower, a police inspector with the state's criminal justice division in the Hartford state's attorney's office, first attempted to contact Parks at her last known address and phone number. When that effort proved unsuccessful, Hightower conducted an electronic search for Parks in the Hartford Police Department's local in-house computer database. The search yielded no results. Hightower next searched the National Crime Information Center (NCIC) data-

base, a national database administered by the Federal Bureau of Investigation and utilized by law enforcement to search for an individual's prior criminal records. After discovering no criminal record for Parks in the NCIC database, Hightower used a search engine called CLEAR, operated by the Thomson Reuters Corporation, which aggregates publicly available data. Through the CLEAR search, Hightower obtained two addresses for Parks in New York and several phone numbers. Hightower called the phone numbers, but two were not in service, and one was not receiving phone calls.

An interstate summons was prepared to compel Parks' attendance at the defendant's trial. Hightower e-mailed the interstate summons to the Kings County District Attorney's Office and requested service on Parks. The same e-mail included a memorandum containing the addresses and phone numbers that Hightower had found in the CLEAR system for Parks. Hightower also provided the Kings County District Attorney's Office with the last known address of Parks' mother, who lived in Brooklyn, New York.

Frank Garguilo, an investigator with the Kings County District Attorney's Office, was assigned the task of serving the interstate summons on Parks. Garguilo was not asked to conduct an independent investigation to ascertain Parks' whereabouts and did not do so. Over the course of two days, September 25 and 26, 2014, Garguilo visited each of the addresses associated with Parks. At approximately 12:30 p.m. on September 25, 2014, Garguilo visited the first address that Hightower had provided him for Parks in Brooklyn. After being let into the building by a neighbor, he knocked on the door of the apartment believed to belong to Parks, but he received no answer. Garguilo then called one of the phone numbers associated with Parks, but the greeting on the voicemail indicated that the phone number belonged to an individual named Miriam Augustine. Garguilo left a message asking Augustine to return his call but never received a response. Garguilo then traveled to the last known address of Parks' mother, also in Brooklyn, but no one was home. Garguilo returned to Parks' Brooklyn address for a second time at approximately 5 p.m., but again no one was home. The next morning, September 26, 2014, Garguilo made a third and final visit to Parks' Brooklyn address. When he was unsuccessful, he traveled to the last address for Parks that Hightower had provided, in the Jamaica neighborhood of Queens. No one was home at that location, either. Garguilo did not encounter anyone, at any of the addresses, whom he could question regarding Parks' whereabouts.

At the defendant's trial, the state sought to admit Parks' former testimony from the probable cause hearing pursuant to § 8-6 (1) of the Connecticut Code of Evidence, which permits the admission of "[t]estimony

given as a witness at another hearing of the same or a different proceeding” if “the declarant is unavailable as a witness” The defendant moved to exclude Parks’ former testimony, contending that the state had failed to establish Parks’ unavailability under § 8-6 (1) because it had not “exercised due diligence and made a good faith effort to procure [her] attendance” at trial. The defendant further claimed that the admission of Parks’ former testimony would violate his sixth amendment right of confrontation pursuant to *Crawford v. Washington*, 541 U.S. 36, 68–69, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004).

The trial court conducted a hearing on the defendant’s motion to exclude Parks’ former testimony, at which it heard the testimony of Hightower and Garguilo, as previously described, regarding their efforts to locate Parks. The trial court also heard testimony from Erin Tiernam, a CLEAR product specialist employed by the Thomson Reuters Corporation, regarding how CLEAR operates and the information available through it. Tiernam explained that CLEAR offers different subscription levels. The “basic subscription” includes “location services,” such as credit headers and utility hookups, whereas the “second level includes the more detailed reports like . . . lawsuits, liens, judgments, [and] criminal records.” There is also an additional option to add “a web analytic search,” which aggregates social media data, such as “Facebook pages, LinkedIn pages, and also just somebody’s general presence on the web.” Tiernam did not know what subscription level Hightower had used to search for information about Parks.

Defense counsel argued that the state’s efforts to procure Parks’ in-court testimony were insufficient to meet the evidentiary and constitutional unavailability standard because the state had failed to search (1) social media websites, such as Facebook, (2) New York State Department of Motor Vehicles records, (3) New York State Department of Corrections and Community Supervision records, (4) housing and/or eviction records, (5) Social Security Administration records, (6) Immigration and Naturalization Service records, (7) records of protective orders or child support orders, and (8) for Parks’ relatives, friends, and/or landlords, who might be aware of her whereabouts. The trial court disagreed, implicitly finding that the state’s efforts to locate Parks were sufficient to establish her unavailability under both our rules of evidence and the confrontation clause of the sixth amendment.⁸ Parks’ former testimony was read to the jury. On appeal, the defendant contends that Parks’ former testimony improperly was admitted in violation of § 8-6 (1) of the Connecticut Code of Evidence and the confrontation clause of the sixth amendment, both of which require the state to make a reasonable, diligent, and good faith effort to secure the in-court testimony of an unavailable declarant before the declarant’s former testimony is admitted.

As a preliminary matter, we address the standard of review applicable to the defendant's evidentiary and constitutional claims. We previously have observed in general terms that "[t]he trial court has broad discretion in determining whether the proponent has shown a declarant to be unavailable. A trial court's determination of the unavailability of a witness will be overturned only if there has been a clear abuse of discretion." *State v. Lapointe*, 237 Conn. 694, 738, 678 A.2d 942, cert. denied, 519 U.S. 994, 117 S. Ct. 484, 136 L. Ed. 2d 378 (1996); accord *State v. Rivera*, 221 Conn. 58, 62, 602 A.2d 571 (1992). We explained that this deferential standard of review is appropriate "[i]n light of the [fact bound] nature of the [unavailability] inquiry" *State v. Schiappa*, 248 Conn. 132, 141, 728 A.2d 466, cert. denied, 528 U.S. 862, 120 S. Ct. 152, 145 L. Ed. 2d 129 (1999); see *id.*, 145–58 (examining unavailability under statements against penal interest exception to hearsay rule); see also *State v. Wright*, 107 Conn. App. 85, 89, 943 A.2d 1159 (holding that, under § 8-6 [1], "the court's assessment of whether the actions of the state in attempting to find the witness properly could be characterized as having been undertaken with due diligence involve[s] a 'judgment call' by the court" properly reviewed under "the abuse of discretion standard"), cert. denied, 287 Conn. 914, 950 A.2d 1291 (2008). It is clear that the abuse of discretion standard applies specifically to a trial court's determination that a witness is "unavailable" to testify under § 8-6 (1) of the Connecticut Code of Evidence. See, e.g., *State v. Morquecho*, 138 Conn. App. 841, 859 n.8, 54 A.3d 609 (reviewing defendant's challenge to admission of evidence under § 8-6 [1] for abuse of discretion but noting that "[t]he defendant does not raise a *Crawford* claim and did not advance arguments of that nature before the trial court"), cert. denied, 307 Conn. 941, 56 A.3d 948 (2012); *State v. Wright*, *supra*, 87–88 (rejecting defendant's claim that reviewing court "should employ a plenary standard of review" but noting that defendant only raised evidentiary claim and did "not rais[e] a *Crawford* confrontation clause issue").

It is less clear whether this deferential standard of review applies with respect to a defendant's confrontation clause claim challenging the admissibility of out-of-court statements of an allegedly unavailable declarant pursuant to *Crawford v. Washington*, *supra*, 541 U.S. 36. In our view, the abuse of discretion standard is at odds with the axiomatic principle that "question[s] of constitutional law . . . [are] subject to plenary review." *State v. Kirby*, 280 Conn. 361, 378, 908 A.2d 506 (2006); see also *State v. Simpson*, 286 Conn. 634, 651, 945 A.2d 449 (2008) ("we exercise plenary review over whether the trial court properly concluded that the admission of the videotapes did not violate the

defendant's confrontation clause rights under *Crawford*"). We therefore take this opportunity to clarify the appropriate standard of review governing such claims.

Consistent with the case law of the United States Circuit Courts of Appeals, we conclude that "[t]he issues of the unavailability of the witness and the reasonableness of the [s]tate's efforts to produce the witness [under] the [c]onfrontation [c]lause [of] the [s]ixth [a]mendment . . . are mixed questions of law and fact" *Hamilton v. Morgan*, 474 F.3d 854, 858 (6th Cir.), cert. denied, 552 U.S. 953, 128 S. Ct. 380, 169 L. Ed. 2d 268 (2007); see also *McCandless v. Vaughn*, 172 F.3d 255, 265 (3d Cir. 1999) ("the ultimate issue of unavailability for purposes of the [c]onfrontation [c]lause is a mixed question of fact and law" [internal quotation marks omitted]); *Martinez v. Sullivan*, 881 F.2d 921, 926 (10th Cir. 1989) (noting that "the ultimate issue of unavailability for purposes of the [c]onfrontation [c]lause is a mixed question of fact and law"), cert. denied sub nom. *Martinez v. Tansy*, 493 U.S. 1029, 110 S. Ct. 740, 107 L. Ed. 2d 758 (1990); *Burns v. Clusen*, 798 F.2d 931, 942 (7th Cir. 1986) (holding that unavailability under confrontation clause is "a mixed question of law and fact").⁹ As the United States Court of Appeals for the Seventh Circuit has explained, a "finding of 'unavailability' . . . has more resemblance to a 'mixed' determination rather than a straight finding of fact. The issue takes on a constitutional dimension of its own when analyzed in the context of the [c]onfrontation [c]lause, as opposed to simply in the context of [the state's] hearsay rules. A determination [of] 'unavailability' goes beyond assessments of credibility and demeanor" and "necessarily includes the ultimate legal issue at stake." *Burns v. Clusen*, supra, 941. Accordingly, a trial court's subordinate factual findings regarding the unavailability of a witness "will not be disturbed unless clearly erroneous and the trial court's legal conclusion regarding the applicability of the [law] in light of these facts will be reviewed de novo." (Internal quotation marks omitted.) *State v. DeMarco*, 311 Conn. 510, 518–19, 88 A.3d 491 (2014); see also *State v. Marquez*, 291 Conn. 122, 136, 967 A.2d 56 (relying on "federal precedent and the approach taken by our sister states" to conclude that "the ultimate question as to the constitutionality of . . . pretrial identification procedures . . . is a mixed question of law and fact" [internal quotation marks omitted]), cert. denied, 558 U.S. 895, 130 S. Ct. 237, 175 L. Ed. 2d 163 (2009).

"[W]hen a question of fact is essential to the outcome of a particular legal determination that implicates a defendant's constitutional rights, and the credibility of witnesses is not the primary issue, our customary deference to the trial court's factual findings is tempered by a scrupulous examination of the record to ascertain that the trial court's factual findings are supported by substantial evidence. . . . [W]here the legal conclu-

sions of the court are challenged, [our review is plenary, and] we must determine whether they are legally and logically correct and whether they find support in the facts set out in the memorandum of decision” (Internal quotation marks omitted.) *State v. DeMarco*, supra, 311 Conn. 519. Although “we are bound to accept the factual findings of the trial court unless they are clearly erroneous”; *State v. Mangual*, 311 Conn. 182, 197, 85 A.3d 627 (2014); the ultimate determination of whether a witness is “unavailable” for purposes of the confrontation clause is reviewed de novo. See id.

B

The defendant claims that Parks’ former testimony improperly was admitted because the state failed to demonstrate that Parks was unavailable within the meaning of our rules of evidence and the confrontation clause of the sixth amendment. To determine whether a witness is unavailable for purposes of § 8-6 (1) of the Connecticut Code of Evidence, “this court follows the definition of the term ‘unavailable’ in rule 804 (a) of the Federal Rules of Evidence.” *Maio v. New Haven*, 326 Conn. 708, 726, 167 A.3d 338 (2017). Under rule 804 (a), “[a] declarant is considered to be unavailable as a witness” for the purpose of admitting former testimony “if the declarant . . . is absent from the trial or hearing and the statement’s proponent has not been able, by process or other reasonable means, to procure . . . the declarant’s attendance” Fed. R. Evid. 804 (a) (5) (A). “In interpreting reasonable means, we have held that the proponent must exercise due diligence and, at a minimum, make a good faith effort to procure the declarant’s attendance.” (Internal quotation marks omitted.) *State v. Rivera*, supra, 221 Conn. 62.

Similarly, under the confrontation clause of the sixth amendment, a witness is not unavailable “ ‘unless the prosecutorial authorities have made a [good faith] effort to obtain his presence at trial.’ ” *Hardy v. Cross*, 565 U.S. 65, 69, 132 S. Ct. 490, 181 L. Ed. 2d 468 (2011), quoting *Barber v. Page*, 390 U.S. 719, 725, 88 S. Ct. 1318, 20 L. Ed. 2d 255 (1968). “ ‘The lengths to which the prosecution must go to produce a witness . . . is a question of reasonableness.’ ” *Hardy v. Cross*, supra, 70, quoting *Ohio v. Roberts*, 448 U.S. 56, 74, 100 S. Ct. 2531, 65 L. Ed. 2d 597 (1980), overruled on other grounds by *Crawford v. Washington*, 541 U.S. 36, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004). To demonstrate reasonable-ness, “the proponent must exercise due diligence and, at a minimum, make a good faith effort to procure the declarant’s attendance.” (Internal quotation marks omitted.) *State v. Rivera*, supra, 221 Conn. 62.

Former testimony therefore is inadmissible under both our rules of evidence and the confrontation clause unless the state has made a reasonable, diligent, and good faith effort to procure the absent witness’ attendance at trial. “This showing necessarily requires sub-

stantial diligence. In determining whether the proponent of the declaration has satisfied this burden of making reasonable efforts, the court must consider what steps were taken to secure the presence of the witness and the timing of efforts to procure the declarant's attendance." *State v. Lopez*, 239 Conn. 56, 75, 681 A.2d 950 (1996). "A proponent's burden is to demonstrate a diligent and reasonable effort, not to do everything conceivable, to secure the witness' presence." *Id.*, 77–78. Indeed, it is always possible, in hindsight, to think of some "additional steps that the prosecution might have taken to secure the witness' presence," but the "[s]ixth [a]mendment does not require the prosecution to exhaust every avenue of inquiry, no matter how unpromising." *Hardy v. Cross*, *supra*, 565 U.S. 71–72; see also *Ohio v. Roberts*, *supra*, 448 U.S. 74 ("The law does not require the doing of a futile act. Thus, if no possibility of procuring the witness exists [as, for example, the witness' intervening death], 'good faith' demands nothing of the prosecution."); *State v. Rivera*, *supra*, 221 Conn. 67 ("the question of whether an effort to locate a missing witness has been sufficiently diligent to declare that person unavailable is one that is inherently fact specific and always vulnerable to criticism, due to the fact that [o]ne, in hindsight, may always think of other things" [internal quotation marks omitted]). "But if there is a possibility, albeit remote, that affirmative measures might produce the declarant, the obligation of good faith *may* demand their effectuation." (Emphasis in original.) *Ohio v. Roberts*, *supra*, 74.

C

Turning to the merits of the defendant's claim, we focus our analysis on the confrontation clause because the definition of unavailability is the same under both our rules of evidence and the confrontation clause, but the ultimate determination of whether the state's efforts are constitutionally sufficient to establish the unavailability of the witness is a question of law reviewed *de novo*.¹⁰ See part I A of this opinion; see also *State v. Cameron M.*, 307 Conn. 504, 516 n.16, 55 A.3d 272 (2012) (recognizing our "general practice of not addressing constitutional questions unless their resolution is unavoidable" but nonetheless focusing analysis on confrontation clause because determination of unavailability under our rules of evidence and confrontation clause "is analytically identical" [internal quotation marks omitted]), cert. denied, 569 U.S. 1005, 133 S. Ct. 2744, 186 L. Ed. 2d 194 (2013); *United States v. Tirado-Tirado*, 563 F.3d 117, 123 n.4 (5th Cir. 2009) ("[t]his [c]ourt treats the [c]onfrontation [c]lause unavailability inquiry as identical to the unavailability inquiry under [r]ule 804 [a] [5] of the Federal Rules of Evidence").

"The central concern of the [c]onfrontation [c]lause is to ensure the reliability of the evidence against a criminal defendant by subjecting it to rigorous testing

in the context of an adversary proceeding before the trier of fact.” *Maryland v. Craig*, 497 U.S. 836, 845, 110 S. Ct. 3157, 111 L. Ed. 2d 666 (1990). The right of confrontation includes (1) the physical presence of the witness, (2) the administration of an oath to impress upon the witness “the seriousness of the matter” and to guard “against the lie by the possibility of a penalty for perjury,” (3) cross-examination of the witness to aid in “the discovery of truth,” and (4) the opportunity for the jury “to observe the demeanor of the witness in making his statement, thus aiding the jury in assessing his credibility.” (Internal quotation marks omitted.) *Id.*, 845–46. The former testimony of an absent witness typically was produced under oath at a proceeding at which the witness was subject to cross-examination, but the admission of this testimony nonetheless implicates concerns under the confrontation clause because its use deprives the jury of the opportunity to “observe closely the [witness’] demeanor, expressions, and intonations, and thereby [to] determine the [witness’] credibility.” *United States v. Smith*, 928 F.3d 1215, 1226 (11th Cir. 2019), cert. denied, 88 U.S.L.W. 3225 (U.S. January 13, 2020) (No. 19-361).

“[I]n conformance with the [f]ramers’ preference for face-to-face accusation, the [s]ixth [a]mendment establishes a rule of necessity. In the usual case (including cases [in which] prior cross-examination has occurred), the prosecution must either produce, or demonstrate the unavailability of, the declarant whose statement it wishes to use against the defendant.” *Ohio v. Roberts*, supra, 448 U.S. 65. As we explained in part I B of this opinion, to demonstrate the unavailability of a witness, the state must establish that it made a reasonable, diligent, and good faith effort to procure the witness’ attendance at trial. See *Hardy v. Cross*, supra, 565 U.S. 69 (“a witness is not unavailable for purposes of the . . . confrontation requirement unless the prosecutorial authorities have made a [good faith] effort to obtain his presence at trial” [internal quotation marks omitted]); *Ohio v. Roberts*, supra, 74 (“[t]he lengths to which the prosecution must go to produce a witness . . . is a question of reasonableness,” and “[t]he ultimate question is whether the witness is unavailable despite [good faith] efforts undertaken prior to trial to locate and present that witness” [internal quotation marks omitted]).

“[T]here is no [bright line] rule for reasonableness, and [the] reasonableness inquiry necessarily is [fact specific] and examines the totality of the factual circumstances of each particular case.” *United States v. Smith*, supra, 928 F.3d 1228; see also *State v. Rivera*, supra, 221 Conn. 67 (emphasizing “fact specific” nature of unavailability inquiry). Although the United States Circuit Courts of Appeals have rejected a “per se rule” or “categorical approach” when it comes to assessing the reasonableness of efforts to produce a missing witness;

United States v. Burden, 934 F.3d 675, 689 (D.C. Cir. 2019); they have identified four objective criteria to guide the reasonableness inquiry. “First, the more crucial the witness, the greater the effort required to secure his attendance. . . . Second, the more serious the crime for which the defendant is being tried, the greater the effort the [state] should put forth to produce the witness at trial. . . . Third, where a witness has special reason to favor the prosecution, such as an immunity arrangement in exchange for cooperation, the defendant’s interest in confronting the witness is stronger. . . . Fourth, a good measure of reasonableness is to require the [s]tate to make the same sort of effort to locate and secure the witness for trial that it would have made if it did not have the prior testimony available.” (Citations omitted.) *Cook v. McKune*, 323 F.3d 825, 835–36 (10th Cir. 2003); see also *McCandless v. Vaughn*, supra, 172 F.3d 266 (“Confrontation [c]ause concerns are heightened and courts insist on more diligent efforts by the prosecution where a ‘key’ or ‘crucial’ witness’ testimony is involved. . . . The defendant’s interest in confrontation is, of course, further heightened where the absent witness has special reason to give testimony favorable to the prosecution. . . . Finally, special sensitivity to [c]onfrontation [c]ause concerns is appropriate where the consequences of a conviction based on the absent witness’ testimony are grave.” [Citations omitted.]); *United States v. Quinn*, 901 F.2d 522, 529 (6th Cir. 1990) (“[c]onfrontation [c]ause considerations are especially cogent when the testimony of a witness is critical to the prosecution’s case against the defendant” [internal quotation marks omitted]); *United States v. Lynch*, 499 F.2d 1011, 1023 (D.C. Cir. 1974) (government’s duty to search for missing witness “in good faith and with reasonable diligence and care” ordinarily “will require a search equally as vigorous as that which the government would undertake to find a critical witness if it has no preliminary hearing testimony to rely [on] in the event of ‘unavailability’”); *Brooks v. United States*, 39 A.3d 873, 884 (D.C. 2012) (“[t]he government’s obligation to take steps to produce the witness ha[s] to correspond to the importance of the witness and the potential prejudice to the defendant if she [does] not testify”).

We believe that this approach provides useful guidance and structure, and we will employ these four criteria here to assess whether the state’s efforts to locate Parks were sufficient to protect the defendant’s sixth amendment right of confrontation.¹¹ First, as the state conceded at oral argument before this court,¹² Parks was an important witness who provided key testimony that was not provided by any other witness, namely, the defendant’s confession that he kicked in the door to Barrett’s apartment, took the gun away from the victim, and shot his way out of the apartment.¹³ Parks’ testimony directly contradicted the defendant’s state-

ment to the police, in which he admitted that he was present in the apartment at the time of the shooting but maintained that he was there to help the Moses twins “move some boxes” when “a guy showed up shooting.” The defendant stated to the police that he did not have a gun and did not know that the Moses twins were armed with guns before the shooting began. The defendant explained that he escaped from the apartment by following behind some other men “as they shot their way out of the apartment.”

Parks’ testimony provided the state with crucial, inculpatory evidence regarding the defendant’s role in the commission of the crimes—the defendant’s confession that he intended to commit a robbery, was armed with a gun, and was one of the shooters. Given that “[a] defendant’s confession is probably the most probative and damaging evidence that can be admitted against him”; (internal quotation marks omitted) *Arizona v. Fulminante*, 499 U.S. 279, 292, 111 S. Ct. 1246, 113 L. Ed. 2d 302 (1991); we conclude that the first factor weighs in favor of the defendant. See, e.g., *State v. Lockhart*, 298 Conn. 537, 597, 4 A.3d 1176 (2010) (“confessions are such powerful forms of evidence” [internal quotation marks omitted]); *State v. Iban C.*, 275 Conn. 624, 645, 881 A.2d 1005 (2005) (“a confession, if sufficiently corroborated, is the most damaging evidence of guilt” [internal quotation marks omitted]).

Turning to the second factor, we note that the defendant was charged with extremely serious crimes—namely, felony murder, home invasion, conspiracy to commit home invasion, burglary in the first degree, attempt to commit robbery in the first degree, and assault in the first degree—and the penalties he faced were severe. The charge of felony murder alone carries a potential sentence of life imprisonment. See *State v. Adams*, 308 Conn. 263, 265, 63 A.3d 934 (2013) (holding that felony murder “is a class A felony and, therefore, is punishable by a term of imprisonment of twenty-five years to life”). In a case such as this one, “it is fair to ask more of the prosecution than in a situation involving significantly less serious consequences.” *McCandless v. Vaughn*, supra, 172 F.3d 266. The second factor therefore favors the defendant.

Although the third factor weighs in favor of the state because the record does not reflect that Parks “receive[d] any consideration from the government for her testimony”; *United States v. Smith*, supra, 928 F.3d 1242; we conclude that the fourth factor, like the first two, favors the defendant. Given the crucial nature of Parks’ testimony and the serious nature of the crimes charged, we cannot conclude that the state’s efforts to locate Parks were “as vigorous” as they would have been “if it ha[d] no preliminary hearing testimony to rely [on] in the event of ‘unavailability.’” *United States v. Lynch*, supra, 499 F.2d 1023. The state knew that

Parks was a crucial and reluctant witness whose testimony at the probable cause hearing had to be procured by court order but nonetheless did not keep apprised of her whereabouts or begin searching for her until the end of August or beginning of September, 2014, shortly before jury selection began. See footnote 7 of this opinion. When Hightower began to try and locate Parks, his efforts were confined to a computer search of only three content limited electronic databases, each of which contained relatively narrow categories of information. Hightower did not use the most basic Google search engine to locate Parks or even attempt to access any of the most popular social media sites, such as Facebook. Although Hightower knew that Parks was a New York resident, he did not search any New York state governmental databases to look for routine information, such as motor vehicle, social service, housing court, family court, or child support records. He did not use the information in his possession about Parks' last known addresses to learn whether she owned her own home or had a landlord who might have knowledge of her whereabouts. Nor did he ever ask anyone else to pursue any of these basic avenues of inquiry.

Instead, Hightower conducted his investigation by searching three content limited databases available on his work computer. He began with the Hartford Police Department's local in-house computer database, which, unsurprisingly, yielded no results for Parks, a New York resident. Hightower then turned his attention to two national computer databases—NCIC and CLEAR. The first, NCIC, contains only information about individuals with prior criminal and/or arrest records. There is no evidence that Parks had such a record, and this particularized search also failed to return any useful information. The second database, CLEAR, contains different types of information depending on the subscription level purchased, and, although the subscription levels beyond "basic" provide access to more robust information, the state failed to present evidence establishing what subscription level Hightower had used to search for Parks. The evidence indicates that Hightower's search did not encompass "detailed reports like . . . lawsuits, liens, [and] judgments" or "social media information."¹⁴

In the digital age, a vast amount of information is "[nonterrestrial] and borderless," thus enabling the government "to do more, and to do it better, faster, and cheaper than before" by conducting searches via computer rather than pounding the pavement to locate paper records, brick and mortar locations, and flesh and blood witnesses or informants. L. Donohue, "The Fourth Amendment in a Digital World," 71 N.Y.U. Ann. Surv. Am. L. 553, 554 (2016). A vast amount of information can be accessed in a short amount of time using minimal physical effort. But this is true only if the proper electronic resources are used and the operator uses

those resources properly. The efficacy of computer research necessarily is limited by the contents of the databases searched. In the present case, Hightower searched only three computer databases, two of which were of questionable value in locating a New York resident with no known criminal record, and the third of which we are compelled to conclude included only “basic” location information, such as credit headers and utility hookups. See footnote 14 of this opinion.

The on the ground efforts were equally anemic. Once Hightower acquired two possible addresses for Parks and one for her mother, he forwarded those addresses to Garguilo for service of the interstate summons. Hightower never spoke with Garguilo and made no request that Garguilo or anyone else in New York undertake any investigative efforts, knock on doors, talk with neighbors, locate a landlord, follow any leads, or conduct the most minimal surveillance. Garguilo visited the addresses only during normal working hours, when most people with a nine-to-five job would not be expected to be at home. Compare *Hardy v. Cross*, supra, 565 U.S. 68 (no confrontation clause violation when state visited witness’ residence “on numerous occasions, approximately once every three days, at different hours of the day and night”), with *United States v. Quinn*, supra, 901 F.2d 528 (government’s efforts were insufficient to establish witness’ unavailability because government visited her apartment only twice, talked to her apartment manager and neighbor, drove by her mother’s house, and talked to her mother on phone). No follow-up was requested after Garguilo reported back regarding his lack of success, and no further efforts were made to locate Parks.

The minimal effort undertaken by the state does not qualify as diligent. If the state did not already have Parks’ former testimony in hand, we consider it very unlikely that a supervisor would have accepted Hightower’s efforts without requiring more. Although we do not doubt the sincerity of the state’s efforts to secure Parks’ attendance at trial, we nonetheless find ourselves firmly of the view, on this record, that the state’s “unenthusiastic”; *United States v. Quinn*, supra, 901 F.2d 528; and “perfunctory” efforts are insufficient to meet the “relatively high good faith standard” of the confrontation clause. *United States v. Mann*, 590 F.2d 361, 367 (1st Cir. 1978); see *id.* (explaining that “perfunctory efforts” are insufficient under confrontation clause because, otherwise, prosecutorial authorities would have incentive to “discourage attempts to bring the witness to trial so long as the government is satisfied with what is in the transcript”). Because Parks was an important witness and the criminal charges against the defendant were of the most serious nature, “we are left with the firm conviction that the [state’s] efforts to [ensure] [Parks’] presence would have been far less casual had the shoe been on the other foot. If the [state]

had not had [Parks'] preliminary hearing testimony and had needed [Parks'] presence at trial, we are confident that the resources and effort devoted to finding [her] prior to trial would have been greater than they in fact were. To countenance such a disparity would ill serve the interests protected by the [c]onfrontation [c]lause." *McCandless v. Vaughn*, supra, 172 F.3d 269; see also *Cook v. McKune*, supra, 323 F.3d 840 (explaining that, "[i]f the [s]tate's feeble exertions" to procure the attendance of crucial witness in murder case "can be called a [good faith] effort," then "the [s]ixth [a]mendment protections . . . would be toothless").

We cannot agree with the dissenting opinion that the state's efforts in this case were "solidly on the spectrum of those deemed to be reasonable and in good faith by Connecticut and federal courts." As we explained previously, the reasonableness of the state's efforts must be "evaluated with a sensitivity to the surrounding circumstances and the defendant's interest in confronting the absent witness." *McCandless v. Vaughn*, supra, 172 F.3d 266. In cases in which "a 'key' or 'crucial' witness' testimony is involved" and in which "the consequences of a conviction based on the absent witness' testimony are grave," "[c]onfrontation [c]lause concerns are heightened and courts insist on more diligent efforts by the prosecution" *Id.*; see also *United States v. Lynch*, supra, 499 F.2d 1023–24 (holding that government's efforts to find sole eyewitness to murder were not "as vigorous" as they would have been in absence of witness' prior testimony, even though witness was served with subpoena and detectives interrogated her grandmother and went to apartment at which she allegedly could be found multiple times); *Brooks v. United States*, supra, 39 A.3d 884 ("[t]he government's obligation to take steps to produce the witness ha[s] to correspond to the importance of the witness and the potential prejudice to the defendant if she [does] not testify"); *State v. Lee*, 83 Haw. 267, 279–80, 925 P.2d 1091 (1996) (state's "lackluster efforts" to find crucial witnesses to murder were insufficient to establish their unavailability under confrontation clause because, among other things, state failed to search for their "driver's license or motor vehicle registration" or show "any follow-up" after visit to one witness' last known address); *State v. Maben*, 132 N.J. 487, 503–504, 626 A.2d 63 (1993) (The state's "minimal search" efforts were insufficient to establish the unavailability of the child sexual assault victim because "[t]he [s]tate [neither] asked the post office whether the family had left a forwarding address, nor [asked] neighbors for the names of family members who might know of the family's location. The [s]tate never checked to see whether the mother, who had received welfare in New Jersey, had applied for benefits in Houston, [Texas] which was the logical place to check because prosecutors had an indication that the family had moved there [T]he

[s]tate did not ask the Houston police for assistance in locating the family, other than to provide the police with one address.” [Citation omitted.]). Although Hightower’s efforts to locate Parks might have been sufficient to demonstrate her unavailability if her testimony had been peripheral in its importance or if the crimes charged had not been grave; see, e.g., *State v. Smith*, 112 Conn. App. 592, 603–604, 963 A.2d 104 (state’s efforts to find witness by visiting her home and calling her cell phone multiple times were sufficient to establish her unavailability when witness, who neither was present at time of shooting nor had any firsthand knowledge about it, testified only about victim’s demeanor prior to shooting), cert. denied, 291 Conn. 912, 969 A.2d 176 (2009); *State v. Miller*, 56 Conn. App. 191, 195, 742 A.2d 402 (1999) (state’s efforts to find witnesses by checking motor vehicle department records for their last known addresses and visiting those addresses prior to trial of defendant, who was charged with larceny and engaging in real estate business without license, were sufficient to establish witnesses’ unavailability), cert. denied, 252 Conn. 937, 747 A.2d 4 (2000); the crucial nature of Parks’ testimony and the severe crimes with which the defendant was charged ineluctably lead to the conclusion that the state must put forth a “greater . . . effort”; *Cook v. McKune*, supra, 323 F.3d 835; to secure Parks’ attendance at trial.¹⁵

For the foregoing reasons, we conclude that the state has failed to establish that it undertook a reasonable, diligent, and good faith effort to locate Parks prior to the defendant’s trial, and, therefore, Parks’ former testimony improperly was admitted in violation of the defendant’s right of confrontation. We therefore reverse the judgment of the Appellate Court.

II

Although our conclusion in part I of this opinion that the defendant is entitled to a new trial disposes of this appeal, we address the merits of the defendant’s second claim that the trial court improperly admitted the testimony of the state’s expert witness on firearm and tool mark identification in violation of the defendant’s sixth amendment right of confrontation because it is likely to arise on remand.¹⁶ The following additional facts and procedural history are relevant to our review of this claim.

One of the critical issues at trial was whether Barrett or the defendant had fired the projectile¹⁷ that fatally wounded the victim. The state recovered various projectiles and casings from the scene of the crimes and submitted them to the state forensic laboratory for analysis. Gerard Petillo, a former employee of the state forensic laboratory, examined seven of these projectiles and casings, produced photographs, and generated a ballistic report containing his expert conclusions. Stephenson, who also was employed at the state forensic

laboratory at that time, was the “technical reviewer” and “second signer” on Petillo’s ballistic report. As part of his technical review, Stephenson physically examined four of the projectiles recovered from the scene of the crimes.

Petillo died prior to trial and, therefore, was unavailable to testify. The state sought to admit the in-court expert testimony of Stephenson in lieu of Petillo’s ballistic report. The defendant moved to suppress Stephenson’s in-court testimony, contending that it was inadmissible under the confrontation clause of the sixth amendment pursuant to *Bullcoming v. New Mexico*, 564 U.S. 647, 131 S. Ct. 2705, 180 L. Ed. 2d 610 (2011), and *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 129 S. Ct. 2527, 174 L. Ed. 2d 314 (2009), because it was predicated on Petillo’s ballistic report, which the defendant claimed was testimonial hearsay. The state opposed the defendant’s motion, arguing that, although Stephenson’s expert opinions ultimately were “no different” than Petillo’s, Stephenson had formed his own independent conclusions after reviewing all of the information available, including photographs, notes, and Petillo’s report. The state argued that there was “no confrontation issue” because the defendant would be able to confront Stephenson and to cross-examine him regarding the basis of his expert opinions. The trial court agreed and denied the defendant’s motion to suppress.

At trial, Stephenson testified that seven nine millimeter caliber cartridge cases and projectiles recovered from the scene of the shooting were submitted to the state forensic laboratory for examination. Stephenson explained that six of the seven cartridge cases “had consistent rifling characteristics as being fired [from] the same firearm,” whereas the seventh cartridge case, which was recovered near the victim’s body, had been fired from a different firearm. Similarly, with respect to the projectiles, Stephenson testified that one of the seven projectiles—the one recovered from the victim’s body—“was inconsistent” and “couldn’t have come from the same barrel.” During closing argument, the state emphasized the importance of Stephenson’s testimony, arguing that it supported the state’s theory that the bullet that killed the victim “wasn’t from [Barrett’s] gun” but, rather, was from the defendant’s gun.

On appeal, the defendant contends that the trial court improperly admitted Stephenson’s expert testimony in violation of his sixth amendment right of confrontation because his testimony was predicated on Petillo’s ballistic report, which he argues is testimonial hearsay, and the defendant did not have a prior opportunity to cross-examine Petillo regarding his expert conclusions. The state responds that the record is inadequate to review the defendant’s confrontation clause claim because neither Petillo’s ballistic report nor the other materials

“reviewed by Stephenson in preparation for his testimony were . . . marked for identification or entered into evidence at trial,” and, therefore, it cannot be determined whether they “were, in fact, testimonial” in nature. Alternatively, the state contends that there was no confrontation clause violation because Stephenson conducted his own independent review of the evidence, formulated his own expert opinion, and was available for cross-examination. The state also argues that, even if a confrontation clause violation occurred, any such violation was harmless beyond a reasonable doubt.

“Under *Crawford v. Washington*, supra, 541 U.S. 59, hearsay statements of an unavailable witness that are testimonial in nature may be admitted in accordance with the confrontation clause only if the defendant previously has had the opportunity to cross-examine the unavailable witness.” *State v. Smith*, 289 Conn. 598, 618, 960 A.2d 993 (2008). “Nontestimonial statements, however, are not subject to the confrontation clause and may be admitted under state rules of evidence. . . . Thus, the threshold inquiries that determine the nature of the claim are whether the statement was hearsay, and if so, whether the statement was testimonial in nature, questions of law over which our review is plenary.” (Citation omitted.) *Id.*, 618–19.

We recently addressed the admissibility of expert testimony under the sixth amendment’s confrontation clause in *State v. Walker*, 332 Conn. 678, 212 A.3d 1244 (2019). In *Walker*, we acknowledged that “expert witnesses . . . may base their testimony on information provided to them by other sources without their testimony necessarily being regarded as introducing hearsay.” *Id.*, 691; see also Conn. Code Evid. § 7-4 (b) (“The facts in the particular case upon which an expert bases an opinion may be those perceived by or made known to the expert at or before the proceeding. The facts need not be admissible in evidence if of a type customarily relied on by experts in the particular field in forming opinions on the subject.”). “Accordingly, [w]hen the expert witness has consulted numerous sources, and uses that information, together with his own professional knowledge and experience, to arrive at his opinion, *that opinion is regarded as evidence in its own right and not as hearsay in disguise.*” (Emphasis in original; internal quotation marks omitted.) *State v. Walker*, supra, 692.

“Nonetheless, the underlying information upon which the expert’s opinion is based may not itself be admitted into evidence for its truth.” *Id.*; see also Conn. Code Evid. § 7-4 (b) (“[t]he facts relied on [by the expert] pursuant to this subsection are not substantive evidence, unless otherwise admissible as such evidence”). “Accordingly, the testimony of an expert witness improperly introduces hearsay when the out-of-court statements upon which it is based are themselves

admitted into evidence to prove the truth of what they assert.” *State v. Walker*, supra, 332 Conn. 692.

“In criminal cases, the admission of expert testimony that is based upon an out-of-court statement may implicate the confrontation clause if the underlying statement itself is testimonial. Acknowledging these concerns, courts have held that expert witnesses may base their opinions on the testimonial findings of other experts without violating the confrontation clause if those underlying findings are not themselves put before the jury. . . . On the other hand, where the testifying expert explicitly refers to, relies on, or vouches for the accuracy of the other expert’s findings, the testifying expert has introduced out-of-court statements that, if offered for their truth and are testimonial in nature, are subject to the confrontation clause.” (Citations omitted.) *Id.*, 693–94. Thus, expert testimony is inadmissible under the confrontation clause if it is “used as [a conduit] for the admission into evidence of the testimonial statements of others.” *Id.*, 695.

We applied these principles in *Walker* to determine whether the admission into evidence of the testimony and report of the state’s expert witness on DNA, Heather Degnan, violated the sixth amendment right of confrontation of the defendant, Eugene L. Walker. *Id.*, 680–81. Degnan personally tested a bandana found at the scene of the crime and determined that it contained Walker’s DNA, but her expert opinion was predicated on a DNA profile for Walker generated, without her participation, by the “‘known processing group.’” *Id.*, 684. Specifically, an analyst or analysts at the known processing group had analyzed Walker’s buccal swab and generated a “known” DNA profile for Walker, which Degnan then relied on to reach her conclusion that the DNA found on the bandana belonged to Walker. *Id.* Degnan “neither performed nor observed the analysis of the buccal swab that produced [Walker’s] DNA profile”; *id.*, 681; nor was there any evidence that she was provided with “the raw machine data” *Id.*, 696. Nonetheless, at the defendant’s trial, Degnan swore “‘to the accuracy’ of the DNA profile provided to her” and testified “‘that the analyst or analysts who processed the known samples ‘did it properly, followed standard operating procedures.’” *Id.*, 685–86.

We concluded in *Walker* that “Degnan’s testimony at trial necessarily introduced the out-of-court statements of the known processing group and did not consist merely of her own independent opinion.” *Id.*, 697. Although “Degnan’s testimony about the DNA profiles she generated from the bandana was not hearsay because she conducted these analyses herself,” Degnan “explicitly referred to, relied on, and vouched for the quality of work that she did not perform and, in so doing, relayed to the jury the known processing group’s out-of-court statements about [Walker’s] numerical

DNA profile.” *Id.* Additionally, “Degnan introduced the known processing group’s out-of-court statements by including in her report, which was admitted into evidence without limitation, the allele numbers comprising [Walker’s] DNA profile that the known processing group had provided to her.” *Id.*, 697–98. Because the known processing group’s out-of-court statement regarding Walker’s DNA profile was offered for its truth, was hearsay, and was testimonial in nature; *id.*, 700; we held that Degnan’s expert testimony was admitted in violation of Walker’s sixth amendment right of confrontation. *Id.*, 719–20.

Pursuant to *Walker*, Stephenson’s testimony was admissible, even if predicated in material part on testimonial hearsay, as long as the underlying hearsay was not admitted into evidence or otherwise put before the jury for the truth of the matter asserted. The record reflects that neither Petillo’s ballistic report nor any of the statements or conclusions contained therein were admitted into evidence, either as an exhibit or through the conduit of Stephenson’s live, in-court testimony. Although the jury was informed that Stephenson had reviewed “a number of reports and photographs in preparation for [his] testimony,” the contents of those reports were not presented to the jury. When the state attempted to elicit information regarding “which reports [Stephenson had] reviewed,” the defendant objected to this line of inquiry, and the trial court implicitly sustained the defendant’s objection, ruling that Stephenson’s testimony must be limited “to his own conclusions.” Thus, the jury was not informed of the nature of the reports on which Stephenson had relied, who generated the reports, what information they contained, or whether Stephenson’s expert opinions were consistent with the reports. On the record before us, we conclude that Stephenson applied “his training and experience to the sources before him and reach[ed] an independent judgment,” the basis of which could be “tested through cross-examination.”¹⁸ *United States v. Johnson*, 587 F.3d 625, 635 (4th Cir. 2009), cert. denied sub nom. *Martin v. United States*, 559 U.S. 1082, 130 S. Ct. 2128, 176 L. Ed. 2d 749 (2010). “Where, as here, expert witnesses present their own independent judgments, rather than merely transmitting testimonial hearsay, and are then subject to cross-examination, there is no [c]onfrontation [c]lause violation.” *Id.*, 636; see also *Bullcoming v. New Mexico*, supra, 564 U.S. 673 (Sotomayor, J., concurring in part) (concluding that admission of expert report violated confrontation clause but noting that “[w]e would face a different question if asked to determine the constitutionality of allowing an expert witness to discuss others’ testimonial statements if the testimonial statements were not themselves admitted as evidence”); *United States v. Mejia*, 545 F.3d 179, 198 (2d Cir. 2008) (“the question under *Crawford* is whether the expert applied his exper-

tise to those [testimonial] statements but did not directly convey the substance of the statements to the jury” [internal quotation marks omitted]; *State v. McLeod*, 165 N.H. 42, 53, 66 A.3d 1221 (2013) (“the [c]onfrontation [c]lause is not violated when an expert testifies regarding his or her independent judgment, even if that judgment is based [on] inadmissible testimonial hearsay”); *State v. Griep*, 361 Wis. 2d 657, 682–83, 863 N.W.2d 567 (2015) (no confrontation clause violation when nontestifying analyst’s “testimonial forensic report is not admitted and the expert witness who testifies at trial gives his or her independent opinion after review of laboratory data”), cert. denied, U.S. , 136 S. Ct. 793, 193 L. Ed. 2d 709 (2016).

The judgment of the Appellate Court is reversed and the case is remanded to that court with direction to remand the case to the trial court for a new trial.

In this opinion PALMER, McDONALD and D’AURIA, Js., concurred.

¹ The confrontation clause of the sixth amendment to the United States constitution, which is applicable to the states through the due process clause of the fourteenth amendment; *Pointer v. Texas*, 380 U.S. 400, 403, 85 S. Ct. 1065, 13 L. Ed. 2d 923 (1965); provides in relevant part that, “[i]n all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him” U.S. Const., amend. VI.

² Section 8-6 of the Connecticut Code of Evidence provides in relevant part: “The following are not excluded by the hearsay rule if the declarant is unavailable as a witness:

“(1) Former testimony. Testimony given as a witness at another hearing of the same or a different proceeding, provided (A) the issues in the former hearing are the same or substantially similar to those in the hearing in which the testimony is being offered, and (B) the party against whom the testimony is now offered had an opportunity to develop the testimony in the former hearing. . . .”

³ The trial court vacated the jury’s findings of guilty with respect to the charges of conspiracy to commit burglary in the first degree in violation of §§ 53a-48 (a) and 53a-101 (a) (1) and conspiracy to commit robbery in the first degree in violation of §§ 53a-48 (a) and 53a-134 (a) (2) because “[t]here can . . . be [only] one conspiracy.”

⁴ The defendant also challenged the admission of Stephenson’s expert testimony under § 4-1 of the Connecticut Code of Evidence, arguing that “the state failed to establish the relevancy of Stephenson’s testimony by providing a sufficient evidentiary foundation that the photographs, report, and notes relied on by Stephenson were associated with the crimes at issue in this case.” *State v. Lebrick*, supra, 179 Conn. App. 239. The Appellate Court declined to address that claim because it was not preserved in the trial court. Id., 240. The defendant has abandoned the claim in this certified appeal. Although we reverse the Appellate court’s judgment insofar as it affirmed the judgment of conviction, we take no position concerning the Appellate Court’s analysis with respect to this issue.

⁵ We granted the defendant’s petition for certification, limited to the following issues: (1) “Did the Appellate Court properly conclude that the trial court properly admitted the probable cause hearing testimony of . . . Parks?” And (2) “[d]id the Appellate Court properly conclude that the trial court properly admitted the testimony of . . . Stephenson?” *State v. Lebrick*, 328 Conn. 912, 179 A.3d 218 (2018).

⁶ The evidence at trial established that the van was owned by Jamie Henlon, who had rented it to the defendant.

⁷ At the defendant’s trial, Emory L. Hightower, the inspector in the Hartford state’s attorney’s office assigned to locate Parks, testified on October 27, 2014, that he had commenced his search for Parks “approximately two months ago.”

⁸ Although the trial court did not make any explicit factual findings, its ruling necessarily included an implicit finding that the state’s efforts to produce Parks’ attendance at trial were reasonable, diligent, and conducted

in good faith. See, e.g., *State v. Azukas*, 278 Conn. 267, 276, 897 A.2d 554 (2006) (holding that trial court's ruling on motion to suppress "necessarily included an implicit finding" on whether homeowner had authority to consent to search of bedroom that his daughter shared with defendant); *State v. Johnson*, 253 Conn. 1, 25, 751 A.2d 298 (2000) (holding that, "in accepting the defendant's guilty plea, the trial court implicitly found him [to be] competent").

⁹ We recognize that the federal habeas cases cited here are subject to the Antiterrorism and Effective Death Penalty Act of 1996, 28 U.S.C. § 2254, which requires federal courts to apply a presumption of correctness to a state court's factual findings. See 28 U.S.C. § 2254 (e) (1) (2012) ("a factual issue made by a [s]tate court shall be presumed to be correct"). Nonetheless, we conclude that the "mixed question of law and fact" standard appropriately balances the traditional deference afforded to a trial court's factual findings and the plenary review of a trial court's ultimate legal determination regarding the existence of a constitutional violation.

¹⁰ The defendant does not challenge, as a factual matter, the efforts undertaken by Hightower and Garguilo to locate Parks prior to trial. Rather, his claim is that these efforts were insufficient as a matter of law to establish Parks' unavailability.

¹¹ In doing so, we do not intend to suggest that other factors relevant to the reasonableness inquiry cannot be considered in any particular case.

¹² The state conceded at oral argument that, if Parks' former testimony improperly was admitted in violation of our rules of evidence or the confrontation clause, then the improper admission cannot be deemed harmless.

¹³ Barrett was unable to identify the defendant as the individual who shot him and killed the victim. Although Ricky Naylor, the defendant's former cellmate at the MacDougall-Walker Correctional Institution, testified at trial that the defendant had admitted to him that he was involved in a "robbery gone bad," he was armed with a gun, and three people died, Naylor's testimony differed from Parks' because, according to Naylor, the defendant did not take the gun away from the victim, but, rather, his "cousins gave him a gun" before he entered the apartment. Furthermore, unlike Parks, Naylor did not testify that the defendant admitted to firing his weapon or shooting his way out of the apartment. Therefore, we agree with the state that Parks' testimony contained key inculpatory facts not available through the testimony of any other witness.

¹⁴ We disagree with the dissenting opinion that the evidence supports a reasonable inference that Hightower used a "nonbasic" subscription to CLEAR to search for Parks. Although Hightower at one point testified that he thought that CLEAR included "all public databanks . . . or any sort of anything that has to do with a public domain," he later admitted that he did not "know [the] specifics" of "how extensive" their databases are and the types of information available. Tiernan, the CLEAR product specialist, testified that CLEAR searches "detailed reports like . . . lawsuits, liens, [and] judgments" or "social media information" only if the subscriber purchases an enhanced subscription. There is no evidence in the record, much less the substantial evidence required to meet the state's burden, to support a reasonable inference that "the state . . . opted for the higher level subscription to CLEAR," as the dissent posits. The trial court itself made no such finding. To the contrary, our review of the record compels the conclusion that Hightower's CLEAR search encompassed only basic location information. See *State v. Mangual*, supra, 311 Conn. 197 (when defendant's constitutional rights are at stake, reviewing court must "conduct a scrupulous examination of the record . . . in order to ascertain whether, in light of the totality of the circumstances, the trial court's finding is supported by substantial evidence" [internal quotation marks omitted]).

¹⁵ Our conclusion is not predicated on "twenty-twenty hindsight," as the dissenting opinion suggests. Hindsight has no role in our analysis. Our conclusion is based instead on the facts and circumstances known or readily knowable to Hightower when he conducted his search. Hightower knew that Parks was a reluctant witness who resided in the state of New York, yet he never searched any New York state governmental databases, including its motor vehicle, family court, child support, or housing records. Hightower delegated the actual physical effort to serve process on Parks in New York entirely to Garguilo, but he never even spoke with Garguilo regarding the assignment and did not ask him to conduct any actual investigative work. When Hightower thereafter received word that Garguilo's efforts to serve Parks were unsuccessful, Hightower did not pursue any follow-up, for example, by asking Garguilo to return to the locations at a time outside of normal

working hours. Hightower also failed to conduct basic Internet searches. It was common knowledge in 2014, as it is today, that publicly available websites such as Google and Facebook are valuable resources for locating individuals, and these resources were (and continue to be) used every day by tens of millions of people to locate everything and everyone from the nearest gas station to a long lost childhood friend. Yet Hightower did not use these tools to search for Parks. It is unknown whether any of these inquiries would have unearthed information leading to Parks' whereabouts, but it is not the defendant's burden to demonstrate that Hightower's efforts would have been successful. Instead, it is the state's burden to demonstrate that Hightower's efforts were reasonable under the circumstances. See, e.g., *Ohio v. Roberts*, supra, 448 U.S. 74–75 (under confrontation clause, “the prosecution bears the burden of establishing” that “the witness is unavailable despite [good faith] efforts undertaken prior to trial to locate and present that witness”). It is not hindsight to observe that numerous basic and obvious avenues of inquiry were left unpursued. Simply put, the state has failed to meet its burden of demonstrating that Hightower's efforts were reasonable in this case.

¹⁶ “Ordinarily, we do not decide constitutional issues when resolving those issues is not necessary to dispose of the case before us. . . . We have made an exception to this rule, however, when an issue with constitutional implications that has been presented and briefed by the parties is likely to arise on remand.” *In re Taijha H.-B.*, 333 Conn. 297, 312 n.9, 216 A.3d 601 (2019).

¹⁷ Stephenson explained that a projectile is a bullet that exits the cartridge case of the firearm during the firing process, leaving behind a casing.

¹⁸ The defendant claims that Stephenson's expert testimony is inadmissible pursuant to *State v. Buckland*, 313 Conn. 205, 96 A.3d 1163 (2014), cert. denied, 574 U.S. 1078, 135 S. Ct. 992, 190 L. Ed. 2d 837 (2015), because the state failed to produce the live in-court testimony of “the person who performed the test” We disagree. In *Buckland*, the defendant claimed that the results of his breath alcohol test improperly were admitted under the confrontation clause because “the state did not produce four witnesses regarding the [Breathalyzer] machine and its calibration” *Id.*, 211. We rejected the defendant's claim because, among other reasons, the “live presence” of “both the person who performed the test . . . and an expert to explain the results” satisfied the requirements of the confrontation clause. *Id.*, 216. *Buckland* is distinguishable from the present case because Stephenson did not explain the results of a test performed by an out-of-court declarant; instead, he testified about the results of his own independent analysis of the available information. Accordingly, the defendant's reliance on *Buckland* is misplaced.
