

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

UNITED STATES OF AMERICA,)
)
 v.) No. 1:22-cr-392 (DLF)
)
 ABU AGILA MOHAMMAD)
 MAS'UD KHEIR AL-MARIMI,)
 Defendant.)

**MR. AL-MARIMI'S RESPONSE IN OPPOSITION TO THE GOVERNMENT'S
MOTION TO EXCLUDE OR LIMIT THE TESTIMONY OF DEFENSE
EXPERT DR. ELIZABETH BUC**

Mr. Al-Marimi provided notice that he may choose to call Dr. Elizabeth Buc as a responsive expert in the field of metallurgy. The government has challenged the relevance of Dr. Buc's testimony and the sufficiency of Dr. Buc's notice. As explained below, the Court should deny the government's motion in limine.

I. The Government's Relevance Objection is Premature.

The government argues that Dr. Buc's testimony is irrelevant because the government believes it may not call its own metallurgical expert, Dr. Chiu, in its case-in-chief. But Mr. Al-Marimi has as much a right as the government to notice an expert on metallurgy in anticipation of potential testimony on that topic.

The government noticed its own metallurgy expert conditionally because the relevance of that expert's testimony depends on how the evidence unfolds at trial. Indeed, the government's motion to exclude or limit Dr. Buc's testimony states that if the metallurgical composition of PT/35(b) was put in issue during witness cross-examination, it would be too late to notice an expert at that phase of trial. *See* ECF No. 447-1 at 2. Yet, the government asks the defense to adopt a different practice —

to disregard the possibility of evidence regarding the metallurgical composition of PT/35(b) coming in through any number of government witnesses and to ignore the government's noticed expert on the topic by not responding to or not fleshing out ways to combat that evidence. Requiring the defense to wait and see whether the government ultimately calls its expert at trial before the defense may give notice of its own is contrary to the law and the government's own approach in this case.

The defense need not wait until the government rests to preserve its right to present responsive expert testimony. The government's conclusion that the issue regarding the material makeup of PT/35(b) will not arise is based solely on its absence from a single Rule 15 deposition, but that deposition does not represent the full universe of witnesses or evidence the government may present at trial. The identities and anticipated testimony of all government witnesses are not yet known to the defense, so the defense cannot predict whether the scientific issue at the heart of Dr. Buc's opinions may surface during the government's case-in-chief. Expert disclosures exist precisely to avoid surprise and ensure both sides are prepared for testimony that may emerge at trial.

Excluding Dr. Buc's testimony at this stage would be premature. The proper question is not whether the testimony is relevant now, but whether it may be relevant at trial. *See* Fed. R. Evid. 401 (evidence is relevant if it has "any tendency" to make a fact of consequence more or less probable). That standard is easily met here: if the government calls its expert, or if the underlying scientific issue surfaces during trial

in any form, Dr. Buc's responsive opinions will be directly material.¹

To that end, the defense agrees that the Court need not resolve this question now. Indeed, the more appropriate course is to deny the government's motion as premature with respect to relevance, and to revisit admissibility, if necessary, after the government presents its case-in-chief. Excluding Dr. Buc's testimony now, before the record is complete, would deprive Mr. Al-Marimi of the ability to respond to testimony about the material make-up of PT/35(b) that may be introduced.

Accordingly, the government's relevance objection should be denied.

II. Dr. Buc's Expert Notice Satisfies Rule 16.

A. Legal Standard

Rule 16, as amended in 2022, requires a defendant who intends to introduce expert testimony to provide "a written summary of any testimony that the defendant intends to use" that describes "the witness's opinions, the bases and reasons for those opinions, and the witness's qualifications." Fed. R. Crim. P. 16(b)(1)(C). The 2022 amendments were intended to ensure that disclosures are sufficiently detailed to allow the opposing party to prepare for cross-examination and rebuttal, and they did not transform the notice requirement into an obligation to produce a full expert

¹ Even in the event the government elects not to call Dr. Chiu, the defense reserves the right to argue that Dr. Buc's testimony remains admissible. The physical composition of PT/35(b) is a matter the jury may be asked to consider independent of any particular government witness, and testimony bearing on the reliability of the government's analysis of that composition may be relevant independent of whether the government calls its own expert. The defense does not foreclose that possibility at this stage, and premature exclusion would eliminate any opportunity for the Court to consider it in proper context. Should the evidence at trial warrant it, the defense further reserves the right to seek leave to amend or supplement its expert notice accordingly.

report. *See* Fed. R. Crim. P. 16 advisory committee’s note to 2022 amendment (stating that the amendments to the rule were intended to “facilitate trial preparation, allowing the parties a fair opportunity to prepare to cross-examine expert witnesses”). A notice that describes the expert’s opinions and their bases and reasons satisfies the rule. Exclusion remains a severe sanction reserved for cases of genuine prejudice, not technical insufficiency. *See generally* Fed. R. Crim. P. 16(d)(2).

The cases the government cites stand for the unremarkable proposition that a bare list of topics — untethered from any opinion or stated reasoning — is inadequate under Rule 16. *See United States v. Duvall*, 272 F.3d 825, 828 (7th Cir. 2001); *United States v. Beavers*, 756 F.3d 1044, 1054 (7th Cir. 2014); *United States v. Ulbricht*, 858 F.3d 71, 115 (2d Cir. 2017). None of those cases require the exhaustive pre-trial disclosure the government demands here, and none support exclusion where the notice, as here, identifies specific opinions, the scientific principles underlying them, and the bases and reasons for the expert’s conclusions.

B. Opinion – Independence of Analysis and Confirmation Bias.

Dr. Buc may offer opinions regarding whether the government expert’s analysis was conducted independently and without presupposition of a particular result, and whether the analytical approach, sequence, or reporting reflects confirmation bias rather than objective scientific inquiry.

The government’s sufficiency objection with regard to these opinions should be rejected. The notice does not merely identify “forensic methodology” as a topic area, it identifies the operative scientific principle (that forensic analyses must be

conducted independently and without presupposition), the specific opinion Dr. Buc will offer (whether the government expert's analysis conformed to that principle), and the specific analytical deficiency at issue (whether the approach, sequence, or reporting reflects confirmation bias). This is categorically different from the notices condemned in the cases the government cites. In *Beavers*, the notice consisted of a general list of topics and a single conclusory sentence with no articulated opinion. 756 F.3d at 1054. In *Ulbricht*, the notices listed broad topics with no opinions attached. 858 F.3d at 115. And in *Duvall*, the defense provided a topic list with no summary of what the expert would actually conclude. 272 F.3d at 828. Here, the defense's notice pairs an identified scientific principle with a specific opinion and the analytical framework supporting it, satisfying Rule 16 as amended.

The government also cannot credibly claim unfair surprise. Its own expert has offered opinions in this case, and the defense's notice is expressly responsive to those opinions. The government has everything it needs to prepare rebuttal testimony and focused cross-examination.

C. Opinion - Limitations of Analytical Equipment and Non-Destructive Evidence Handling

The defense noticed that Dr. Buc may testify that additional analytical options exist that were not employed by the government's expert, Dr. Chiu, during his testing of PT/35(b) and the comparison samples.

The government argues the notice is deficient because it does not state whether those methods would have yielded different results. The defense respectfully disagrees that this omission renders the notice insufficient but, in an abundance of

caution and without conceding the point, offers supplemental clarification below.

The notice identifies a specific opinion: that additional analytical options existed and were not employed. This is a defined methodological criticism, not a topic heading. The relevance of that opinion does not depend on a certainty that different results would have followed; an expert may reliably testify that the failure to employ available methods renders a conclusion less scientifically sound regardless of whether the outcome would have changed. The government's argument conflates the sufficiency of the notice with the ultimate persuasive weight of the testimony. That is a question for the jury, not a prerequisite to admissibility under Rule 16.

Nevertheless, to resolve any ambiguity and ensure adequate notice for cross-examination and rebuttal, the defense supplements this opinion as follows:

Dr. Buc is of the opinion that the government expert's failure to employ available alternative analytical methods undermines the reliability of the conclusions reached. A scientifically rigorous analysis would have required the use of these methods, and their absence leaves the government expert's conclusions insufficiently supported. Dr. Buc will testify as to what those alternative methods are, why their use was warranted under accepted scientific standards, and how their omission affects the weight and reliability of Dr. Chiu's findings.²

With this supplementation, there can be no credible claim of surprise or insufficient notice. Exclusion on sufficiency grounds would be unwarranted.

D. Opinion – Limitations of Exclusively Non-Destructive Analysis

Dr. Buc offered opinions that a more complete and reliable dataset is obtained

²Counsel has reviewed the foregoing supplemental language with Dr. Buc, who has verbally confirmed its accuracy. A signed supplemental expert notice incorporating this language is forthcoming and will be provided promptly upon receipt.

through a combination of non-destructive and destructive analytical techniques; that destructive analyses yield significantly more information, including data concerning the thickness and composition of traces, coatings, and material layers, that cannot be obtained through non-destructive methods alone; and that Dr. Buc may offer opinions regarding the extent to which the government's exclusive reliance on non-destructive techniques limited the quality and completeness of the resulting data and the reliability of the conclusions drawn therefrom.

The government's sufficiency objection to this opinion should be rejected. The government asks how specifically and to what extent Dr. Buc believes the data were limited, but Rule 16 does not require a defendant to produce a written expert report, disclose every data point the expert will reference, or quantify every conclusion in advance of trial. It requires a description of opinions and their bases and reasons. *See* Fed. R. Crim. P. 16(b)(1)(C); Fed. R. Crim. P. 16 advisory committee's note to 2022 amendment. That standard is satisfied here.

Here too, the defense's notice identifies a specific scientific principle (that combined non-destructive and destructive analysis yields a more complete and reliable dataset than either method alone); explains the scientific basis for that principle (destructive analysis captures data concerning thickness and composition of traces, coatings, and material layers that non-destructive methods cannot obtain); and states the expert's specific opinion (that exclusive reliance on non-destructive techniques limited the quality, completeness, and reliability of the resulting data and conclusions). This satisfies Rule 16(b)(1)(C) as amended.

The government's demand for greater specificity asks Dr. Buc to testify before she takes the stand, in a notice document rather than before the jury. Again, the weight and precision of her opinions are matters for cross-examination and the jury.

E. Opinion – Failure to Validate Limited Analyses

The defense here states that, upon further review, Dr. Buc recognizes that focused ion beam analysis was in fact conducted on the comparison samples. To the extent the notice suggested otherwise, the defense withdraws that specific assertion. This concession does not, however, undermine the broader opinion that additional or more thorough testing would have served to validate the findings of the analyses that were conducted. Dr. Buc's opinion that Dr. Chiu's analysis would have benefited from a more robust analytical approach, and that the absence of such testing affects the reliability of the conclusions drawn, remains unchanged.

F. Opinion - Insufficiency of Data Points

The defense noticed that sound forensic materials analysis requires the collection of a sufficient number of data points across all relevant analytical dimensions; that Dr. Buc may testify that the government's analysis was deficient in this respect; and that a more robust and reliable analysis would have included a greater number of measurements and observations across multiple parameters, including but not limited to component population.

The government raises two criticisms: that the notice fails to identify a scientifically accepted benchmark for the number of data points required, and that it does not explain how the existing data fell short of any standard or deprived the

government expert's conclusions of scientific weight. Neither criticism warrants exclusion.

As to the benchmark argument, Rule 16 requires a description of the expert's opinions and the bases and reasons for them, not a citation to an external standard or numerical threshold. The basis for Dr. Buc's opinion is identified: sound forensic materials analysis requires a sufficient number of data points across all relevant analytical dimensions, and the government's analysis was deficient by that measure. Whether that assessment is grounded in an industry standard, peer-reviewed methodology, or the expert's professional scientific judgment is a matter for cross-examination, not a prerequisite to notice sufficiency. The government will have every opportunity to probe the foundation of that opinion at trial.

As to the government's second criticism — that the notice does not explain how the data fell short or to what degree — this again demands a level of evidentiary detail that belongs in a full expert report, not a Rule 16 notice. *See* Fed. R. Crim. P. 16 advisory committee's note to 2022 amendment (the rule is designed to provide “a fair opportunity to prepare to cross-examine expert witnesses” not to compel exhaustive pre-trial disclosure). The notice states an opinion (the analysis was deficient in the number of data points collected), identifies the governing scientific principle (that reliable forensic conclusions require a dataset of sufficient size and breadth to be statistically and scientifically representative of the material being analyzed), and identifies the basis for applying that principle here (the requirements of sound forensic materials analysis across multiple parameters). That is what the

rule requires. The weight, precision, and quantification of Dr. Buc's conclusions are matters for the jury, not conditions of admissibility.

The government cannot claim unfair surprise. It is on notice that the defense will challenge the sufficiency of its data collection, the parameters across which measurements were taken, and the reliability of conclusions drawn from an incomplete dataset. It has everything it needs to prepare rebuttal testimony and cross-examination. Exclusion on these grounds would be unwarranted.

CONCLUSION

For the foregoing reasons, the Court should deny the government's motion to exclude or limit the testimony of Dr. Buc.

Respectfully submitted,
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