Another "Straightforward Application": The Impact of Melendez-Diaz on Forensic Testing and Expert Testimony in Controlled Substance Cases

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Another “Straightforward Application”: The Impact of Melendez-Diaz on Forensic Testing and Expert Testimony in Controlled Substance Cases

JOHN WAIT*

INTRODUCTION

In 1991, Duane Deaver, a Special Agent with the North Carolina State Bureau of Investigation (“SBI”), performed a series of serology tests pertaining to the murder case of State of North Carolina v. Gregory Flint Taylor. Less sensitive presumptive tests confirmed the possible presence of blood on several areas of Greg Taylor’s vehicle; however, more sensitive confirmatory tests were negative. Mr. Deaver dutifully


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2. Chris Swecker & Michael Wolf, An Independent Review of the SBI Forensic Laboratory, at 5–6 (released Aug. 18, 2010), http://ncdoj.gov/getdoc/0a92ee81-0667-4935-b2d3-221d4f586c61/Independent-Review-of-SBI-Forensic-LAB.aspx; see also Transcript of Evidence at 140, State v. Taylor, Nos. 91-CRS-71728, 92-CRS-30701 (Apr. 4, 1993) (mentioning Jeff Taub, another forensic serologist, as a testing analyst in the final report). Mr. Taub is not mentioned in connection to Greg Taylor’s case in the independent review published by Mr. Swecker and Mr. Wolf.

3. Agent Donald Pagani testified that he also performed a presumptive test in the field (a phenolphthalein test) on the vehicle prior to collecting and sending the remaining portion of the substances and vehicle parts to the SBI for further testing. Transcript of Evidence at 135–36, Taylor, Nos. 91-CRS-71728, 92-CRS-30701. The exhibits sent by Agent Pagani were later analyzed by Mr. Deaver. Id. at 140.

recorded the results of the tests in his lab notes. When he later prepared his final report for trial, the negative test results from the more sensitive tests were omitted. Mr. Deaver did not testify at trial, and his report was subject to cross-examination only through the testimony of Agent Donald Pagani, an agent in the City-County Bureau of Identification in Raleigh, North Carolina.

Greg Taylor was convicted of first-degree murder on April 4th, 1993. Nearly seventeen years later, on February 17th, 2010, Greg Taylor became the first convicted defendant to be exonerated by the North Carolina Innocence Inquiry Commission. After Mr. Deaver's actions were brought to the attention of the North Carolina Attorney General's Office, the Attorney General ordered an independent review, which revealed that the SBI Forensic Laboratory may have prepared up to 230 erroneous reports between 1987 and 2003. In each of the 230 cases identified by the independent review, discrepancies appeared between the final report prepared for trial and the documented results of the tests or testing analysts' lab notes.

The unfolding saga of the SBI, in the wake of Greg Taylor's case, highlights the Sixth Amendment contention urged in this article: Lab

5. Id. at 6.
6. Id.
7. Id. at 5–6; Transcript of Evidence at 66, Taylor, Nos. 91-CRS-71728, 92-CRS-30701. The relevant excerpts of Agent Pagani's testimony in connection with the final report prepared by Mr. Deaver appear in the trial transcript as follows:
   Q. All right. As to the presence of blood in item 16, the automobile fender liner, what did these serologists report to you?
   A. Examination of item 16 gave chemical indications for the presence of blood.
   .
   Q. All right. So the, the stained thread from the A-frame didn't reveal the presence of blood?
   A. That's correct.
   Q. But the stained thread from the fender edge did reveal the presence of blood, number 18?
   A. That is correct.

9. Swecker & Wolf, supra note 2, at 5.
10. Id. at 5, 9. Mr. Taub is mentioned in connection with at least two suspected cases in the review, not including Greg Taylor's case. Id. at 19.
11. Id. at 10–11.
analysts conducting forensic tests on controlled substances must be subject to confrontation as a pre-requisite to admitting their test results into evidence, unless a defendant waives his right to confrontation. The reasons for this policy will be explained at length in this Article; however, it can poignantly be illustrated by simply pondering whether Mr. Deaver would have more thoroughly translated his lab notes to the final report if he knew that the entirety of his actions could be subject to cross-examination. Since 1992, the prosecution has been required to provide defense counsel with lab notes written by the testing analyst under Brady v. Maryland. Perhaps Mr. Deaver could have simply chosen to manipulate the lab results in other ways if he knew that he would have to testify. However, even assuming that this alternate scenario had occurred in the Taylor case, at least Taylor's defense counsel would have had some opportunity to discover the errors during trial preparation by examining the lab notes if Mr. Deaver's presence had been required at trial—an opportunity that was not available because the substance of the final report was allowed to come into evidence via the testimony of Agent Pagani.

The issue of whether a testing analyst must be subject to confrontation is currently pending review in the United States Supreme Court. After the Supreme Court's decision in Melendez-Diaz, the North Carolina General Assembly amended several notice and demand statutes relating to forensic reports. In most cases, the prosecution must give a defendant fifteen days' notice that a forensic report will be submitted in a proceeding. If a defendant does not offer a written objection, then the forensic report can be admitted to establish its substantive allegations without the testimony of the analyst. The Supreme Court indicated in Melendez-Diaz that such waiver provisions would pass Sixth Amendment scrutiny. Melendez-Diaz v. Massachusetts, 129 S. Ct. 2527, 2534 n.3 (2009) ("The right to confrontation may, of course, be waived, including by failure to object to the offending evidence; and States may adopt procedural rules governing the exercise of such objections.").

12. After the Supreme Court's decision in Melendez-Diaz, the North Carolina General Assembly amended several notice and demand statutes relating to forensic reports. 2009 N.C. Sess. Laws 473. In most cases, the prosecution must give a defendant fifteen days' notice that a forensic report will be submitted in a proceeding. See id. If a defendant does not offer a written objection, then the forensic report can be admitted to establish its substantive allegations without the testimony of the analyst. See id. The Supreme Court indicated in Melendez-Diaz that such waiver provisions would pass Sixth Amendment scrutiny. Melendez-Diaz v. Massachusetts, 129 S. Ct. 2527, 2534 n.3 (2009) ("The right to confrontation may, of course, be waived, including by failure to object to the offending evidence; and States may adopt procedural rules governing the exercise of such objections.").

13. Interview by Raleigh News and Observer with Jeff Taub, former forensic serologist, SBI, in Raleigh, NC (Aug. 27, 2010). Following the publication of the review, Mr. Taub stated in an interview that the reporting methods now under investigation were misunderstood by the defense counsel in each case. He claimed that these "misunderstandings" could have been avoided had he been called to testify at trial. Id.

14. Brady v. Maryland, 373 U.S. 83 (1963). See also State v. Cunningham, 423 S.E.2d 802 (N.C. App. 1992). This rule is now codified in North Carolina's General Statutes. N.C. Gen. Stat. § 15A-903(a)(1) (2009). On defendant's motion, the State must "[m]ake available to the defendant the complete files of all law enforcement and prosecutorial agencies . . . . The term 'file' includes the . . . investigating officers' notes, results of tests and examinations, or any other matter or evidence obtained during the investigation of the offenses alleged to have been committed by the defendant." Id.
Court in Bullcoming v. New Mexico. Specifically, the issue on review is "[w]hether the Confrontation Clause permits the prosecution to introduce testimonial statements of a nontestifying forensic analyst through the in-court testimony of a supervisor or other person who did not perform or observe the laboratory analysis described in the statements." In Bullcoming, the defendant, Donald Bullcoming, sought to exclude expert testimony at trial summarizing a report from a gas chromatograph showing that his blood alcohol content was above the legal limit following a car accident. The Supreme Court of New Mexico concluded that the analyst transcribing the printout from the gas chromatograph was a "mere scrivener," and because Bullcoming's "true accuser" was the machine itself, Bullcoming's right to confrontation was satisfied by allowing him to cross-examine an expert analyst other than the analyst recording the machine's output.

This same issue as to expert testimony based on materials produced by a non-testifying analyst is also up for review in the North Carolina Supreme Court as a result of a series of drug cases decided by the North Carolina Court of Appeals following the United States Supreme Court decision in Melendez-Diaz v. Massachusetts in 2009. Should the North Carolina Supreme Court grant review, the precise issue will be whether a supervisor of a testing analyst can testify that a particular substance is, in fact, a controlled substance, where the supervisor has conducted a "peer review" of the final report but has not participated in the testing process.

Presumably, the United States Supreme Court has granted review in Bullcoming in order to further clarify its holding in Melendez-Diaz. If so, the Court may lay the foundation necessary for state courts to be able to identify which forensic lab analysts need to be subject to confrontation.

17. The gas chromatograph printed the results of the test, and then the printout was transcribed by the testing analyst to the final report admitted at trial. Bullcoming, 226 P.3d at 6.
18. Id. at 4.
19. Id. at 9.
20. Id.
21. Id. at 9–10.
23. Brewington, 693 S.E.2d at 184; Brennan, 692 S.E.2d at 428.
and which analysts are, perhaps, "mere scriveners" under the Sixth Amendment. The outcome in Bullcoming, however, could be far less pragmatic. Since Melendez-Diaz, Justice Sonya Sotomayor and Justice Elena Kagan have been appointed to the bench, and both justices have replaced a prior justice that voted with the majority in Melendez-Diaz. Taking into consideration each new justice's prosecutorial background, the future of Melendez-Diaz is not clear or certain.

Assuming that the Supreme Court does provide some guidance in Bullcoming and does not abrogate the precedent of Melendez-Diaz, it will become the obligation of the collective state courts to apply Bullcoming to determine which lab analysts must testify at trial and which analysts, due to the nature of their duties, are not necessary witnesses for cross-examination. Part I of this Article will analyze Melendez-Diaz with a focus on extracting indicators within the opinion that lend guidance as to how the opinion could be extended to Bullcoming and to expert testimony based on forensic reports in controlled substance cases. Part II will provide an overview of the tests utilized by the SBI to determine the nature and quantity, if any, of suspected controlled substances with the goal of ascertaining who, under Melendez-Diaz, should be subject to confrontation. Part III will provide a prediction of the outcome in Bullcoming. Finally, Part IV will review the pending cases from the North Carolina Court of Appeals addressing expert testimony based on non-testifying analysts' reports and will offer an analysis showing that the expert testimony in these cases is insufficient under the Sixth Amendment.

I. MELENDEZ-DIAZ V. MASSACHUSETTS

In 2001, police officers outside of a Kmart inBoston, Massachusetts, waited for their suspect, Thomas Wright, to appear at the front store entrance. The manager of the Kmart had reported to the

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24. The Supreme Court granted review of the same issue presented in Melendez-Diaz in Briscoe v. Virginia. 130 S. Ct. 1316 (2010). However, notwithstanding the addition of Justice Sotomayor to the Court, Melendez-Diaz was upheld unanimously in a per curiam opinion. Id.

25. It should be noted that this article will not address other types of forensic reports in North Carolina. The North Carolina Supreme Court has already extended Melendez-Diaz to preclude the admission of expert testimony based on autopsy reports and forensic dental reports where the testing analyst was not subject to confrontation by the defendant. State v. Locklear, 681 S.E.2d 293, 304–05 (N.C. 2009).

police that Wright, a Kmart human resource employee, had been engaging in suspicious activity. The manager said that on several occasions he had observed Wright receive external phone calls, walk to the front door, climb into a blue Mercury Sable, leave the parking lot with one or two other passengers in the car, and return to the store approximately ten minutes later.

The officers watched Wright come out through the front door of the Kmart, and after several minutes, walk back inside. A blue Mercury Sable then pulled to the front of the building, and Wright reappeared and entered the backseat of the car. Wright was stopped by an officer after he exited the Mercury and started to head back toward the store. Upon being stopped, Wright informed the officer that he was carrying four bags of cocaine in his pocket. After seizing the cocaine, the officer immediately instructed other law enforcement personnel to arrest the men in the blue Mercury Sable. Ellis Montero was driving and Luis Melendez-Diaz was in the passenger seat.

Montero, Melendez-Diaz, and Wright were all placed in the backseat of a cruiser and transported to the police station. As the men proceeded through the booking process, an officer returned to the parked cruiser in order to examine the backseat, because Montero and Melendez-Diaz had been talking and moving in an animated fashion during the ride. In the backseat of the transporting cruiser, the officer found nineteen small plastic bags of cocaine totaling 22.16 grams.

Luis Melendez-Diaz was charged and convicted of distributing and trafficking cocaine under Massachusetts's General Statutes. At trial, his defense counsel argued that Melendez-Diaz was denied his right under the Sixth Amendment to confront the witnesses against him. This argument relied on the fact that several "certificates of analysis" were admitted into evidence, certifying that the bagged white powder from

27. Id.
28. Id.
29. Id.
30. Id.
31. Id.
32. Id. at *2.
33. Id.
34. Id.
35. Id.
36. Id.
37. Id.
the back of the cruiser was, in fact, cocaine. These "certificates of analysis" were prepared by forensic analysts not present at trial. The trial court disagreed with defense counsel, and when Melendez-Diaz raised his Sixth Amendment argument again on appeal to the Appeals Court of Massachusetts, the Court dismissed his argument in a footnote in an unpublished decision.

The United States Supreme Court granted Melendez-Diaz's petition for writ of certiorari, after review was denied by the Supreme Judicial Court of Massachusetts. The issue presented to the Supreme Court was whether the "certificates of analysis" were admissible to show that the seized substances were, in fact, cocaine under the Sixth Amendment. In writing for the majority, Justice Scalia offered what he coined to be a "rather straightforward application" of the Supreme Court's holding in Crawford v. Washington through the following three step analysis: (1) Reports prepared by the forensic analysts while testing confiscated substances were testimonial, because the reports contained statements "for the purpose of establishing or proving some fact[;]" (2) Given the testimonial nature of the reports, the analysts were "witnesses" under the Sixth Amendment; and (3) Because the analysts were giving testimony and acting as witnesses through their reports, then "[a]bsent a showing that the analysts were unavailable to testify at trial and that [the criminal defendant] had a prior opportunity to cross-examine them, [the criminal defendant] was entitled to 'be confronted with' the analysts at trial."

By allowing its holding in Crawford to do the heavy lifting, the Supreme Court reached this conclusion in approximately four pages. The Court then spent the remainder of the majority opinion addressing a host of arguments and concerns raised by the State of Massachusetts and the dissenting justices. In its response, the majority established the following principles germane to the issue addressed in this Article.

39. Id.
43. Melendez-Diaz, 129 S. Ct. at 2530.
44. Id. at 2533.
46. Melendez-Diaz, 129 S. Ct. at 2532 (quoting Crawford, 541 U.S. at 71) (quotation marks omitted).
47. Crawford, 541 U.S. at 36.
A. Guiding Principles in Melendez-Diaz

1. All “accusatory” witnesses must be available for cross-examination, and a testing analyst is an "accusatory" witness under the Sixth Amendment.

Since the Court had already reached the conclusion that a testing analyst is a testimonial witness under Crawford, the Court had little more to do than restate the plain wording of the Sixth Amendment in its rationale: "The Sixth Amendment guarantees a defendant the right 'to be confronted with the witnesses against him.'" Because the analysts were witnesses against the defendant, the Court reasoned that the defendant had the right to confront the analyst. The Court explained that the Sixth Amendment contemplates two types of witnesses in a criminal trial: "those against the defendant and those in his favor." Conversely, a defendant may or may not call witnesses in his favor. The Court declined to follow the approach suggested by the State of Massachusetts to recognize a third category of witnesses comprised of persons helpful to the prosecution, but not subject to confrontation. In rejecting several cases cited by the State of Massachusetts, the Court stated that the State had "fail[ed] to cite a single case in which [adverse] testimony was admitted absent a defendant's opportunity to cross-examine."

2. Testing analysts are conventional witnesses of the sort at issue in Sir Walter Raleigh's case.

In Crawford v. Washington, the Supreme Court discussed Raleigh's case during its review of the common law evolution of confrontation in criminal trials. Raleigh was accused of treason in 1603 after being implicated by his alleged accomplice, Lord Cobham, in a transcribed

49. Id. at 2533.
50. Id. (quoting U.S. CONST. AMEND. VI).
51. Id. at 2534.
52. Id.
53. Id.
54. Id.
55. Id.
56. Id. at 2534.
pre-trial examination and in a letter. At trial, Raleigh demanded that he be afforded the right to confront Cobham, because he believed that Cobham lied to save himself. The judges denied Raleigh's request, and Raleigh was convicted and sentenced to death after a written copy of the pre-trial examination and the letter were admitted into evidence.

The Supreme Court revisited Raleigh's case in Melendez-Diaz in response to the dissenting justices' attempt to distinguish the role of a testing analyst from ex parte witnesses such as Cobham. In writing for the dissenting justices, Justice Kennedy argued that a lab analyst was not a conventional witness because: (1) a conventional witness recalls past events, while a testing analyst records near-contemporaneous results from tests; (2) a testing analyst does not actually witness the crime, and he or she has no involvement with any "human action related to it;" and (3) a conventional witness responds to interrogation, whereas, a testing analyst merely follows scientific protocol.

The majority rejected each of these contentions by responding: (1) the "certificates of analysis" did not contain near-contemporaneous test results, because the certificates were prepared almost a week after the tests were performed; (2) the temporal connection between the tests and the documentation of the results was not relevant to the issue of whether the analyst should be subject to confrontation, because even if the final lab report was prepared contemporaneously, the analyst would still be subject to confrontation due to the testimonial content in the final report; (3) no legal authority supported the proposition that conventional witnesses are only those persons who actually witness the crime; and (4) no distinction exists between those witnesses offering evidence against a defendant during an interrogation and those offering evidence voluntarily. The majority further noted that if the Sixth Amendment applies to an affidavit prepared in response to an officer's
request to "write down what happened," then affidavits prepared by a testing analyst should be subject to confrontation as well. 70

3. The right to confrontation is a procedural right which can be used to expose both incompetency and fraud. As a result, there is no meaningful distinction between testimony that recalls past events and testimony founded on scientific testing, because both types of evidence are subject to the same procedural guarantee under the Sixth Amendment. 71

The majority viewed the dissenting justices’ distinction between scientific testimony and testimony recalling past events as “little more than an invitation to return to our over-ruled decision in Roberts, 72 which held that evidence with ‘particularized guarantees of trustworthiness’ was admissible notwithstanding the Confrontation Clause.” 73 The Court reiterated its reasoning in Crawford that the right to confrontation under the Sixth Amendment is a procedural guarantee; 74 and that the ultimate goal of the Confrontation Clause is not to ensure reliability, even though reliable evidence as an end result is certainly desirable. 75 The majority also rejected the dissenting justices’ contention that scientific testing is neutral and reliable by noting the following deficiencies: (1) a majority of forensic laboratories are managed by law enforcement agencies, and an analyst under such control may have an incentive to sacrifice protocol based on science in favor of efficiency or expediency; 76 and (2) confrontation may be able to “weed out” an analyst committing fraud or an analyst conducting tests without the proper training or expertise. 77 The Court also noted that scientific tests on controlled substances, even if they are performed by an honest and competent analyst, are vulnerable to a degree of subjectivity which confrontation could be used to explore. 78

70. Melendez-Diaz, 129 S. Ct. at 2535.
71. Id. at 2536–37.
73. Melendez-Diaz, 129 S. Ct. at 2536 (citation omitted).
74. Id.
76. Melendez-Diaz, 129 S. Ct. at 2536.
77. Id. at 2536–37.
78. Id. at 2537–38.
Sworn lab reports prepared for trial "do not qualify as traditional official or business records [under the federal hearsay rules], and even if they did, their authors would be subject to confrontation nonetheless."\(^79\)

Given that the "certificates of analysis" were prepared for trial, the Court relied on its holding in *Palmer v. Hoffman*\(^80\) to reach its conclusion that the certificates did not qualify as business records.\(^81\) In *Palmer*, an accident report prepared by a railroad company was held inadmissible as a business record because the report was prepared in anticipation of litigation, rather than in the regular course of business.\(^82\) The majority reasoned that the certificates were more like police reports than business records, and therefore, the certificates failed to qualify as either public records\(^83\) or business records\(^84\) under Rule 803 of the Federal Rules of Evidence.\(^85\)

More importantly, the Court held that if a document contains testimonial hearsay, then its admission into evidence cannot be supported merely by a hearsay exception in the Rules of Evidence.\(^86\) Instead, when a document contains testimonial hearsay, its author must be subject to confrontation.\(^87\) The dissent attempted to analogize the "certificates of analysis" to a clerk's authentication of an official record at common law, which was admissible without cross-examination.\(^88\) In response, the majority observed that the clerk's ability to authenticate was "narrowly circumscribed[;]"\(^89\) and that the clerk was permitted only "'to certify to the correctness of a copy of a record kept in his office,' but had 'no authority to furnish, as evidence for the trial of a lawsuit, his interpretation of what the record contains or shows, or to certify to its substance or effect.'"\(^90\)

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79. *Id.* at 2538.
83. FED. R. EVID. 803(8).
84. FED. R. EVID. 803(6).
86. *Id.* at 2539–40.
87. *Id.*
88. *Id.* at 2538–39.
89. *Id.* at 2538.
90. *Id.* (quoting *State v. Wilson*, 75 So. 95, 97 (La. 1917)).
document with substantive evidence against the accused, the majority observed that the clerk was subject to confrontation. 91

5. A defendant’s ability to subpoena a witness is not a substitute for confrontation 92

In this section, the Court returned to the prosecution’s burden by rejecting a subpoena as a substitute for confrontation. The majority noted that a subpoena is a privilege offered to the defendant, and in situations where the witness does not appear a defendant has little recourse. 93 Because the lab analysts preparing the “certificates of analysis” were adverse witnesses, the majority viewed the appropriate analysis to be through the Confrontation Clause rather than the Compulsory Process Clause. 94

6. The requirements of the Confrontation Clause will not be relaxed to accommodate fears that the current criminal justice system will not be able to adjust 95

The majority flatly rejected the dissent’s “floodgate” argument. The majority opinion characterized the dissent’s estimation, of the number of trials at which an analyst may have to testify, as “back-of-the-envelope calculations.” 96 The majority listed ten jurisdictions that had already adopted similar rules to those announced in Melendez-Diaz, and claimed that “there is no evidence that the criminal justice system has ground to a halt in the States that, one way or another, empower a defendant to insist upon the analyst’s appearance at trial.” 97

B. The rule from Melendez-Diaz going forward

It is apparent that the majority in Melendez-Diaz had little concern for the practicalities of the adversarial system that initially led to the procedure surrounding the “certificates of analysis.” The Court showed no concern for a potential overload of the system, refused to accept an alternate mode of confrontation by rejecting a subpoena as a substitute, and cast a wary eye toward the touted reliability of scientific analysis. As

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91. Id. at 2539.
92. Id. at 2540.
93. Id.
94. Id.
95. Id.
96. Id. at 2540 n.10.
97. Id. at 2541.
shown by the first four pages of the opinion, the Court's position contained no hint of nuance as it returned to the same theme throughout its response to the State of Massachusetts and the dissent. The Sixth Amendment requires that accusatory witnesses be subject to confrontation, and lab analysts conducting scientific tests on controlled substances are accusatory witnesses when they provide the prosecution with testimonial evidence against a defendant.98

Much has been written about Melendez-Diaz since its publication in 2009, and addressing all the concerns in response to the opinion would require a much longer Article with a less narrow purpose. One concern worthy of mention, however, is Justice Thomas's separate concurring opinion. In his concurrence, Justice Thomas stated: "I write separately to note that I continue to adhere to my position that 'the Confrontation Clause is implicated by extrajudicial statements only insofar as they are contained in formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions.'"99 This statement is important, because it has been cited in some jurisdictions as support to ignore the majority's response to the dissent's argument outlined supra.100

The temptation and convenience of disregarding these six principles is certainly a juicy apple worthy of the Garden of Eden,101 however, it remains a misguided approach. As a general rule, "when a fragmented [Supreme] Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, 'the holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds.'"102 Moreover, "general expressions, in every opinion, are to be taken in connection with the case in which those expressions are used. If they go beyond the case, they may be respected, but ought not to control the judgment in a subsequent suit, when the very point is presented for decision."103

98. Id. at 2542 ("This case involves little more than the application of our holding in Crawford. The Sixth Amendment does not permit the prosecution to prove its case via ex parte out-of-court affidavits, and the admission of such evidence against Melendez-Diaz was error.") (footnotes and citations omitted).
99. Id. at 2543 (quoting White v. Illinois, 502 U.S. 346, 365 (1992)).
100. See, e.g., People v. Miller, 187 Cal. App. 4th 902 (2010); State v. Murphy, 991 A.2d 35 (Me. 2010).
101. See The Bible, Genesis, chap. 3.
Applying these rules to Melendez-Diaz, there is little doubt that the six principles delineated in the majority opinion are obiter dictum, and the holding must necessarily be limited by Justice Thomas's special concurrence.

A closer examination of the majority's dictum, however, shows that the guidance provided therein is supported by the holding in the first four “precedential” pages of the opinion, as limited by Justice Thomas's concurring opinion. The first principle responded to the dissents' argument that the testing analysts were not “accusatory” witnesses under the Sixth Amendment. This argument was flatly rejected in the precedential portion of the opinion. The second principle countered the dissents' contention that the analysts were not “conventional” witnesses. This contention was nothing more than an attempt to distinguish the Court's holding in Crawford, and the precedential portion of the opinion plainly disagreed with this position as well. The third principle stemmed from the supposed distinction between evidence arising from scientific testing and testimony recalling past events. The majority's response, that the right to confrontation is a procedural guarantee, was merely a reiteration of Crawford, which was patently applied in the precedential portion of the opinion. The fourth principle reviewed the dissent's version of the hearsay rules at common law to argue that the “certificates of analysis” could come in without cross-examination. The majority's response vigorously disagreed with the dissent's characterization of the history of the hearsay rules; however, more importantly, the majority noted that the Confrontation Clause trumps the hearsay rules whenever a testimonial statement is in issue. At its core, therefore, the fourth principle relies squarely on Crawford and the nature of testimonial evidence addressed in that opinion, which was part of the precedential portion of the opinion. The fifth principle sought to shift the burden of producing

104. Melendez-Diaz, 129 S. Ct. at 2533.
105. Id. at 2532 (quoting Davis v. Washington, 547 U.S. 813, 830 (2006)) (“[T]he analysts were ‘witnesses’ for purposes of the Sixth Amendment.”).
106. Id. at 2534.
107. Id. at 2532 (“The ‘certificates’ are functionally identical to live, in-court testimony, doing precisely what a witness does on direct examination.”).
108. Id. at 2536.
109. Id. at 2532.
110. Id. at 2538.
111. Id. (“But the affidavits do not qualify as traditional official or business records, and even if they did, their authors would be subject to confrontation nonetheless.”).
112. Id. at 2532 (citing Crawford v. Washington, 542 U.S. 36, 54 (2004)).
the testing analyst to the defendant by requiring him to issue a subpoena. The majority revisited the precedential portion of the opinion again by simply restating its earlier assertion that the term “available” places the burden on the prosecution: “Absent a showing that the analysts were unavailable to testify at trial and that petitioner had a prior opportunity to cross-examine them, petitioner was entitled to ‘be confronted with’ the analysts at trial.” Lastly, the dissent argued that the cost, both tangible and intangible, of the majority’s opinion warranted a more relaxed analysis of the Confrontation Clause. Relying on the procedural guarantee of the Confrontation Clause again, the majority simply noted that “[i]t is not clear whence we would derive the authority to do so.” Though not explicitly part of the precedential portion of the opinion, the sentiment of the statement clearly supports the precedential portion of the Court’s analysis.

In short, a wholesale dismissal of the fundamental underpinnings of the dictum portion of the majority’s opinion would necessarily require a rejection of the holding in Crawford. As a precedent, Melendez-Diaz does not leave room for this approach, and instead it binds Crawford to the realm of forensic affidavits and other “formalized testimonial materials” prepared by lab analysts for trial. The question now becomes: How does the foundation of Melendez-Diaz impact cases involving expert testimony such as Bulicom and the cases available for review in the North Carolina Supreme Court. To answer this question, an overview of the tests and procedures used in forensic laboratories is necessary.

II. TESTING SEIZED SUBSTANCES

A. North Carolina’s Approach

In Melendez-Diaz, no expert testimony was admitted at trial concerning the nature and quantity of the seized substances in the back of the police cruiser. As a result, the majority had no occasion to address in its opinion whether a lab analyst’s superior, after conducting a

113. Id. at 2540.
114. Id. at 2532.
115. Id. at 2549.
116. Id. at 2540 (Thomas, J., concurring).
117. See id. at 2532.
118. Id. at 2543.
supervisory review, could testify concerning the contents of a final report prepared for trial where the superior did not conduct, or assist with, the subject tests.\textsuperscript{119} However, the rule from \textit{Melendez-Diaz} and the issue presented in \textit{Bullcoming} point to the precise constitutional question presented when a testifying expert bases his or her testimony on a non-testifying analyst's report. The issue is whether the defendant is confronting the witness providing testimony against him by cross-examining the testifying expert.\textsuperscript{120} If the United States and North Carolina Supreme Courts answer the question in the affirmative, then a defendant's right to confrontation under the Sixth Amendment is satisfied by cross-examining the supervisor, instead of the testing analyst. If the Courts reach the contrary conclusion, then the final report falls within the holding of \textit{Melendez-Diaz}, and the testing analyst must be available for cross-examination for the final report to be admitted into evidence.

The first step to resolving this issue must necessarily begin with the duties of a forensic analyst testing a seized substance. When a seized substance is sent to the North Carolina SBI Forensic Laboratory from the property control section of a police department, the substance is received by an evidence technician and assigned a file number.\textsuperscript{121} The evidence technician places the substance in a vault, and when the substance is scheduled to be tested, it is pulled from the vault and assigned to a lab analyst.\textsuperscript{122} Once the lab analyst has possession of the substance, it remains locked in his or her laboratory until the tests are performed on the substance.\textsuperscript{123} In \textit{Brewington}, SBI Special Agent Kathleen Schell offered the following layman's explanation of the


\textsuperscript{120} Counsel for the petitioner in \textit{Melendez-Diaz} contended that a supervisor's testimony would not violate the Confrontation Clause if the supervisor's testimony was merely based on the raw data of the tests conducted. \textit{Id.} at 28.


\textsuperscript{122} Transcript at 78, Brennan, 692 S.E.2d 427 (No. 08-CRS-954). The CMPD lab has a similar secured holding area. Trial Transcript Vol. II at 120, State v. Hough, 690 S.E.2d 285 (N.C. Ct. App. 2010) (Nos. 08-CRS-017588, 07-CRS-216759).

\textsuperscript{123} Transcript at 76, 78, Brennan, 692 S.E.2d 427 (No. 08-CRS-954). CMPD follows the same security procedure. Trial Transcript Vol. II at 121, Hough, 690 S.E.2d 285 (Nos. 08-CRS-017588, 07-CRS-216759).
procedures and tests conducted in analyzing the suspected crack cocaine in the case:

Q. Agent Schell, can you describe when an item comes into the laboratory that's suspected to be, for example cocaine, can you describe how that is tested?

A. When the items of evidence come into the lab they are assigned a unique laboratory case number which follows that piece of evidence throughout the entire time it's at the lab. When the time comes for an analyst to actually analyze the piece of evidence, that evidence is in the care and control specifically of that analyst. When the evidence becomes available for analysis the chemist will open up the piece of evidence, take all the packaging out of it, they will weigh that piece of evidence and perform a series of preliminary and more specific instrumental tests in order to come to a conclusion about the identity of that substance.

Q. Can you describe what those tests are?

A. In this case specifically?

Q. Yes, ma'am.

A. [There] were three preliminary tests, which were inclusive of two color tests and a crystal test, as well as a more specific instrumental test, which identified the substance.

Q. Can you describe how the color tests are done?

A. The color tests that were used, the first one was Marquis color test, and the color test, basically you take a little bit of the color test solution; it's just a liquid, you put it into a spot plate well or like a little cup, and a little piece of the sample is placed into that, and you are looking for any type of color change or lack of color change, and based upon those colors that either are or are not produced, it allows the chemist to focus their direction and analysis one particular way or another.

Q. And you said there was also a crystal test?

A. Yes, ma'am.

Q. Can you describe how that's done?

A. A little piece of the sample, in this case the offwhite hard material, was placed on a slide, and then a liquid is added to that and they're mixed together. In the case of cocaine specific cross shaped crystals will form, and you can view those crystals using a microscope.

Q. And then there's an instrumental test?
A. Yes, ma'am.

Q. Can you describe that test?

A. During the instrumental test another piece of the sample is placed onto an instrument, a beam of light is shown through the sample, and based upon the amount of light that is reflected off that sample a graph is produced and we can look at that graph and compare it to graphs of known standards of controlled substances and make a comparison in order to identify the substance.

A. Yes, ma'am. Can I say one thing? After that specific instrumental test, the chemist did a method to clean up the cocaine base that was mixed with the bicarb which took the bicarb out of the cocaine base in order to produce a clean graph of the cocaine base.\(^\text{124}\)

Once the tests are performed at the SBI, the results are recorded by the lab analyst in a computer database,\(^\text{125}\) and the data can no longer be modified.\(^\text{126}\) Information stored in the database is capable of being viewed by other analysts.\(^\text{127}\) In nearly every case, the lab analyst's work on file is reviewed by another analyst.\(^\text{128}\) The purpose of the second analyst's "peer review" is to determine whether "the reviewer would have come to the same conclusions as the actual analyst" based on the raw data recorded by the first analyst.\(^\text{129}\) If the reviewer believes that the first analyst's results are satisfactory, then the file is approved and released.\(^\text{130}\) Unsatisfactory files are returned to the original analyst for further testing.\(^\text{131}\) After a testing analyst has completed his or her tests and the

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\(^{125}\) Transcript Vol. II at 123–24, Hough, 690 S.E.2d 285 (Nos. 08-CRS-017588, 07-CRS-216759).

\(^{126}\) Transcript Vol. II at 99, Brewington, 693 S.E.2d 182 (No. 08-CRS-50436).

\(^{127}\) Id. at 93. According to Special Agent Schell, approximately 200 people at the SBI had access to the database file. Id. at 98.

\(^{128}\) Id. at 91–92. Ms. Alloway testified in Hough that approximately 99% of the lab tests performed at the CMPD chemistry section received a "peer review." Transcript Vol. II at 124, Hough, 690 S.E.2d 285 (Nos. 08-CRS-017588, 07-CRS-216759).

\(^{129}\) Transcript Vol. II at 92, Brewington, 693 S.E.2d 182 (No. 08-CRS-50436); see also Transcript Vol. II at 124, Hough, 690 S.E.2d 285 (Nos. 08-CRS-017588, 07-CRS-216759) ("A peer review consists of looking for grammatical errors or mainly errors in your analysis meaning [the reviewer] wouldn't come to the same conclusion that [the testing analyst] came to.").

\(^{130}\) Transcript Vol. II at 92, Brewington, 693 S.E.2d 182 (No. 08-CRS-50436).

\(^{131}\) Id.
results have been recorded, the testing analyst prepares a final report describing the nature and quantity of the seized substance.132

In the arena of forensic chemistry, there exists a plethora of preliminary and confirmatory tests available to a lab analyst to test a suspected controlled substance. The types of tests performed vary from case to case and jurisdiction to jurisdiction depending on the technology offered and internal lab procedures. Some preliminary tests, sometimes called “nonspecific tests,”133 include biological testing,134 morphological tests,135 color tests,136 microcrystal tests,137 chromatography,138

132. Id. at 92, 111.
133. 2 PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE § 23.02, at 477 (4th ed. 2007).
134. As an example, when a laboratory rat is injected with morphine, its tail will form an S-shaped curve. Id.
135. Marijuana is often first tested with this technique. See Transcript Vol. II at 122, State v. Hough, 690 S.E.2d 285 (2010) (Nos. 08-CRS-017588, 07-CRS-216759); GIANNELLI & IMWINKELRIED, supra note 133, § 23.02[a], at 479. The test requires an analyst to look at a substance to determine whether the plant exhibits visual qualities consistent with a banned substance. Id.
136. As explained in the testimony above from Special Agent Schell, these tests require an analyst to apply a known reagent to a substance, observe the color change, and classify the substance based on the color. GIANNELLI AND IMWINKELRIED, supra note 133, § 23.02[b], at 480. Color change tests come in a variety of forms and allow an analyst to perform tests to detect codeine, cocaine, barbiturates, heroin, and morphine among others. Id. The Marquis’ reagent, used in Brewington, is a commonly used color test. Id.
137. Microcrystal tests, also utilized in Brewington, are similar to color tests, except that in addition to producing a color the reagent also causes a pattern to form in the substance. Id. § 23.02[c], at 482. The pattern produced by the substance can then be compared by the testing analyst to a known pattern of a controlled substance. Id. at 482–83. Some devices perform a microcrystal and color test simultaneously. Id. at 70 (Supp. 2009).
138. There are several different types of chromatographic techniques. See generally id. § 23.02[d]. Thin-layer chromatography involves placing an unknown compound on a glass plate, placing the plate in solution, and measuring the distance the unknown substance travels after period of time. Id. at 485–88. The distance traveled can be compared to known controlled substances and their travel distances to determine whether an unknown substance is a controlled substance. See id. Gas chromatography uses the same approach, except that the substance is placed in a machine which changes the unknown substance into a gas. Id. at 490. As the gas goes through the machine, the machine records the retention time of different compounds. Id. at 491–92. Depending on the location of the peaks and valleys of the printout, an analyst may be able to identify the compound. Id. at 493. The identification under this test, however, is still nonspecific given that several chemicals may create a peak when they are not, in fact, a controlled substance. Id. at 494. Performance liquid chromatography creates the same
immunoassay, ultraviolet spectrophotometry, and fluorescence analysis. These tests are nonspecific for two reasons: (1) their inability to consistently identify a specific substance and (2) their tendency to create false positive results. Confirmatory, or "specific," tests include infrared spectrophotometry, nuclear magnetic resonance, gas chromatography/mass spectrometry, and the mixed melting point test. The machines running these tests produce very few false positive results and some can offer a readout that offers the specific identity of the compound being tested.

In Melendez-Diaz, the confirmatory test used to conclude that the seized substances were cocaine in the "certificates of analysis" was a gas chromatography/mass spectrometry test ("GC/MS"). GC/MS machines are extremely accurate and are considered the "gold standard for forensic testing." The test is time-consuming and only one sample can be sort of printout using liquid instead of gas, though the test appears to be less reliable than gas chromatography. Id. at 496, 498.

139. This technique uses antibodies to detect the presence of drugs in urine. See id. § 23.02[e].

140. These tests measure reactions to unknown substances on the electromagnetic spectrum. Id. § 23.02[f], at 507.

141. This procedure measures wavelengths emitted by a compound to determine whether it is LSD. Id. § 23.02[g], at 513.

142. Id. § 23.02, at 479.

143. See id. § 23.03, at 514.

144. Like ultraviolet spectrophotometry, this test measures wavelength and energy after the substance is exposed to electromagnetic radiation. Id. § 23.03[a], at 515. Unlike the UV test, it is extremely accurate. Id. at 517. After the machine creates a graph of the substance under examination, it will search a databank to produce several best matches to known controlled substances. Id.

145. This test is rarely used; therefore, a discussion of its scientific underpinnings is omitted.

146. This test combines gas chromatography with a mass spectrometer. Giannelli & Imwinkelried, supra note 133, § 23.03[c], at 525. The gas created in the first phase is then used in the mass spectrometer, which fragments the compound with an electron beam and records the fragmentation pattern. Id. at 529.

147. This technique measures the melting point of the substance to determine its composition. Id. § 23.03[d], at 535–36.

148. Id. § 23.02, at 477.


151. Faigman et al., supra note 149, § 42:35, at 645.
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analyzed at a time. Due to the complexity of the computer equipment and the nature of the data produced, an operator using a GC/MS machine needs years of technical training and experience to properly use the machine and reach a conclusion as to the substance being tested. However, even when operators do possess these qualifications, the results can be subject to human error.

The confirmatory test used in Brewington was infrared spectrophotometry, and Special Agent Schell's testimony appears to indicate that the machine did not produce a computer readout identifying the specific substance. Instead, the testing analyst, Agent Nancy Gregory, read the graphical data from the machine and compared it to graphs of known controlled substances. In Brennan, an infrared spectrophotometer was also used for the confirmatory test. However, unlike the machine used in Brewington by the SBI, it appears that the infrared spectrophotometer at the CMPD's office produced a readout identifying the tested substance as cocaine.

The machine used in Bullcoming was a gas chromatograph, which is generally considered a nonspecific test. Even though it is a nonspecific test, it is widely used to analyze bodily fluids to compute blood alcohol content. This is due to the machine's exceptional ability to separate components of a complex substance, making it easier for an operator to identify ethanol from other types of alcohol potentially present in a sample. Notwithstanding the convenience of a gas chromatograph, however, human error is possible both at the collection and testing stages of the sample.

152. Id. at 645–46.
153. Id. at 646.
154. Id. at 645.
156. Id. at 70.
157. Id. at 72.
158. Transcript of Record, Brennan, supra note 121, at 70.
159. Id. at 71, 81–82.
160. See infra Part III.
161. See GIANNELLI & IMWINKELRIED, supra note 133.
162. FAIGMAN ET AL., supra note 149, § 41:33, at 496.
163. GIANNELLI & IMWINKELRIED, supra note 133, at 494.
164. Id. § 20.04[c], at 246.
165. Id.
B. Who should be subject to confrontation under Melendez-Diaz?

Why did the testing analysts need to be subject to confrontation in Melendez-Diaz? The answer, as precedent is concerned, is simply that the testing analysts were creating testimonial evidence by preparing the “certificates of analysis.” 166 While there was much discussion during oral argument regarding what, exactly, the defense bar would want to ask the analyst, 167 the precedential portion opinion declined to specify why the analysts needed to be cross-examined outside of the procedural guarantee of the Confrontation Clause. 168 In the dictum portion of the opinion, the majority indicated that cross-examination could be used to explore the “analysts' honesty, proficiency, and methodology.” 169 The Court will now have to revisit this issue, because it lies at the heart of Bullcoming, Brennan, and Brewington. If “honesty, proficiency, and methodology” are the crucial subjects for cross-examination, only the testing analyst will suffice. If these characteristics are secondary to a conclusion regarding the nature and quantity of a substance, then an expert basing their opinion on raw data will satisfy the Confrontation Clause.

As discussed, both preliminary and confirmatory tests can be tainted by human error. Preliminary tests are susceptible to misperceptions and inaccurate readings, and if performed improperly, they can lead to inaccuracies in the confirmatory tests. Confirmatory tests are also subject to a degree of error. Lab analysts conducting these procedures must have years of training and experience, and in circumstances where the machine fails to provide a definitive answer, the analyst must take the raw data and compare it to known drugs to conclude whether a compound is a controlled substance. However, even if the machine does not specify the presence of a particular controlled substance, the analyst must have the training and experience to work the machine properly.

The methodology and sequence of the techniques described by Special Agent Schell in Brewington surpassed most recommended industry standards. 170 Yet, no matter how many tests are performed and

167. Transcript of Oral Argument at 5–6, Melendez-Diaz, supra note 119.
169. Id. at 2538.
regardless of how precisely tuned a machine is, a correct result in a forensic analysis depends on the competency of the analyst using the machine. The goal of a competent analyst is to eliminate the "uncertainty" inherent during every stage of the testing process. Thus, the more competent the analyst, the better the analyst will be at finding results with certainty.

If this is the testing analyst's role, however, then what is achieved by examining a supervisor or peer conducting a "peer review?" In the SBI, by the time that the "peer review" is conducted, all the "uncertainty" during the testing process has presumably been removed. Assume Agent Pagani had been Mr. Deaver's reviewer in the Taylor case. If Agent Pagani conducted his review merely by examining documents stored on a computer database, how would Agent Pagani have known that Mr. Deaver had truly eliminated all "uncertainty" during the testing process? Mr. Deaver omitted negative test results from his final report. Had Mr. Deaver intended to hide these results, how could Agent Pagani have discovered it? Undoubtedly, the "peer review" is also part of the process of removing uncertainty; however, as the Taylor case shows, such reviews are limited in their ability to detect some types of omissions.

These questions are more than just concerns with the deficiencies inherent in the "peer reviews" and testimony given by experts based on data compiled by a testing analyst. Instead, under Melendez-Diaz, it points to an important moment with respect to the constitutional issue presented. The moment the testing analyst takes a sample, places it into the machine, and begins to generate results, the testing analyst is producing testimonial hearsay. As the Supreme Court held in Crawford, including Justice Thomas, testimonial statements include "pretrial statements that declarants would reasonably expect to be used prosecutorially." The machine prints the result or raw data, but when the testing analyst submits that result or raw data to a database knowing it will eventually go to the prosecution, the testing analyst is giving testimony that he or she competently and honestly performed the test

171. Id. at 15.
172. Id. at 34. In the forensic analysis context, "uncertainty" does not encompass the notion of doubt. Id. Instead, "uncertainty" refers to the limitations inherent in testing and the conclusions reached; and the science of forensic analysis seeks to eliminate this "uncertainty" through rigorous training, extensive procedures, and documentation. Id. Nevertheless, as discussed, the testing process is fraught with opportunities for human error.
173. Id. at 34–35.
174. Id. at 23.
producing the result or raw data. Under Melendez-Díaz, therefore, the testing analyst must always be subject to confrontation in order for test results to be submitted in controlled substance cases, because the data produced by a machine becomes testimonial hearsay from the analyst.

It follows under this view that the testimony of a non-testing expert can never suffice in and of itself. There may be situations where both the testing analyst’s documents and the testifying expert’s testimony are both testimonial and therefore subject to Crawford. In these situations, the testing analyst would submit materials showing that he or she performed tests on a particular sample, which produced raw data; and the testifying expert could use that raw data to form his or her own opinion as to whether the tested substance is a controlled substance. Each could testify at trial as to his or her portion of the testimonial evidence presented. Yet, even in these circumstances, the prosecution would have to offer the testing analyst to confirm that the raw data was, indeed, procured from: (1) the actual sample at issue in the case; (2) by a method of testing in accordance with industry standards; and (3) performed with an acceptable degree of competence. This would have to be established prior to another expert, other than the testing analyst, using the raw data to give testimony concerning the nature of a seized substance.

As will be discussed more fully below, this position has forcefully been rejected in at least some jurisdictions. Yet, it represents what another “straightforward application” of Crawford would entail in situations where either the raw data or substantive conclusion of a forensic report is admitted into evidence through the testimony of an expert other than the testing analyst. Moreover, it is the only policy capable of presenting defense counsel with the ability to catch discrepancies in the testing process such as those committed by Mr. Deaver in Greg Taylor’s case. Viewing Bullcoming, Brennan, and Brewington through this lens, the outcomes of the cases are illuminated quite clearly.

III. THE OUTCOME IN BULLCOMING

In its discussion of Melendez-Diaz, the Supreme Court of New Mexico concluded that Bullcoming's toxicology report was testimonial\textsuperscript{177} and then it wrote the following:

\textit{[T]he Confrontation Clause permits the admission of testimonial statements so long as the declarant is present at trial to defend or explain it. Although the analyst who prepared Exhibit 1 was not present at trial, the evidence revealed that he simply transcribed the results generated by the gas chromatograph machine. He was not required to interpret the results, exercise independent judgment, or employ any particular methodology in transcribing the results from the gas chromatograph machine to the laboratory report. Thus, the analyst who prepared Exhibit 1 was a mere scrivener, and Defendant's true accuser was the gas chromatograph machine which detected the presence of alcohol in Defendant's blood, assessed Defendant's BAC, and generated a computer print-out listing its results. Under these circumstances, we conclude that the live, in-court testimony of a separate qualified analyst is sufficient to fulfill a defendant's right to confrontation.} \textsuperscript{178}

It is likely that the toxicology report in Bullcoming will be viewed as testimonial.\textsuperscript{179} As Justice Thomas explained in White,\textsuperscript{180} approved in Crawford,\textsuperscript{181} and concurred separately in Melendez-Diaz,\textsuperscript{182} "formalized testimonial materials" include statements "that are 'sufficiently formal to resemble the Marian examinations' because they were Mirandized or custodial or 'accompanied by [a] similar indicia of formality."\textsuperscript{183} The procedure of submitting Bullcoming's blood for a toxicology test in anticipation of prosecution will probably place the document within the sort of materials under Crawford and Melendez-Diaz that are testimonial in nature, especially given its purpose to prove the element of a crime. Moreover, in light of the discussion above, exhibit 1 is testimonial due to the actions of the testing analyst.

\textsuperscript{177.} Bullcoming v. New Mexico, 226 P.3d 1, 8 (N.M. 2010), cert. granted, No. 09-10876, 2010 WL 2008002, at *1 (U.S. Sept. 28, 2010).

\textsuperscript{178.} Id. at *8-9 (citations and quotations omitted).

\textsuperscript{179.} See Grant v. Commonwealth, 682 S.E.2d 84 (Va. Ct. App. 2009) (holding certificate of blood alcohol content to be testimonial).


\textsuperscript{182.} Melendez-Diaz v. Massachusetts, 129 S. Ct. 2527, 2543 (2009).

\textsuperscript{183.} Id. (quoting Giles v. California, 128 S. Ct. 2678 (2008)); see also Crawford, 541 U.S. at 36 (holding that a recorded unsworn statement to police was testimonial).
Thus, the first issue the Supreme Court should address in Bullcoming is whether exhibit 1 is testimonial hearsay. In the Bullcoming opinion, no obvious mention is made of hearsay in the Confrontation Clause analysis, even though the court's conclusion that the analyst was a "mere scrivener" alludes to such a conclusion. Instead, the only mention of hearsay occurs after the above-quoted passage, where the court concluded that the toxicology report was admissible under Rule 11-703 of the New Mexico Rules of Evidence, because the report "contain[ed] facts or data of the type reasonably relied upon by experts in the field and its probative value substantially outweighs its prejudicial effect." The Court's assumption that the toxicology report is hearsay, however, is likely correct, both under the reasoning of Part II of this Article and under Melendez-Diaz.

The protection of the Confrontation Clause, under Crawford, is implicated only when hearsay is admitted into evidence. In the wake of Melendez-Diaz, several jurisdictions have adopted the position that a

184. See Bullcoming v. New Mexico, 226 P.3d 1, 9–10 (N.M. 2010), cert. granted, No. 09-10876, 2010 WL 2008002, at *1 (U.S. Sept. 28, 2010). It should be noted nevertheless that Washington and Moon both held that the machine printouts were not hearsay. These cases are cited in support of the court's conclusion that the machine was the real "accuser." Id. at 9. Washington further held that the machine did not produce a "statement." United States v. Washington, 498 F.3d 225, 229–30 (4th Cir. 2007), cert. denied, 129 S. Ct. 2856 (2009).


186. Despite the Court's citation of Washington and Moon, it does not appear that the Court held that the machine printout was non-hearsay. Had the Court reached such a conclusion, the toxicology report would presumably have been admissible under Rules 11-801 and 11-802 of the New Mexico Rules of Evidence, rather than Rule 11-703. See N.M. R. Evid. 11-801, -802, -703. The Court stated that "had Razatos not been present to testify, Exhibit 1 would not have been admissible because Defendant would not have had the opportunity to meaningfully cross-examine a qualified witness regarding the substance of the exhibit." Bullcoming, 226 P.3d at 10. This statement appears to indicate that despite the use of Washington and Moon as support, the Court was not adopting the same rationale as provided in those cases, and therefore it considered the report testimonial hearsay.

187. See Davis v. Washington, 547 U.S. 821 (2006) ("It is the testimonial character of the statement that separates it from other hearsay that, while subject to traditional limitations upon hearsay evidence, is not subject to the Confrontation Clause."); Crawford, 541 U.S. at 59 ("The [Confrontation] Clause does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted."); California v. Green, 399 U.S. 149, 157–58, (1970); Mattox v. United States, 156 U.S. 237, 242–44 (1895); see also State v. Aubid, 591 N.W.2d 472, 478 (Minn. 1999) ("When hearsay is admitted in a criminal trial, it implicates the Sixth Amendment because the accused does not have an opportunity to cross-examine the person who made the statement.").
machine generating a printed result of a toxicology test is not a "declarant"; and as a result, the printout itself has not been classified as a "statement" for hearsay purposes. This argument that the machine was the "witness" offering the "statement" was raised in Melendez-Diaz. Interestingly, however, it was not mentioned by either the majority or the dissent in the opinion. This omission is likely due to the fact that the "certificates of analysis" were actually signed by the analysts conducting the tests and concluding that the seized substances were cocaine.

The distinction from these holdings made in Bulcning is the nature of exhibit 1. In Washington, the Fourth Circuit Court of Appeals based part of its conclusion on the fact that the machine created a printout of raw data which was then interpreted at trial by the testifying expert. As a result, the Washington court held that the Confrontation Clause was not violated by the raw data being used by the expert to give testimony concerning the occurrence of PCP and alcohol in the defendant's blood. In Bulcning, the court described the toxicology report at issue as follows:

The report is a two-page document and was admitted into evidence as Exhibit 1. It is attached to this opinion for reference. The first page is composed of Part A and Part B. Part A contains chain of custody information, specifically identifying the arresting officer, the donor, the person who drew the donor's blood, and the date, time, and place of the blood draw. Part A also specifies the information sought by the officer and the location where the results are to be sent.

Part B has four parts that primarily provide chain of custody information. The receiving employee signs the first section of Part B, certifying the type of specimen that was received, how it was received, whether the seal was intact, and that the employee complied with the

189. Transcript at Oral Argument at 50, Melendez-Diaz, supra note 119.
191. Id. at 2531.
192. Washington, 498 F.3d at 230 ("[T]here would be no value in cross-examining the lab technicians on their out-of-court statements about whether the blood sample tested positive for PCP and alcohol because they made no such statements. They would only be able to refer to the machine's printouts . . . ").
193. Id. at 232.
The analyst signs the second section of Part B, certifying that the seal of the sample was received intact and was broken in the laboratory, that the analyst followed the procedures in paragraph number three on the second page of Exhibit 1, and that the test results were recorded by the analyst. A reviewer signs the third section of Part B, certifying that the analyst and the analyst’s supervisor are qualified to conduct the analysis and that the established procedures had been followed. Finally, a laboratory employee signs the fourth section of Part B, certifying that a legible copy of the report had been mailed to the donor. Finally, the second page of Exhibit 1 identifies the method used for testing the blood sample and details the procedures that must be followed by laboratory personnel.

The simple transcription by the analyst from the machine printout to Exhibit 1 transformed Exhibit 1 into hearsay. Prior to this act by the testing analyst, the document addressed only chain of custody concerns. Once the document contained a statement as to how much alcohol was in Bullcoming’s blood, the document became testimonial hearsay when it appeared at trial as evidence of Bullcoming’s guilt. Furthermore, even if Exhibit 1 had only contained a printout of the raw data from the gas chromatograph, the document would have constituted testimonial hearsay that the raw data in the document pertained to the sample of blood actually belonging to Bullcoming.

This conclusion leads to the second issue that should be addressed by the Court: whether admission of Exhibit 1 was prejudicial under the Confrontation Clause, because Bullcoming was allowed an opportunity to cross-examine an expert regarding the document. If the Court follows Melendez-Diaz, I believe it will conclude that Bullcoming’s cross-examination of the expert was not sufficient. In summarizing the expert’s testimony at trial, the Supreme Court of New Mexico wrote the following:


195. Even though the analyst transcribed the machine’s result to another piece of paper, it appears that the gas chromatograph in Bullcoming created a printout similar to those addressed in Washington and Moon. Id. at 6. It is not clear from the opinion whether the machine printout was admitted into evidence or mailed to Bullcoming following the test.

196. The Court of Appeals in Virginia has reached a similar conclusion. See Grant v. Commonwealth, 682 S.E.2d 84, 92 (Va. App. 2009). The Grant court observed that Virginia’s statutes require that a toxicology analyst must “attest” as to the contents of the certificate showing a defendant’s blood alcohol content. Id. at 88. As a result, the court held that the lab analyst was a witness under the Sixth Amendment. Id. at 89.
[The expert, Gerasimos Razatos,] testified that the instrument used to analyze Defendant's blood was a gas chromatograph machine. The detectors within the gas chromatograph machine detect the compounds and the computer prints out the results. When Razatos was asked by the prosecutor whether "any human being could look and write and just record the result," he answered, "Correct." On cross-examination he also testified that this particular machine prints out the result and then it is transcribed to Exhibit 1. Both the nurse who drew the blood and the officer who observed the blood draw and who also prepared and sent the blood kit to SLD, testified at trial and were available for cross-examination.197

As evidenced by the above summary, Razatos merely acted as a subterfuge for the underlying report that was prepared by the testing analyst. Bullcoming's cross-examination did not allow him the ability to confront the witness against him – the person accusing him of having an illegal amount of alcohol in his blood. Bullcoming had no ability to examine the accuracy of the transcription from the machine's printout to Exhibit 1, a critical moment in the case given that the testing analyst was not available at trial due to the fact that the testing analyst "was very recently put on unpaid leave."198 Bullcoming had no opportunity to ask the testing analyst about his competence or training or honesty. Razatos had no empirical knowledge as to whether the gas chromatograph, a machine requiring training and experience to use, was operated properly or in accordance with industry standards. In short, the examination of Razatos was simply not confrontation, because Razatos offered nothing independent of the information in Exhibit 1 to confront. Though Razatos offered testimony about what procedures normally occur,199 he had no actual knowledge of the procedures actually performed in Bullcoming's case.

The primal force behind Melendez-Diaz is the simple language of the Sixth Amendment: "In all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him."200 In this case, as in Melendez-Diaz, Bullcoming was not given the opportunity to confront the witness against him – the person offering data or results from the gas chromatograph finding too much alcohol in his blood. As discussed in Part II,201 only the testing analyst could have

198. Id.
199. Id. at 5–6.
200. U.S. CONST. amend. VI (emphasis added).
201. See supra Part II.
confirmed that the gas chromatograph produced this conclusion as a result of a properly conducted test on Bullcoming's blood.

IV. APPLYING MELENDEZ-DIAZ TO EXPERT TESTIMONY IN NORTH CAROLINA

A. Overview

Following Melendez-Diaz, the first case in North Carolina to address whether an expert could testify by using a report prepared by a non-testifying analyst was State v. Galindo in October 2009. In Galindo, the North Carolina Court of Appeals held that "expert testimony based 'solely' on the absent analyst's lab report . . . is indistinguishable from the opinion testimony held to be unconstitutional" in State v. Locklear. In the opinion, the Galindo court did not quote the testimony held to be unconstitutional under the Confrontation Clause; however, the trial transcript provides the following testimony from the testifying expert, Michael Aldridge:

Q. Did you review the work of Ms. Johnson in this case?
A. I did.

Q. When did you review it?
A. I reviewed it before I came to court today.

Q. What did that review entail?
MR. WILLIAMS: Objection.
THE COURT: Overruled.
THE WITNESS: Worksheets that she made at the time she did the analysis, outlined the tests that she conducted. Also reviewed chromatograms and charts that were produced by the equipment she used to perform the analysis.

Q. Is it your opinion that the analysis under Control Number 29785 was consistent with your standard operating procedure?
A. Yes.

203. Id. at 788.
Q. Do you have an opinion as to the identity of the substance on Control Number 29785?
A. I do.

Q. What is that opinion?
A. My opinion, based on the work done by Mrs. Johnson, is that the substance that she analyzed are outlined in the report that she gave. They are cocaine of various weights.205

During voir dire, Mr. Aldridge explained in more detail what the review he conducted involved:

Q. What did your review entail?
A. Looking at her worksheet, examining the types of tests that she conducted, looking at the recording of the results that each test gave, AND determining whether I would have reached the same conclusions that she DID, based on the test results for court.

Q. Is it your opinion that the analysis under Control Number 29785 is consistent with the standard operating procedure?
A. It is my opinion that it is.

Q. Is it your opinion that the analysis done is sufficient to identify cocaine for the items on Control Number 29785?
A. It is consistent and it is correct.

Q. Were the results consistent with the presence of cocaine?
A. Yes.

Q. Do you have an opinion as to the identity of the substance analyzed under Control Number 29785?
A. I do.

Q. What is that opinion?
A. It's my opinion that multiple items of cocaine were identified.206

In November 2009, State v. Mobley 207 was decided. In Mobley, the North Carolina Court of Appeals held that expert testimony provided by

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206. Id. at 262–63.
a DNA analyst at trial did not violate the Confrontation Clause. 208 The testifying expert, Abigail Moeykens, conducted a review of another analyst's work. 209 In conducting her “technical review,” Ms. Moeykens provided the following testimony:

Q. Did you make a technical review of [John Donahue's comparison between the profile in the buccal swab related to Maurice Mobley and the profile obtained from the vaginal swab]?

A. Yes; I looked both at the original data from Kelly Smith [who performed the vaginal swab] and also the data from the buccal swab run by John Donahue.

Q. Based upon your technical review what did you find?

A. The profile obtained from the sperm cell fraction of the vaginal swab from [the victim] matches the profile obtained from the buccal swab of Maurice Mobley. 210

Based on this testimony, the Mobley court stated that Ms. Moeykens “testified not just to the results of other experts' tests, but to her own technical review of these tests, her own expert opinion of the accuracy of the non-testifying experts' tests, and her own expert opinion based on a comparison of the original data.” 211

In March 2010, the North Carolina Court of Appeals returned to this issue in the controlled substance context in State v. Hough. 212 In Hough, the court held that expert testimony based on a non-testifying analyst's report did not violate the Confrontation Clause under Melendez-Diaz, as long as the expert offered their “own” expert opinion. 213 The court observed that the testifying analyst, Kamika Alloway, conducted a “peer review” of the testing analyst's report, 214 and in holding that Ms. Alloway's testimony was admissible, the court stated:

Alloway then described the specific tests that were run in this case, which resulted in a conclusion that the two substances recovered from the crime scene were marijuana and cocaine. She also testified as to the weights of the drugs seized and explained that the drugs weighed less in the laboratory than at the crime scene because the substances were weighed without packaging in the lab. Alloway was asked: “Based on

208. Mobley, 684 S.E.2d at 512.
209. Id. at 511.
210. Id.
211. Id.
213. Id. at 290–91.
214. Id.
your experience and review of these test results is it your opinion that the results are correct as published in those two reports?" Alloway responded: "Yes." Alloway did not merely present the test results, or read verbatim from Aldridge's report; rather, she provided her own analysis and expert opinion regarding the accuracy of the reports based on her peer review. 215

Even though there was no apparent distinction between the court's description of Ms. Alloway's testimony and Mr. Aldridge's testimony, the court held that Galindo was distinguishable.

The court addressed "peer reviews" again in May 2010 in Brennan. 216 Like the expert testifying in Washington, the testifying expert, Agent Misty Icard, claimed to reach her own conclusion 217 that the seized substances were controlled substances through her "peer review":

Q. You didn't watch Ms. Knott do any of these tests?
A. No, that's not what reviewing a case is about. Reviewing a case is to take their data, their notes and to look at it and say yes I agree with their conclusion.

....

Q. Did you ever have a chance before today to examine this material that you've got in front of you? I'm talking about the substance itself?
A. No.

Q. So this is the first time you've seen this?
A. Yes.

Q. And you're testifying today that your opinion is that it's a Schedule 2 Controlled Substance?
A. Yes, from reviewing her data I can say that that is a controlled substance-Schedule 2 Controlled Substance, cocaine base.

Q. But you're relying on someone else's data to make that opinion, aren't you?
A. I'm relying on data that was generated from this case.

Q. But you didn't generate that data yourself, did you?
A. No.

215. Id. at 290–91.
217. Id. at 429.
Q. And you're relying on someone else's data to form that opinion, correct?

A. Correct.\textsuperscript{218}

The Brennan court did not cite or distinguish Hough.\textsuperscript{219} Instead, after reviewing Agent Icard's testimony, the Brennan court simply stated, "It is obvious from the above-excerpted testimony that Agent Icard was merely reporting the results of other experts."\textsuperscript{220}

The decision in Brewington was published two weeks after Brennan. In this decision, the court quoted the testimony of Special Agent Schell who offered a similar "independent opinion" based on her "peer review" of the case file in the SBI's database:

Q. Now have you reviewed the testing procedures that you've described and the results of the examinations of the test yourself?

A. I have.

Q. And have you also reviewed Agent Gregory's conclusion?

A. I have.

Q. Have you formed an opinion as to the item that was submitted inside the plastic bag that's been marked as State's Exhibit 1B?

A. I have.

Q. And what is your opinion based on?

A. Based upon all the data that she [Agent Gregory] obtained from the analysis of that particular item, State's Exhibit 1B, I would have come to the same conclusion that she did.

Q. And what is your opinion as to the identity of the substance that was submitted as State's Exhibit 1B?

MR. GURLEY: Just objection for the record, Judge.

THE COURT: I'll overrule the objection. You can answer the question.

A. State's Exhibit 1B is the Schedule II controlled substance cocaine base. It had a weight of 0.1 gram.\textsuperscript{221}

\begin{footnotes}
\item[218] Id. at 430–31.
\item[219] Hough, 690 S.E.2d 285.
\item[220] Brennan, 692 S.E.2d at 431.
\item[221] State v. Brewington, 693 S.E.2d 182, 185 (N.C. App. 2010), temporary stay allowed, 698 S.E.2d 73 (N.C. Jun. 4, 2010).
\end{footnotes}
In concluding that Special Agent Schell's testimony did not satisfy Brewington's right to confrontation under Melendez-Diaz, the court followed the lead of the Brennan court and added:

It is clear from the testimony of Special Agent Schell that she had no part in conducting any testing of the substance, nor did she conduct any independent analysis of the substance. She merely reviewed the reported findings of Agent Gregory, and testified that if Agent Gregory followed procedures, and if Agent Gregory did not make any mistakes, and if Agent Gregory did not deliberately falsify or alter the findings, then Special Agent Schell "would have come to the same conclusion that she did." As the Supreme Court clearly established in Melendez-Diaz, it is precisely these "ifs" that need to be explored upon cross-examination to test the reliability of the evidence. Special Agent Schell could not have answered these questions because she conducted no independent analysis. She testified exclusively as to the tests that Agent Gregory claimed to have performed, and used testimonial documents not admissible under Melendez-Diaz. Her conclusion that she agreed with Agent Gregory's analysis assumes that Agent Gregory conducted the tests in the same manner that Special Agent Schell would have; however, the record shows that Special Agent Schell had no such actual knowledge of Agent Gregory's actions during the testing process.\textsuperscript{222}

The Brewington court distinguished Hough, writing that the testimony of Special Agent Schell tended to bring the case within the holding of Brennan instead of Hough.\textsuperscript{223} The Brewington Court did not explain exactly how Special Agent Schell's expert opinion resembled Agent Icard's inadmissible testimony, rather than Ms. Alloway's admissible testimony. The court in Brewington instead simply wrote:

We believe that the Hough Court correctly stated that not "every 'peer review' will suffice to establish that the testifying expert is testifying to his or her expert opinion[.]" Though the Hough Court did not further explain under what circumstances a "peer review" would skirt the edges of a constitutional violation and thus avoid the mandate of Melendez-Diaz, we believe that this case presents such a situation.\textsuperscript{224}

B. Analysis

The "peer reviews" at issue in each case are identical. As explained in Part II, the "peer review" process is part of the protocol at the SBI and CMPD forensic laboratories, and most files at each lab are reviewed by

\textsuperscript{222} Id. at 190.
\textsuperscript{223} Id.
\textsuperscript{224} Id.
another analyst to see whether the reviewer would have come to the same conclusion as the testing analyst based on observations from the underlying data and reports. The divergence in the holdings, therefore, arises not from the "peer review" procedure itself, but from differing opinions among the panels as to what must be the subject of confrontation. The court in Hough considered the testifying expert's presence to be sufficient, because the defendant had the ability to examine the expert about the routine procedures performed and the expert's opinion as to the nature and quantity of the seized substance based on the report and test results of the testing analyst. By contrast, the courts in Brennan and Brewington believed that the experts' testimonies were insufficient to satisfy the Confrontation Clause because the panels believed that the testifying experts could do no more than make assumptions regarding what actually happened as the seized substances were tested. As a result, the defendants in those cases were not given the opportunity to confront the witness against them, given that the testifying experts had no actual knowledge regarding what happened in the testing process.

Clearly the result reached in Brennan and Brewington is the result advocated by the reasoning in this Article. The courts in these cases rightly concluded that the Confrontation Clause is not satisfied by allowing a defendant to confront someone making assumptions about an element of a crime – whether tests on a seized substance demonstrate that the substance is banned by law. Though not explicit in the opinions, the courts were considering situations such as the one presented in Taylor, because the testimony quoted in each case shows that the courts were skeptical that the reviewing analyst could know from a cold record whether a test was tainted by fraud or incompetence.

225. Trial Transcript Vol. II at 91–92, Brewington, 693 S.E.2d 182 (No. COA-09-956); see also Trial Transcript Vol. II, Hough, supra note 122, at 124.

226. See Hough, 690 S.E.2d at 290–92 ("In sum, we hold that defendant's Sixth Amendment right to confront the witnesses against him was not violated since Alloway's testimony was based on her own expert opinion, even though she did not conduct the original testing of the substances."); see also State v. Mobley, 684 S.E.2d 508, 512 (N.C. 2009) ("By contrast, in this case, the underlying report, which would be testimonial on its own, is used as a basis for the opinion of an expert who independently reviewed and confirmed the results, and is therefore not offered for the proof of the matter asserted under North Carolina case law. Therefore, we hold Ms. Moeykens's testimony does not violate the Confrontation Clause even in light of Melendez-Diaz.").

227. See State v. Brennan, 692 S.E.2d 427, 431 (N.C. 2010), temporary stay allowed, 698 S.E.2d 72 (N.C. May 21, 2010); see also Brewington, 693 S.E.2d at 190.

228. See supra Part II.
Implicit in this type of reasoning is the conclusion reached in Part II of this article: Data produced by a machine and offered by a testing analyst as proof that a test was performed is testimonial hearsay. Because the courts in Brennan and Brewington recognized this principle and correctly held that the testimony of the expert at trial was inadmissible under Melendez-Diaz, the dispositions in both cases should be upheld by the North Carolina Supreme Court.

V. CONCLUSION

The immediate fallout from Melendez-Diaz burdened prosecutors across the country with scheduling conflicts. With analysts moving to different states, going on maternity leave, becoming sick, or going to court to testify, the obligation to schedule the testing analyst became instantly overwhelming. These conflicts naturally led to increased costs in prosecuting drug-related cases in many states. State legislators and prosecutors scrambled in response to find logistical solutions to the seemingly never-ending requests of defendants to confront the testing analyst – including notice and demand statutes and video-conferencing.

The United States Supreme Court showed little emotion over these practicalities in Melendez-Diaz, and rightly so. Constitutional guarantees rarely, if ever, result in convenience when implemented. If police officers could search everyone without cause, a lot more crime could be...

229. Id.
230. See Brennan, 692 S.E.2d at 431; Brewington, 693 S.E.2d at 190. Neither Galindo nor Hough were appealed by the defendants to the North Carolina Supreme Court, so they are not available for review. It follows based on this conclusion that the holdings in these cases should be disapproved. It is admitted that the rationale offered in this Article also calls into question the holding of Mobley given that the testifying expert based her conclusion on a “peer review” as well. Since that case involved DNA, instead of controlled substances, however, no opinion is offered as to whether this holding should be upheld.
231. See Brief of the States of Indiana et. al. as Amici Curiae Supporting Respondent at 2–5, 24, Briscoe v. Virginia, 130 S. Ct. 1316 (2010) (No. 07-11191). Between July 2008 and July 2009, the State of Massachusetts claimed that the average amount of time needed to receive the results of a forensic drug test from the laboratory doubled from 83 days to 169 days due to trial scheduling. Id. at 7–8.
232. According to their brief, amici claimed to have collectively spent $4.5 billion prosecuting drug-related cases in 2005 alone. Id. at 6.
discovered. If defendants were not guaranteed counsel, prosecutions around the country could achieve more convictions. If juries were no longer required, the State could save money and more people could watch TV at home.

Following Melendez-Diaz, few commentators have had the audacity to outright state that the precedent is too hard to put into practice. Indeed, as the above hypotheticals indicate, such a claim would be silly. Instead, this attitude has taken other forms. “The machines provide the statement, so there is no witness” – as if the sample placed itself into the machine without the assistance of a highly skilled and trained individual running the equipment. “The testifying expert reviewed the data and results, and he or she came to their own conclusion” – as if the testifying expert was not relying on the assertions made by the testing analyst to reach their opinion. “The defendant can call the testing analyst by subpoena if he really wants [to] cross-examine him or her” – as if it is the defendant’s burden to call someone whose role is to establish an element of the crime alleged.

These claims are merely excuses and justifications to maintain the status quo, and they should be treated as such. Despite all claims to the contrary, the issue presented in Bullcoming, Brennan, and Brewington is just as “straightforward” as the issue presented in Melendez-Diaz. While this application of Crawford is not easy, it is nevertheless crucial to the integrity of our judicial system as the advancement of technology continues to improve our ability to prosecute crimes. To safeguard against the types of abuse apparent in Mr. Deaver’s case, the testing analyst must be subject to confrontation before allowing the admission of test results into evidence either directly or through a testifying expert. Even if the United States Supreme Court holds that the expert testimony in Bullcoming was admissible under the Sixth Amendment, North Carolina should provide additional constitutional protection by affirming the dispositions in Brennan and Brewington.

235. See Bullcoming v. New Mexico, 226 P.3d 1, 6 (N.M. 2010), cert. granted, No. 09-10876, 2010 U.S. LEXIS 5754 (U.S. Sept. 28, 2010); Brennan, 692 S.E.2d at 429–30; see also Brewington, 693 S.E.2d at 186.


237. See Brennan, 692 S.E.2d at 431; see also Brewington, 693 S.E.2d at 190.