No. 22-899

In The Supreme Court of the United States

JASON SMITH,

Petitioner,

v.

STATE OF ARIZONA,

Respondent.

On Writ Of Certiorari To The Supreme Court Of Arizona

BRIEF OF THE NATIONAL COLLEGE FOR DUI DEFENSE AS AMICUS CURIAE IN SUPPORT OF PETITIONER

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TABLE OF CONTENTS

TABLE OF CONTENTS – Continued

TABLE OF AUTHORITIES

TABLE OF AUTHORITIES – Continued

Page

TABLE OF AUTHORITIES – Continued

Page

TABLE OF AUTHORITIES – Continued

TABLE OF AUTHORITIES – Continued

TABLE OF AUTHORITIES – Continued

INTERESTS OF AMICUS CURIAE[1]

Amicus curiae is the National College for DUI Defense ("NCDD"). NCDD is a nonprofit professional organization of lawyers, with over 1,500 members, focusing on issues related to the defense of persons charged with driving under the influence. Through its educational programs, its website, and its email list, the College trains lawyers to represent persons accused of impaired driving. NCDD's members have extensive experience litigating issues regarding breath, blood, and urine tests for alcohol and other drugs. NCDD has appeared as amicus curiae in several impaired driving cases before the Supreme Court of the United States.

SUMMARY OF ARGUMENT

In this brief amicus raises three main arguments:

First, the elimination of the right to confront the evidentiary analyst will create a cadre of professional proxy analysts, and establish a safe harbor for fraudulent, incompetent, or biased analysts, while isolating and removing the "whistleblower" analyst.

Second, elimination of the right to confront the evidentiary analyst will perpetuate poor scientific

[1] No counsel for a party authored this brief in whole or in part, and no party or counsel for a party made a monetary contribution intended to fund its preparation or submission. No person other than Amicus and their counsel made a monetary contribution to the preparation or submission of this brief.

practices by permitting pre- and post-analytical errors to remain unchallenged and therefore unexposed.

Third, eliminating the right to confront the evidentiary analyst does not conform to the prevailing notions of fundamental fairness and due process guaranteed by the Constitution, and is an unworkable situation.

For these reasons, this Court should reverse the decision of the Arizona Court of Appeals.

ARGUMENT

Over 1.5 million criminal cases per year involve forensic science.[2] These cases are commonly referred to as DUI, DWI or impaired driving cases. Prosecution of these cases almost universally involves chemical testing of bodily substances such as blood, urine, or breath. The tests performed by the police crime lab analysts range from use of breath testing devices to gas chromatographs to mass spectrometers. The devices themselves may be operated by persons ranging from police officers to people with PhD's.

Blood testing for the presence of alcohol and other drugs is a prevalent means of generating evidence in impaired driving cases. Often, it is the forensic test alone that is the difference between guilt and

[2] National Conference of State Legislators, Summary: Drunk Driving, updated October 11, 2023. *See* https://www.ncsl.org/transportation/drunken-driving (last accessed November 6, 2023).

innocence. (Per Se statutes in every state prohibit driving with a specified amount of alcohol or the mere presence of drugs in one's blood).

Gas chromatography is a widely used scientific method of quantitatively analyzing the contents of a mixture.[3] There are multiple steps in the testing process, with the potential for error throughout. Even if the sample were collected, packaged, stored, and transported properly, the potential for error also exists at the laboratory. This is particularly true when one considers the complexity of a blood alcohol test using a gas chromatograph. While the machine itself does much of the work, the chemist who conducts the test (hereinafter the "evidentiary analyst") plays an indispensable role in ensuring the result is accurate and reliable.

In the case at hand, the Court must decide whether an analyst uninvolved in the laboratory testing process (hereinafter the "proxy analyst") has adequate information to form an independent opinion regarding laboratory test results, when the only basis for the opinion is a review of the paperwork either prepared by the evidentiary analyst or generated by the laboratory's software system. Not only should this Court recognize that the use of a proxy analyst for testimony makes the result produced in Court less reliable, but it also represents a path towards falsified, erroneous, and biased testimony becoming the norm.

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[3] *See generally* H. McNair & J. Miller, Basic Gas Chromatography (2d ed. 2009).

I. Eliminating the Right of Confrontation of the Evidentiary Analyst Creates a Safe Harbor for Fraudulent and Incompetent Scientists to Produce Erroneous Results With Impunity and Estranges Honest Analysts who Would Otherwise Expose Laboratory Malpractices.

As set forth below, the results printed out of a machine, coupled with the notes taken by the original analyst, ordinarily do not reveal the errors that commonly affect the accuracy of test results, and which can occur in every step of the procedure, nor do these documents reveal fabrications, and therefore cannot be used to form a truly reliable "independent" opinion. Additionally, the paperwork does not reveal the lack of sufficient training, failure to conform to rigorous scientific practices, or bias present in testing practices which can only be presented through the confrontation of the evidentiary analyst.

a. Several lab scandals involving the fabrication of test results ('drylabbing') have occurred in accredited crime labs across the country, including thousands of bogus tests that went undiscovered for years because, on paper, they appeared real and valid.

In 2010, the last time this Court visited this issue, the Innocence Network provided an overview of incidents in which an analyst had produced reportable results without performing the test – a practice known

as "drylabbing" – and highlighted documented cases in California, Texas and West Virginia. ***Bullcoming v. New Mexico***, 564 U.S. 647, 131 S. Ct. 2705, 180 L. Ed. 2d 610 (2011). In the years since, the documented instances of analyst fabrication have risen to unimaginable heights.

In June 2011, a lab supervisor in Boston, Massachusetts discovered that approximately ninety samples had been removed from an evidence locker without authorization, in violation of the laboratory's protocol. ***Com. v. Scott***, 467 Mass. 336, 339-40, 5 N.E.3d 530, 536 (2014). Laboratory supervisors concluded that analyst Annie Dookhan was responsible. ***Id.*** Ultimately, Dookhan admitted that she had been drylabbing and changing test results by converting "negatives to positives" for two to three years. 467 Mass. at 341. The lab "estimated [Dookhan] to have been involved in testing samples in over 40,000 cases." 467 Mass. at 340. On November 22, 2013 Dookhan pleaded guilty to twenty-seven criminal charges, and was sentenced to a term of three to five years in prison. ***Jones v. Han***, 993 F. Supp. 2d 57, 62 (D. Mass. 2014).[4]

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[4] While it was initially thought that Dookhan was a lone bad actor in the lab, during the course of the ensuing investigation Former Massachusetts State Inspector General Glenn Cunhaa "referred at least three more Hinton Lab chemists or supervisors . . . for alleged misconduct – including falsely labeling substances illegal drugs when they weren't, spiking samples with illegal drugs or lying to investigators." *See Annie Dookhan took the blame for the state drug lab scandal, but she wasn't the 'sole bad actor,' new documents show*, Boston Globe, February 13, 2023 (available at https://www.bostonglobe.com/2023/02/13/metro/

> The investigation also revealed that Dookhan falsified another chemist's initials on reports that were intended to verify the proper functioning of the machine used to analyze the chemical composition of certain samples (gas chromatography-mass spectrometer machine or "GC–MS"), and she falsified the substance of reports intended to verify that the GC–MS machine was functioning properly prior to her running samples through it.

Com. v. Scott, ***supra***, 467 Mass. at 339-40, 5 N.E.3d at 536.

On January 17, 2013, an analyst discovered missing samples in two cases. She determined the samples had been tested by an analyst named Sonja Farak, later revealed to have been ingesting illegal substances at the same time she was working for the crime lab. (*Id.*, 2017 WL 4124972, at *11). Ultimately, Farak had tested nearly 10,000 drug samples.[5] During an investigation following Farak's conviction, it was discovered that:

> [C]hemists were not required to run "blanks" between each GC/MS test in order to clean the testing equipment. Instead, each chemist determined when to run a blank. Chemists usually ran blanks after every 5 to 10 tests,

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annie-dookhan-took-blame-state-drug-lab-scandal-she-wasnt-sole-bad-actor-new-documents-show/).

[5] *See* "*More cases connected to Sonja Farak's drug lab work expected to be dropped*," Boston Globe, October 25, 2020, available at https://www.bostonglobe.com/2020/10/25/metro/more-cases-connected-sonja-faraks-drug-lab-work-expected-be-dropped/.

> although at times, they performed over a dozen tests before running blanks. The failure to decontaminate the GC/MS after every test would frequently result in "carry over" or residue remaining from the previous tests, which would have to be distinguished by the individual chemists. (CR 29 fn.27.)

Commonwealth v. Cotto, No. 2007770, 2017 WL 4124972, at *3 (Mass. Super. June 26, 2017).

Dookhan's fraud went undetected in part because no one could tell from the notes and test results that she produced that she wasn't actually testing samples. Nor could anyone tell that the GCMS hadn't been verified to be working properly when testing was performed, because, on its face, the paperwork indicated all required procedures had been followed. If the use of a proxy analyst is permitted by this Court, one would have little difficulty imagining proxy testimony as an "independent opinion" that matched Dookhan's printed conclusions, despite no testing ever having been performed. Nor would a proxy analyst have difficulty reaching such a conclusion regarding work performed by lab supervisors where they falsely reported test results or spiked samples with drugs.

Similarly, Farak's malfeasance – including consuming the samples she was paid to examine, altering records regarding the weight of samples she received, and working while hallucinating – also went on for years, again because the printed records and test results she produced appeared reliable on their face. Any qualms a proxy analyst might have in reaching an

"independent opinion" that agreed with the determinations Farak made would be mollified, because the paperwork never disclosed that the person performing the testing was impaired to the point of experiencing "visual distortions" when making such determinations.

It is folly to assume that the egregious transgressions which inundated the Massachusetts Crime Lab were isolated, nor can it be believed that the days of such serious disobedience are in the distant past. Frankly, lab scandals have continued to persist unabated. In 2017, the Austin, Texas police department had to temporarily shut down its DNA lab due to concerns regarding the methods the lab was using to conduct their analysis.[6] More importantly to the matter at bar, the incompetence in Austin came to light **only** after a DNA analyst provided inconsistent in-court testimony, a critical factor in revealing the scientifically unsound methods used at the lab.[7]

Often, proponents of the professional proxy witness plan will tout the purported infalliability of laboratory records and testing devices. The Illinois Supreme Court noted that devices as 'simple' as breath alcohol machines "are not foolproof, and require not only the correct use to obtain an accurate result, but also a knowledgeable operator to observe the test." ***People v. Keith***, 148 Ill. 2d 32, 44, 591 N.E.2d 449, 455 (1992).

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[6] Austin DNA Lab Closes Due to Concerns from Forensic Science Commission – Innocence Project. Austin police DNA lab closed amid forensics commission's concerns (statesman.com).

[7] https://theappeal.org/austin-texas-unreliable-crime-lab-could-lead-to-another-wrongful-execution/.

And as shown above, mere reliance on paperwork to establish an "independent opinion" is likewise far from foolproof. Consider the Colorado State Crime Lab, which, in 2017, was discovered forging certifications for the breath test machines in use after unqualified "technicians" had "calibrated" them.[8]

b. Proxy witnesses can hide the incompetent and underperforming analyst, and can cloak the human factors and biases present in every test.

Confrontation is designed to weed out not only the fraudulent analyst, but the incompetent one as well. Serious deficiencies have been found in forensic evidence used in criminal trials. One commentator asserts that "[t]he legal community now concedes, with varying degrees of urgency, that our system produces erroneous convictions based on discredited forensics."[9] One study of cases in which exonerating evidence resulted in the overturning of criminal convictions concluded that invalid forensic testimony contributed to the convictions in 60% of the cases.[10] Permitting forensic testimony through the proxy analyst provides not only safe harbor for the incompetent or dilatory analyst, but also prevents systemic errors from being

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[8] Attorneys: Thousands of Colorado DUI convictions could be in doubt amid forgery allegations – The Denver Post.

[9] *See*, *e.g.*, Metzger, Cheating the Constitution, 59 Vand. L.Rev. 475, 491 (2006).

[10] Garrett & Neufeld, Invalid Forensic Science Testimony and Wrongful Convictions, 95 Va. L.Rev. 1, 14 (2009).

exposed and corrected. Simply put, an evidentiary analyst's lack of proper training or deficiency in judgment is revealed only through cross-examination.

Forensic evidence cannot truthfully adorn the "neutral scientific testing" label it has been given, and is not uniquely immune from the risk of manipulation due to bias. According to a recent study conducted under the auspices of the National Academy of Sciences, "[t]he majority of [laboratories producing forensic evidence] are administered by law enforcement agencies, such as police departments, where the laboratory administrator reports to the head of the agency."[11] And "[b]ecause forensic scientists often are driven in their work by a need to answer a particular question related to the issues of a particular case, they sometimes face pressure to sacrifice appropriate methodology for the sake of expediency." National Academy Report S–17.

There are many ways where unintentional bias can influence an analyst's work.[12] While it may be tempting to believe that any bias that one analyst had due to an affiliation with the crime lab would be shared by all analysts, such supposition ignores the reality of human beings (and is further addressed in subsection (b)). It is particularly of note that the manner in which

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[11] National Research Council of the National Academies, Strengthening Forensic Science in the United States: A Path Forward 6-1 (Prepublication Copy Feb. 2009) (hereinafter National Academy Report).

[12] https://www.researchgate.net/publication/228311974_Rational_Bias_in_Forensic_Science.

this bias appears includes the interpretation of notes and other measurements at trial.[13] Proxy testimony would belie any cross-examination into whether bias existed at the time of testing; instead, it would simply assume it did not.

The use of a proxy witness permits fraud, incompetency, and bias to remain unchecked in any laboratory (and therefore in any courtroom) in the country. It defies concepts of scientific certainty that juries and communities expect in American courtrooms. But, even more insidiously, the use of a proxy witness can estrange the honest analyst, one whose employers would not permit testimony that doesn't align with the laboratory's opinion.

c. Use of a proxy witness can hide unscientific laboratory policies and procedures.

The proxy analyst in the instant case, Mr. Longoni, works for the Arizona Department of Public Safety (AZDPS). Even if he believed, based on his training and experience, that the paperwork from the evidentiary analyst was not reliable enough on its face for him to reach an independent conclusion, that does not automatically mean that he would be permitted by his employer to testify that the results were not valid.

Not long ago, AZDPS analyst Greg Ohlson, a 13-year crime lab "veteran," who worked in the same lab

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[13] https://law.shu.edu/faculty/fulltime_faculty/risingmi/articles/90callrev1.pdf.

as Mr. Longoni, was suspended for providing truthful testimony that reflected his independent scientific opinion. According to court records, AZDPS had a policy that it would only disclose to defense counsel 20% of the documentation produced by the Gas Chromatograph (GC) testing. Mr. Ohlson testified that review of the reduced disclosure was insufficient to catch all of the errors in a blood test:

> [Ohlson]'s work with the testing process led him to conclude that, in rare cases, review of the entire batch, as opposed to individual samples, could reveal evidence causing an individual result to be suspect. Notably, he believed that review of the batch run is "prudent to rule out possible instrument failure or other malfunction that might impact the overall result."

Ohlson v. Brady-Morris, 444 F. Supp. 3d 1000, 1003 (D. Ariz. 2020), *aff'd but criticized sub nom.* ***Ohlson v. Brady***, 9 F.4th 1156 (9th Cir. 2021).

Ohlson testified it was necessary for 100% of the documentation to be provided to fully evaluate the validity of the test results. ***Id.***, 444 F. Supp. 3d at 1004. This statement was in opposition to the formal position of AZDPS, and Mr. Ohlson was subsequently instructed to, " **. . . modify your testimony in such a way as to bring it into alignment with the position of the laboratory and the other analysts**." ***Id.***, 444 F. Supp. 3d at 1005 (emphasis in original).

Following this admonishment, Ohlson appeared at another hearing, and, while under oath, repeated his opinion that 100% of the documents were necessary to fully evaluate the reliability of the test results. As his "independent opinion" was not the favored opinion of AZDPS, they suspended his employment for providing honest testimony. ***Id.***; ***see also*** USA Today October 10, 2021 "I Refused To Lie Under Oath For The State Of Arizona, And The Courts Aren't On My Side" https://www.usatoday.com/story/opinion/voices/2021/10/10/qualified-immunity-arizona-punished-me/5795957001/ (last accessed November 9, 2023).

A proxy analyst does not have a complete scientific foundation upon which to base an "independent" opinion. Moreover, such opinions cannot be trusted, since they are based solely on paperwork, which demonstrably hides fraud, incompetence, and bias. Further, it keeps honest analysts like Greg Ohlson away from the ears of jurists and jurors, and the eyes of a watchful public.

II. Eliminating the Right of Confrontation of the Evidentiary Analyst Ignores the Reality of the Testing Process and Perpetuates Poor Scientific Practices by Permitting Pre- and Post-Analytical Errors to Remain Unchallenged and Therefore Unexposed.

The process followed when testing a blood sample for a defendant's alcohol concentration illustrates the scope of errors that affect test results.

a. Collection errors are often only known to the original analyst, who inspects the tubes upon receipt at the crime lab prior to testing.

When blood is collected for a blood alcohol concentration (BAC) test, the law enforcement agency typically provides a blood kit containing two gray-topped tubes. These gray-topped tubes are specifically used in BAC testing, because they contain two chemicals used to maintain the stability of the blood: potassium oxalate, an anti-coagulant, to keep the blood liquid and prevent it from clotting; and sodium fluoride, a preservative, to keep the blood in the same condition as when it was drawn.[14]

Individuals collecting the blood sample are instructed to invert the tubes (slowly rotate them 180 degrees) eight to ten times to mix the chemicals into the blood once the tubes have been filled. ***Id.*** A preservative is necessary because after the sample has been drawn, the amount of alcohol in the tube can change. There are some bacteria that grow in blood that will eat the sugar present and produce alcohol through fermentation. If this occurs, the blood sample in the tube will have an artificially higher alcohol concentration than the amount that existed when it was in drawn from the body of the tested subject.

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[14] *See Specimen Requirements*, Containers, University of California Irvine, School of Medicine, Department of Pathology & Laboratory Medicine, available at https://www.pathology.uci.edu/services/specimen-containers.asp.

One common bacteria in this category is *candida albicans*, a yeast organism that affects men and women. If a blood sample contains *candida albicans*, the bacteria will eat the sugars in the blood and produce alcohol. This can lead to an increased alcohol concentration in the blood through fermentation, unless the collection tubes contain a sufficient concentration of preservative, which has been properly mixed through inversion.[15]

A laboratory analyst must review the sample to determine if there is any evidence that fermentation has occurred by checking the blood sample for discoloration or the presence of bubbles[16] in the tube of blood. Fermentation cannot be ruled out by reading printed notes or reviewing printed graphs.

In 2019, these gray-topped tubes were subject to a recall because a lot was distributed without the necessary additives. According to the Texas District County Attorney Association:

> [Becton Dickinson] has issued a recall for gray top Vacutainer® Fluoride Tubes for

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[15] *See generally* Carrie R. Valentine & Jimmie L. Valentine, *Collection and Preservation of Forensic Blood Specimens: The Fermentation Defense*, *in* Understanding DUI Scientific Evidence 235, 235-71 (Aspatore 2013), 2013 WL 6140722, at **1-21; Joyce Chang & S. Elliot Kollman, *The Effect of Temperature on the Formation of Ethanol by Candida Albicans in Blood*, 34 J. Forensic Sci. 105, 105-09 (1989).

[16] "Ethanolic fermentation produces a gas as a product, causing the medium to bubble; hence the origin of the name." Carrie R. Valentine & Jimmie L. Valentine, ***supra***, 2013 WL 6140722, at *4.

> Blood Alcohol Determination (catalog number 367001, lot number 8187663). Per the recall, a small portion of lot 8187663 contains no additive (potassium oxalate and sodium fluoride) within the tube. Samples placed in tubes without the additive may clot. These tubes are used nationwide for the collection of blood alcohol determinations and are widely used in forensic testing for DWI cases. Law enforcement agencies should be notified to stop using tubes from this lot.[17]

In 2022 there was yet another recall of these blood collection tubes where it was reported to the FDA that the tubes contained a substance known as isobutylene, which has recently demonstrated potential interference in determination of methanol by gas chromatography methods. The interference may lead to false positive results in methanol testing.[18]

The evidentiary analyst would be able to review the tubes and compare them to the recall notices, whereas the proxy analyst would not.

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[17] https://www.tdcaa.com/blood-collection-tube-recall/ (last accessed 11-8-23).

[18] US Food & Drug Administration Recall No. Z-0095-2023, posted October 14, 2022 https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfres/res.cfm?id=195971 (last accessed November 8, 2023).

b. Sample preparation errors, or the revelation of dilatory preparation practices, can be discovered but only if the evidentiary analyst testifies.

Forensic laboratories attempt to measure BACs using batch processing, where a full blood run may contain up to 111 different samples. At some point, days, weeks or even months after they have been collected, the analyst will receive up to 40 blood kits, each of which generally contains two gray-topped tubes of blood. ***Ohlson v. Brady-Morris***, ***supra***, 444 F. Supp. 3d at 1003, n. 1.

As the analyst opens each sample, (s)he will take notes regarding the contents, and attempt to accurately transcribe the information documented by the arresting officer, as well as the contents of the kit. Typically, there is no "double check" by a different person to ensure that the evidentiary analyst has entered the correct information for the correct sample. Therefore, only the evidentiary analyst would know if this was properly done.

Then, the analyst prepares a "run sheet," where information is transferred into the computer as to which samples will be placed into which slots on the loading tray – called a "carousel" – which has up to 111 slots to hold samples.[19] Most labs (including AZDPS) make two vials of blood for each person being tested.

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[19] *See*, *e.g.*, Agilent 7697A Headspace Sampler Operation manual, p. 19, available at https://www.agilent.com/cs/library/usermanuals/public/G4556-90015.pdf.

For each arrestee being tested, the analyst opens one tube from the blood kit, and pours a portion of the blood into a plastic cup, or "cuvette." From this cuvette, the analyst must measure out the correct amount of blood into a second vial, called a headspace vial, which is the sample that will actually be tested for a BAC. A small amount of blood, usually 100 microliters (2 drops) or 250 microliters (5 drops)[20] is used.[21]

When preparing the headspace vials, the analyst also must dispense the correct measure of a second liquid, known as an internal standard, into the headspace vial. Typically, the internal standard is n-propanol, an alcohol with a different molecular structure than ethanol, or drinking alcohol. The internal standard is dispensed into every tested sample for control and measurement purposes.

If either the amount of blood or the amount of internal standard dispensed into the headspace vial is

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[20] *See* University of Iowa, Vertebrate Animal Research, Blood Collection Guideline, available at https://animal.research.iowa.edu/iacuc-guidelines-blood-collection#:~:text=As%20a%20general%20rule%2C%2020,i.e.%205%20drops%20%3D%20250%20uL.

[21] *See*, *e.g.*, Forensic Toxicology Laboratory Office of Chief Medical Examiner City of New York procedures, available at https://www.nyc.gov/html/ocme/downloads/pdf/Ftox/SOP/HSGC%20-%20A%20-%20Alcohol.pdf; Austin Police Department Forensic Chemistry Section Blood Alcohol Technical Manual, available at https://www.austintexas.gov/sites/default/files/files/Police/BA_Technical_Manual_02012017.pdf; Maine Center for Disease Control and Prevention PE Blood Alcohol Analysis Procedures, available at https://www.maine.gov/dhhs/mecdc/public-health-systems/health-and-environmental-testing/documents/Blood%20Alcohol%20Analysis%20Procedures.pdf.

incorrect, the alcohol concentration reported will be incorrect. *See* ***Bullcoming v. New Mexico***, 131 S. Ct. 2711, n. 1 (citations omitted). (In "Colorado, a single forensic laboratory produced at least 206 flawed blood-alcohol readings over a three-year span . . . [by using] improper amounts of the internal standard, causing the chromatograph machine systematically to inflate BAC measurements. The analyst's error, a supervisor said, was "fairly complex.").

Whether the headspace vials tested in a particular defendant's case contained the correct amount of a defendant's blood cannot be ascertained by viewing the printed results. Perhaps this explains why the errors in the Colorado laboratory were not discovered until three years after the fact, when two of the analysts failed proficiency tests.[22]

The analyst then attempts to place the headspace vials in the correct order in the carousel, and begins the run. Most often, the analyst comes into the lab the next business day and reviews the printed test results. If (s)he believes that Mr. Smith's samples were in slots 56 and 57, then whatever the test results are for the vials in that location will be wrongfully attributed to him. This is true even if the analyst errs and puts a different defendant's samples in those slots.

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[22] *See* Final Tally on Flawed DUI: 206 errors, 9 Tossed or Reduced, Colorado Springs Gazette, available at https://gazette.com/news/final-tally-on-flawed-dui-206-errors-9-tossed-or-reduced/article_2352adc7-cafa-503c-a35e-ed7b13ac5931.html.

Understandably, this type of human error is common. One Illinois team of reporters examined:

> Illinois State Police lab audits and reports going back to 2003 and found numerous blood and urine testing errors. 'Test samples (were) switched," there were "mislabeled specimens," a "mix up of results," "improper calibrations" of tests, "improper methods (were) used," and "samples wrongly destroyed."[23]

The audits and internal records referenced above in the ABC news report are not of the kind of 'standard' records typically supplied to the defense or for a proxy analyst's in-court testimony.

A proxy analyst would not be able to determine if the right blood samples were put into the right slots in the carousel. He must assume the evidentiary analyst did not make a mistake in loading the carousel. Because there is no way to determine if samples were switched or mislabeled from a printed report, that report cannot serve as the basis for an independent opinion regarding the true test results for a specific defendant.

After the carousel is loaded, the testing begins:

> Stated simply, after calibration, several dozen vials are placed in the carousel of the 2003 Instrument. The vials contain blood samples (each individual has two samples tested at a

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[23] *See* Forensic failures at state crime labs may jeopardize cases, ABC Eyewitness News, available at https://abc7chicago.com/blood-alcohol-tests-unreliable-state-james-kisla/998927/.

> time, with the second sample called a replicate) along with control samples. The vials are sampled, one by one, and analyzed by the 2003 Instrument, a process that takes several hours. The data are then processed (creating graphs showing the chemical properties of the compounds tested for called chromatograms) and results are calculated and printed.

State v. Bernstein, 237 Ariz. 226, 227-28, ¶ 2, 349 P.3d 200, 201-02 (2015).

Since it takes several hours to test a large blood run, crime laboratories rely on the printed results – a stack of over 100 pages on a printer – to determine the contents of each vial tested. However, the printed results do not always reflect what was actually being tested. In one case, a Superior Court Judge found that the Scottsdale Police Department Crime Laboratory used a Headspace Gas Chromatograph that repeatedly printed both incorrect names and incorrect vial numbers for the samples tested – sometimes on every graph printed during the blood run.

Of course, an analyst must rely on the printed name and vial number as the only way of determining that a particular test result came from a specific individual.[24] The Arizona Supreme Court reviewed the mislabeling errors made by the crime lab equipment, and held that suppression wasn't warranted because

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[24] *See* ***State v. Herman***, Maricopa Superior Court Case no. CR2010-126788-001 DT, Under Advisement Ruling, dated August 21, 2013, at pp. 9-10, available at https://www.quickstartaz.com/wp-content/uploads/2018/05/Scottsdale-Crime-lab-m5912531.pdf.

the issue could be addressed through cross-examination of the testing analyst:

> The jury may consider the instrument's malfunctioning and the laboratory staff's related concerns when assessing the weight or credibility of the test results. This conclusion recognizes that "[c]ross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence."

State v. Bernstein, ***supra***, 237 Ariz. at 231, ¶ 22, 349 P.3d at 205 (2015).

The Arizona Supreme Court recognized that blood testing equipment can malfunction and print incorrect results. If the evidentiary analyst cannot be sure that a printed test result is accurate, surely a proxy analyst should not be allowed to use that printed paperwork to reach an independent opinion that overly emphasizes the accuracy of a test. Any such opinion blindly accepts that the results reflect what actually was being tested and that no errors occurred.

Finally, there are times that the results are not what they appear to be because the substance being tested can be changed by the testing process. For example, it is well known that the process for testing for marijuana on a GCMS can convert Cannabidiol (CBD) – a non-psychoactive substance – into THC, a

psychoactive substance.[25] Once again, if the testing process produces inaccurate results, because it changes the substance being tested, then the printouts from that testing do not provide a basis for an independent opinion as to the accuracy of the test results.

It should also be noted that the fact that a lab has been accredited under ANAB ISO International Standards (*see* Arizona Department Of Public Safety Scientific Examination Report Appendix p.86a) is of no consequence to the validity of a particular test result. ISO 17011:2017 states that an accredited lab may not claim or imply that the process(es) it used and the personnel it employs are approved by the accreditation body.[26]

Proxy witnesses give testimony based on what the evidentiary witness chose to document in their notes and reports, which are often summaries that unwittingly sanitize the actual test process. The only way to truly know what was done in the testing process is a

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[25] *See* TEXAS FORENSIC SCIENCE COMMISSION FINAL REPORT ON SELF-DISCLOSURE NO. 21.41, NMS LABS (SEIZED DRUGS) January 21, 2022, at p. 6, available at https://www.txcourts.gov/media/1453628/fr_nms-01262022-final-version.pdf.

[26] *See* https://anab.ansi.org/training/overview-of-iso-17011/; ISO 17011:2017(E) 4.3.1(d) Use of accreditation symbols and claims of accreditation; The accreditation body shall take measures to ensure that the accredited conformity assessment body: d) does not refer to its accreditation in a way so as to imply that a product, process, service, management system or person is approved by the accreditation body: https://cdn.standards.iteh.ai/samples/67198/6899b1291b46422ca96911273b15d82a/ISO-IEC-17011-2017.pdf.

full cross-examination of the evidentiaty analyst and not a mere review of paper.

III. Elimination of the Right of Confrontation of the Evidentiary Analyst Does not Conform to the Prevailing Notions of Fundamental Fairness and Due Process Guaranteed by the Constitution, and is an Unworkable Situation.

It is fundamentally unfair and a due process violation when the prosecution is permitted the use of a proxy analyst at trial who not only did not participate in any part of the testing process but is merely parroting printed information that even a non-scientist could be coached to review. At least some of the methodology requires the exercise of judgment and presents a risk of error that might be explored on cross-examination.[27]

The same is true of many of the other types of forensic evidence commonly used in criminal prosecutions. "[T]here is wide variability across forensic

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[27] *See* 2 P. Giannelli & E. Imwinkelried, Scientific Evidence § 23.03[c], pp. 532-533, ch. 23A, p. 607 (4th ed. 2007) (identifying four "critical errors" that analysts may commit in interpreting the results of the commonly used gas chromatography/mass spectrometry analysis); Shellow, The Application of Daubert to the Identification of Drugs, 2 Shepard's Expert & Scientific Evidence Quarterly 593, 600 (1995) (noting that while spectrometers may be equipped with computerized matching systems, "forensic analysts in crime laboratories typically do not utilize this feature of the instrument, but rely exclusively on their subjective judgment").

science disciplines with regard to techniques, methodologies, reliability, types and numbers of potential errors, research, general acceptability, and published material." National Academy Report S–5, (discussing problems of subjectivity, bias, and unreliability of common forensic tests such as latent fingerprint analysis, pattern/impression analysis, and toolmark and firearms analysis). There is little reason to believe that confrontation will be useless in testing analysts' honesty, proficiency, and methodology – the features that are commonly the focus in the cross-examination of experts.

This Court held in ***Bullcoming v. New Mexico***, 564 U.S. 647, 658 (2011) that their decision in ***Melendez-Diaz v. Massachusetts***, 557 U.S. 305 (2009) did not create a "forensic evidence" exception to the rule announced in ***Crawford v. Washington***, 541 U.S. 36 (2004): the Confrontation Clause permitted admission of "testimonial statements of witnesses absent from trial . . . only where the declarant is unavailable, and only where the defendant has had a prior opportunity to cross-examine." ***Id.***, at 59.

The proxy witness in Mr. Smith's case did no forensic work on the evidence submitted for testing. The various lingo used by the government to identify what the non-testifying witness reviewed identifies the problem of moving away from the rule announced in ***Crawford***. Additional issues with the use of a proxy witness include the definition of analyst – does it include technicians, maintenance employees, police officers, etc.? – and the lack of an identifiable point at which

the artificial extension of the label "expert" find its limit.

While there seems to be consensus that a "bright-line" rule prohibiting parroting ought to be in place, no workable test would be able to determine what constitutes an actual independent opinion. Would unavailability of the evidentiary analyst be the test for when a proxy analyst is permitted to testify, and is that a separate litigation event? Does notice of proxy testimony have to be provided, and if so, when?

a. The professional proxy witness presents the potential to bamboozle the jury.

Some people become witnesses just based on fate; the arresting officer, the eyewitness, and the next available analyst. The State cannot choose these witnesses in the first two examples but apparently can in the final one.

How any witness is perceived, and the degree of faith put into their testimony is important. DUI cases are primarily jury trials with a much smaller percentage being court trials. While there are many aspects to the DUI jury trial, the testimony of the State's analyst is often a key component in the presentation of evidence against the accused. Since DUI trials are often resolved, one way or the other, by virtue of the chemical test result, the ability of the State to sift through the potential candidates at the laboratory or just hire a proxy and choose the person that they deem the most

persuasive has the potential to mislead the jury and effect the result of the trial.

One might find it surprising, but research has shown that jurors' descriptions of credibility of expert witnesses could be condensed into four main categories: likability, believability, trustworthiness, and intelligence. Believe it or not, likability was found to be the most significant factor.[28] If the State is no longer going to be required to call the analyst that did the forensic work, they will find the most "likable" one to do the "court work." Enter the proxy witness, not chosen based on any scientific credentials, a proven work history, or rigorous scientific work on the case, but instead on how they appear in court, or their willingness to withhold testimony to conform with a laboratory policy designed to defeat even the most basic efforts at error detection, such as the one that exists at AZDPS Crime Lab.

CONCLUSION

Forensic science is intended to be an illuminating influence in the courtroom. Seen by juries and jurists alike as a beacon of truth and veracity, forensic science and its practitioners are expected to present a reliable foundation upon which trustworthy evidence can rest. Science is not concerned with determining guilt or establishing innocence; it is used in court as the

[28] R.J. Cramer et al., J. Am. Acad. Psychiatry Law (2009).

scale upon which proof beyond a reasonable doubt is weighed.

The reliability and trustworthiness of scientific evidence is grounded in good scientific practice exercised by well-trained and disciplined scientists, who can defend the results under cross-examination. It is a legal fiction to assert that another person, who did not participate in the underlying experimentation or testing that led to the results, can reliably form an independent opinion based solely on the review of paperwork.

The broad range of errors that can occur throughout the testing process demonstrate that the accuracy of test results cannot be determined based solely on an examination of printed documents, without inquiry into how the analyst performed and interpreted the testing. A proxy analyst would have to assume that quality assurance was met during testing, adequate attention was paid by the testing analyst, sound scientific judgment was exercised, properly working equipment was employed and the software printed out correct information. Therefore, it is a violation of the Confrontation Clause to allow the introduction of the test results of an evidentiary analyst in the form of the opinion of a mere proxy.

The elimination of the right to confront the evidentiary analyst will create a cadre of professional, proxy analysts, and establish a safe harbor for fraudulent, incompetent, or biased analysts. It will alienate and silence noble and honest scientists who have their employment terminated for failing to conform to the

established laboratory opinion, even if its unsound. It will perpetuate poor scientific practices by permitting pre- and post-analytical errors to remain unchallenged and therefore unexposed. Ultimately, the use of a proxy analyst makes the evidence being produced in court less reliable, and undermines the basic due process protections afforded to every accused citizen in America.

For the foregoing reasons, this Court should reverse the decision of the Arizona Court of Appeals.

Respectfully submitted,

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