

EXIT WOUND ISSUE

Public-record, witness, ballistics and video review

CORE FINDING

Recovered fragments establish partial projectile retention. They do not prove complete retention, identify the bullet design, or establish the absence of an exit wound.

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All hyperlinks are clickable. Visuals are non-graphic and carry source or limitation notes in their captions.

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Executive conclusion

The publicly available evidence establishes that **some fragmented .30-caliber projectile material remained in Charlie Kirk's body and was recovered at autopsy**. It does not establish how much of the original projectile remained, whether any fragment exited, the projectile's construction, or the internal wound track.

Brian Harpole, Kirk's security chief, gave meaningful firsthand evidence supporting no exit wound: he said he treated the visible left-neck wound, checked the other side during transport and saw no second wound. That is an eyewitness account, not a published medical-examiner conclusion. Harpole's description of vertebral impacts and fragmentation was secondhand from a doctor.

The complete medical-examiner report exists but is not public. At the July 6, 2026 preliminary hearing, the only findings read aloud were manner **homicide** and immediate cause **gunshot wound of the neck**. Nothing public from the report identifies an entry wound, an exit wound, the internal path or injured vertebrae.

Scientifically, "a .30-06 must exit a neck" is false as a universal claim. Retention depends on projectile construction, impact conditions, yaw, deformation, fragmentation, bone impact, path length and the resistance of far-side tissue. But it is equally unwarranted to use the recovered fragments alone as proof that there was no exit wound.

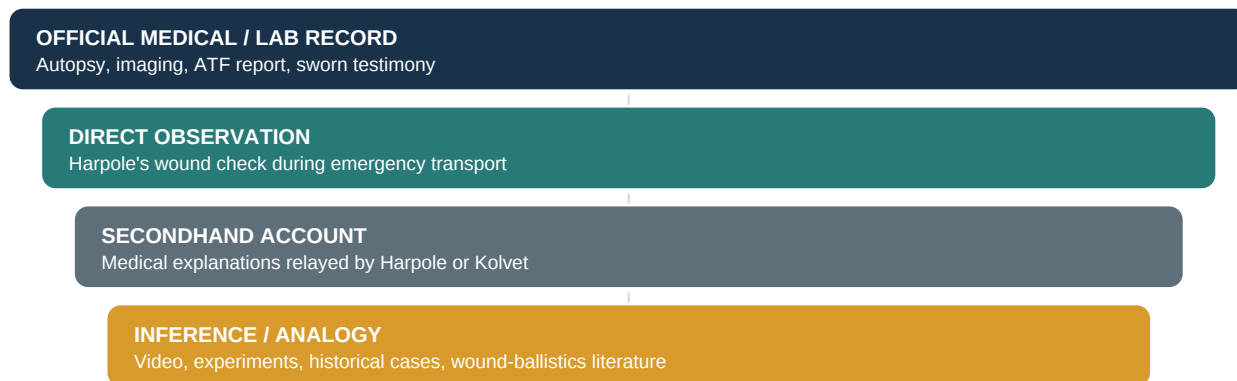


Figure 1. Evidence hierarchy used in this audit. Lower tiers can support a hypothesis but cannot replace the unpublished medical-examiner findings.

Evidence-status table

Question	What the public evidence supports	What remains unestablished
Was there an autopsy?	Yes; Utah OME performed one late September 10 or into September 11, 2025.	Full report, images and diagrams are nonpublic.
Was projectile material retained?	Yes; ATF received one incomplete/deformed jacket fragment and four lead fragments recovered at autopsy.	Total recovered mass; whether this was most of the projectile; whether other material exited or remained unrecovered.
Was there no exit wound?	Harpole says he checked and found none. Retained fragments are compatible with no exit.	The medical examiner's external-wound findings have not been published.
Was the projectile .30-06?	The jacket was classified as .30-caliber class. All discernible rifling class characteristics agreed with the recovered .30-06 rifle.	The fragment could not be identified to or excluded from that particular rifle; .30-caliber class is broader than .30-06.
Did the recovered rifle fire a cartridge?	ATF identified the fired case found in the rifle as having been fired in that rifle.	That case result alone does not prove the autopsy fragment came from the rifle.
What ammunition was used?	The fired case and three unfired cartridges bore Remington headstamps.	Fatal projectile model, weight, construction, factory load and whether the cases had been reloaded.
Did the projectile strike the spine?	Harpole says a doctor told the team it struck and damaged vertebrae.	No public autopsy, imaging or sworn medical testimony confirms this.

Corrected chronology

- **September 10, 2025, about 12:23 p.m.** - Kirk was shot once while speaking at Utah Valley University. The charging Information places the potential firing area approximately **160 yards** from Kirk. The often-repeated 142-yard figure comes from other measurements and should not replace the prosecution document without explaining the different reference points. [Utah County charging Information](#), PDF pp. 4-5.
- **September 10, shortly before 6 p.m.** - Investigators found the Mauser 98 .30-06 rifle wrapped in a towel in a wooded area. Inside were one fired case and three unfired engraved cartridges. This was the day of the shooting, not September 11-12. [Day 4 hearing transcript](#), about 04:45-04:53.
- **September 10-11** - Utah's Office of the Medical Examiner conducted the autopsy. Investigator David Hull identified the pathologist as Dr. Guajardo. [Day 1 hearing transcript](#), about 06:00-06:12.
- **September 20** - Andrew Kolvet published the earliest prominent sourced no-exit account located in this review. He relayed statements from an unnamed surgeon, including the "man of steel" explanation and a claim that a "coroner" found the projectile beneath the skin. [Original X post](#); [contemporaneous Fox report](#).
- **November 7** - Chris Martenson published his .30-06 pork-roast and gelatin experiments. The research memo incorrectly placed these in late September. [Peak Prosperity test](#).
- **November 17** - Harpole described his firsthand wound check and repeated the internal-track account he said a doctor gave Kirk's team. [Original Shawn Ryan Show episode](#); [transcript](#), especially about 02:12-02:14 and 02:36-02:38.
- **December 18-22 / January 9, 2026** - The September 17 ATF report was disclosed to the defense on December 18; the State gave notice of further fragment testing on December 22; the defense attached both documents to its January 9 motion. [Motion with State notice and ATF report](#).
- **April 2026** - The report itself became publicly available after court unsealing. Late-March filings had publicized the inconclusive result before the report was released. [KSL report on unsealing](#).
- **July 6-10** - The preliminary-hearing evidence phase occurred. The autopsy report was admitted but withheld from public display. Final bindover arguments are scheduled for **September 1, 2026**. [AP hearing wrap](#).

What the court and ATF evidence actually establish

Autopsy

Hull testified that the medical examiner autopsied Kirk and produced a nine-page report. Judge Tony Graf admitted it as State's Exhibit 11 over a preliminary-hearing hearsay objection, but prohibited publication out of respect for the family and the sensitive contents. The only findings read aloud were:

- manner: homicide;
- immediate cause: gunshot wound of the neck.

The autopsy is therefore not "missing." Utah medical-examiner records are confidential, and the court separately restricted publication of this exhibit. [Utah Code Section 26B-8-217](#); [Day 1 transcript](#), about 06:00-06:12.

Fired case versus autopsy projectile

These are different items with different results:

ATF item	Reported result
Recovered Mauser 98, .30-06	Operable when test-fired.
Fired .30-06 case found in the rifle	ATF "identified [it] as having been fired in" the recovered rifle.
Three unfired cartridges found in the rifle	.30-06 cartridges with Remington headstamps; examined for engraved toolmarks.
Autopsy jacket fragment	Incomplete, deformed/damaged, .30-caliber class; all discernible class characteristics agreed with the rifle, but the individual comparison was inconclusive.
Four autopsy lead fragments	Unsuitable for microscopic firearm comparison.

The fired-case finding is a positive source conclusion and is useful evidence connecting that case to the recovered rifle. It is not a positive match between the autopsy material and the rifle. Examiner Samantha Karner also agreed that the case conclusion was not an absolute "individualization" in terminology prohibited by current DOJ policy. [ATF report reproduced with the defense motion](#); [Day 4 transcript](#), about 05:27-05:32 and 06:26-06:32.

For the jacket fragment, "inconclusive" means neither identification nor exclusion. The report states that numerous firearm makes and models can produce similar general rifling characteristics. It is incorrect to translate the result as either "the bullet matched" or "the bullet did not match." This usage is consistent with the OSAC firearms process map: agreement in discernible class characteristics, but insufficient individual-characteristic evidence to identify or exclude. [NIST/OSAC firearms process map](#).

Exhibit 2 - fired cartridge case**RESULTS OF EXAMINATION**

This report refers to exhibits by Lab Number. The following results only apply to the items tested.

The Exhibit 1 rifle was test fired and found to be in operable condition. The test fires were designated as Exhibit 1.11.

Exhibit 2 consists of one (1) 30-06 Springfield caliber fired cartridge case bearing a Remington headstamp.

The Exhibit 2 cartridge case was identified as having been fired in the Exhibit 1 rifle. [Source identification]

Exhibit 3 through 5 consists of three (3) 30-06 Springfield caliber unfired cartridges each bearing a Remington headstamp.

Exhibit 6 - autopsy jacket and lead fragments

Exhibit 6 consists of one (1) .30-caliber class deformed/damaged bullet jacket fragment (designated 6A) and four (4) lead fragments (designated 6B through 6E).

The Exhibit 6A bullet jacket fragment could not be identified or excluded as having been fired from the Exhibit 1 rifle based on an agreement of all discernible class characteristics and neither sufficient agreement nor sufficient disagreement of individual characteristics. The result of the comparison was inconclusive. [Inconclusive]

Firearms that produce general rifling characteristics similar to those observed on the Exhibit 6A bullet jacket fragment include numerous makes and models.

The Exhibit 6B through 6E lead fragments are not suitable for microscopic comparison.

Figure 2. The ATF report gave the fired case a source identification to the recovered rifle, while the autopsy jacket comparison was inconclusive. These are different exhibits and different findings. Source: ATF Laboratory Report dated September 17, 2025, public filing PDF pp. 26-27.

Fragment inventory and unresolved count

The ATF submission contained one jacket fragment and four lead fragments. Karner described the jacket as incomplete and crumpled; she had to unfold portions to inspect the rifling marks, and no intact lead core remained attached. She measured the damaged jacket at approximately 0.286-0.301 inch and observed six-right conventional rifling.

Karner also testified that she was later alerted to a medical-examiner photograph that potentially showed seven fragments, while the sealed ATF packet contained five items. The hearing did not resolve whether this reflects different counting, retained evidence, transfer decisions or another cause. It should be recorded as an open inventory question, not treated as proof that evidence was lost.

Most importantly, five recovered pieces do **not** establish that the entire projectile, or even most of its mass, stayed inside the body. Fragmentation can produce both retained material and one or more exiting pieces. A broad clinical review expressly notes that partially retained fragments can coexist with exit wounds. [Baum et al., 2022](#).

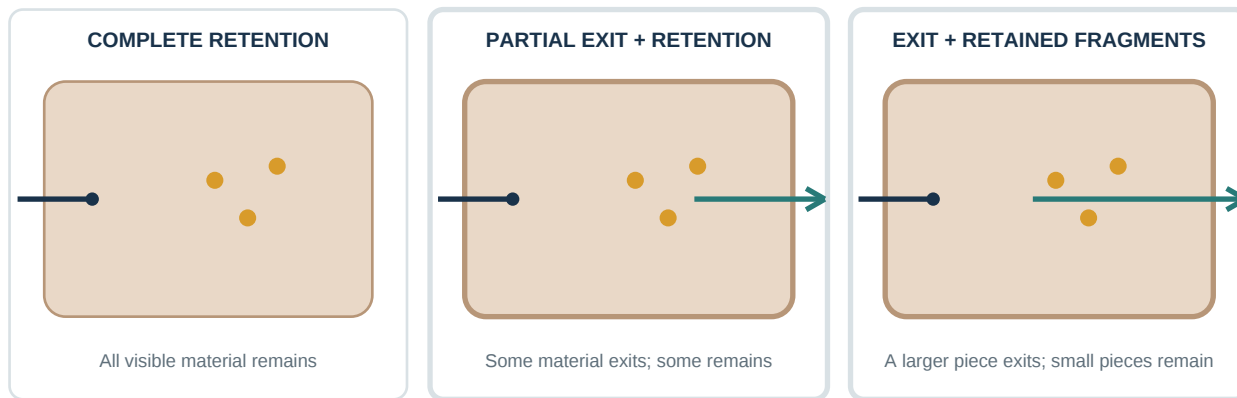


Figure 3. Conceptual outcomes compatible with recovered fragments. This is not a reconstruction and is not to scale. Without complete recovery and mass accounting, retained pieces alone cannot distinguish these possibilities.

Headstamp does not identify the fatal bullet design

The ATF report says the fired case and three unfired cartridges had Remington headstamps; a Remington .30-06 headstamp was also read in court. This corrects the earlier claim that the brand information was wholly undisclosed.

A headstamp identifies the cartridge case marking, not necessarily the bullet model, bullet construction, bullet weight, propellant or whether the case was reloaded. [AFTE glossary](#). No public laboratory finding identifies the fatal projectile as Core-Lokt, soft point, FMJ, ballistic tip or purpose-built frangible ammunition. Online identifications based on low-resolution cartridge photographs are hypotheses, not court-established facts.

The no-exit accounts

Andrew Kolvet

Kolvet's post is secondhand. It names no surgeon, cites no medical record and uses "coroner" even though Utah operates a state medical-examiner system. Its literal impression of an intact bullet just under the skin is not supported by the later description of an incomplete jacket and multiple lead fragments. It is best understood as an early, emotionally framed account rather than a forensic report.

Brian Harpole

Harpole supplies the strongest direct public evidence. He said the visible injury was on Kirk's left neck, that he packed it, rolled Kirk's head and checked the opposite side during transport, and that he saw no exit wound. He also classified the visible injury as an entrance wound.

The direct observation and the later medical explanation must be separated:

- **Firsthand:** wound location, treatment, and his check for a second external wound.
- **Secondhand:** a doctor reportedly said the projectile damaged vertebrae, changed direction and fragmented lower in the neck; Harpole was tentative about the precise level.

His observation makes no exit wound credible. It does not substitute for the medical examiner's complete external examination, imaging and dissection, and his classification of the visible wound as an entrance is less probative than his direct report that he found no second wound. Published research has found substantial entrance/exit misclassification even among trauma specialists viewing wounds. [Collins and Lantz, 1994](#).

Ballistics: what is and is not defensible

Defensible

- Rifle projectiles have finite penetration. Residual penetration depends on impact speed, mass, construction, orientation/yaw, deformation, fragmentation, tissue path, bone and other barriers.

- Deformation and fragmentation can increase energy transfer and reduce the penetration of the remaining pieces.
- Bone can deflect, deform or fragment a projectile, but it does not do so invariably.
- Far-side skin can arrest a projectile or fragment after it has lost sufficient velocity and energy traversing deeper tissue; there is no universal cutoff independent of fragment mass, shape, orientation and material.
- A rifle projectile can be retained after severe head/neck bone impact; an exit is not physically mandatory.

Supporting evidence:

- In a swine-hindlimb study of 5.56 mm projectiles at 930-990 m/s, five commercial soft points lost 59-77% of their mass and produced more disruption than five custom solid-brass bullets. This demonstrates construction-dependent fragmentation and damage, not a .30-06 neck-retention probability. [Fackler et al., 1984](#).
- In a 2025 .223 Remington experiment using entrance- and exit-side skin simulants around 25 cm of gelatin, one tested expanded soft point crossed the gelatin but failed to perforate the exit-side skin layer; the tested FMJ and monolithic bullets exited. This is not a human reconstruction, but it directly refutes "rifle bullet means guaranteed exit." [Fischer et al., 2025](#).
- A documented AK-47 head/neck injury involved mandibular comminution, no exit wound and retention near the carotid sheath. A case report establishes possibility, not frequency or similarity to Kirk. [Ongom et al., 2014](#).
- U.S. Army experimental work documents bone impact splitting projectiles into retained and exiting pieces. [Army wound-ballistics experiments](#).

Not defensible from the public Kirk evidence

- that the fatal projectile was a soft point, Core-Lokt, FMJ or purpose-built frangible bullet;
- that it definitely struck the cervical spine;
- that the visible collapse or limb posture diagnoses spinal-cord disruption;
- that visible blood proves a particular artery was severed;
- that recovered fragments prove complete or majority retention;
- that a short soft-tissue path would "almost certainly" have produced an exit without knowing the actual bullet and path;
- that unusually dense or healthy bone was required.

"Frangible" also should not be used as a synonym for "a conventional bullet that happened to fragment." SAAMI defines a frangible bullet as a projectile designed to break up readily on hard impact to reduce ricochet or splash-back. [SAAMI glossary](#). The autopsy material does not establish that specialized design.

Assessment of the Daily Wire article

Chris Loesch's July 10 Daily Wire opinion article correctly rejects the universal claim that a .30-06 projectile must exit a human neck. It also usefully emphasizes that projectile construction, residual velocity, impact angle, encountered tissue, deformation and fragmentation affect penetration. Those general points agree with the controlled and case-report literature reviewed above. [Daily Wire article](#).

Its Kirk-specific certainty is not supported by the disclosed record. The article identifies the fatal round as a 150-grain Remington Core-Lokt soft point, relying principally on firearms commentators' visual identification of publicly shown cartridges. The ATF report and sworn hearing testimony establish Remington-headstamped .30-06 cases, but neither identifies the fatal projectile's weight, model or construction as Core-Lokt or soft point. A headstamp identifies the case marking and cannot exclude a reload. The article therefore documents a plausible public hypothesis, not a laboratory or court finding.

The product description is also more categorical than Remington's own. Core-Lokt is marketed for controlled expansion, weight retention and deep penetration, not as a bullet guaranteed to stop inside a target. For the hypothesized 150-grain Core-Lokt PSP load, Remington lists 2,910 fps at the muzzle, 2,617 fps at 100 yards and 2,342 fps at 200 yards. Straight-line interpolation gives roughly 2,450 fps at the prosecution's approximately 160-yard distance, not the article's case-specific "2,700-plus" figure. This conditional calculation does not identify the actual load, barrel velocity or impact speed. [Remington 2025 ammunition catalog](#).

The recovered jacket and lead fragments are consistent with a projectile that deformed and fragmented. They do not by themselves establish a mushroomed Core-Lokt, complete energy deposition, a vertebral strike or the absence of an exit wound. The article links a social-media copy of what it describes as a court-displayed fragment photograph, but the accompanying online labels are not ATF conclusions and the image has no published official exhibit metadata sufficient to identify bullet construction.

The article's hunter anecdotes and cited commentator videos support physical plausibility at most; they do not establish an exit-wound frequency or reconstruct Kirk's wound. One citation presented as forensic-pathology literature on retained rifle bullets is actually a paper titled "Identifying Errors in Forensic Autopsy Reports Using a Novel Web-Based Program," unrelated to wound ballistics. [Actual PMC6474515 article](#). Its MLK comparison also omits the documented facial exit and neck re-entry discussed below.

The article is therefore useful as commentary against an absolute "always exits" claim and as a record of the Core-Lokt hypothesis. It is not independent evidence that Kirk was struck by that load, that the cervical spine was hit or that no projectile material exited.

The MLK comparison: useful but limited

The Martin Luther King Jr. assassination is a valid counterexample to the categorical claim that a .30-06 cannot remain in a person after a head/neck bone strike.

The official House investigation found that a Remington-Peters soft-point, metal-jacketed .30-06 bullet:

1. entered the right face and fractured the jaw;
2. exited the lower face;
3. re-entered the neck;
4. severed vessels and fractured the spine;
5. came to rest in the left back.

The damaged bullet could not be conclusively identified to the recovered rifle, although the rifle could not be excluded. [National Archives, HSCA findings](#); [HSCA discussion of the ballistics limitation](#).

This precedent proves physical possibility: a high-velocity .30-06 soft point can strike major bone, traverse the face/neck and ultimately remain in the body, while also being too damaged for a unique firearm comparison. It does **not** reproduce Kirk's unknown projectile, track or wounds. It also was not literally a "no-exit" event: the bullet exited the face and re-entered the neck before final retention.

(84) Figure 8 is a reconstruction of the bullet pathway. The panel



FIGURE 8.—Reconstruction of the bullet pathway in Dr. King's body from photographs, X-rays, clothing, and medical and autopsy descriptions.

Figure 4. HSCA reconstruction of the MLK bullet pathway. It is a limited physical-possibility precedent, not a reconstruction of Kirk's wounds. King's projectile exited the lower face, re-entered the neck, and ultimately remained beneath the back skin. Source: U.S. House Select Committee on Assassinations, MLK Report, vol. XIII, printed p. 23, Figure 8.

Evaluation of the Martenson experiment

Martenson's published description says his team fired 38 shots from a Remington 700 at about 100 yards using:

- 150-grain FMJ;
- 180-grain ballistic-tip hollow point;
- 220-grain soft point;
- pork picnic roasts, some bone-in and deliberately struck through bone;
- gelatin blocks used for separate clothing/necklace observations;
- 240/480 fps cameras.

All tested projectiles perforated the roast targets. That is evidence about those selected loads and targets under those test conditions. It does not establish the universal conclusion that no .30-06 could have been retained in Kirk.

The limitations are:

1. The actual fatal bullet model, weight and construction are unknown.
2. A pork shoulder roast and its bones were not validated as an anatomically faithful human cervical-column surrogate.
3. The actual wound path, impact orientation, tissue depth and bone impacts are unknown.
4. The public write-up does not supply a complete reproducible protocol, target dimensions/temperature, impact chronograph data, per-load results or recovered-projectile measurements.

5. A finite series in which every shot perforates supports perforation under the tested conditions; it cannot prove physical impossibility under all untested conditions.
6. The court evidence establishes only partial retention. Martenson's test results and retained autopsy fragments could coexist if other projectile material exited.

The fairest verdict is therefore: **a relevant informal experiment whose universal inference is not supported by its design or by the missing case variables.** The memo's suggestion that accepting Martenson would require the autopsy evidence to be fabricated is false; partial retention reconciles the two. Litigation choices at a preliminary hearing, including whether the defense emphasizes a wound-ballistics dispute, are not scientific evidence and cannot establish tacit acceptance of the State's wound theory.

What the local video can establish

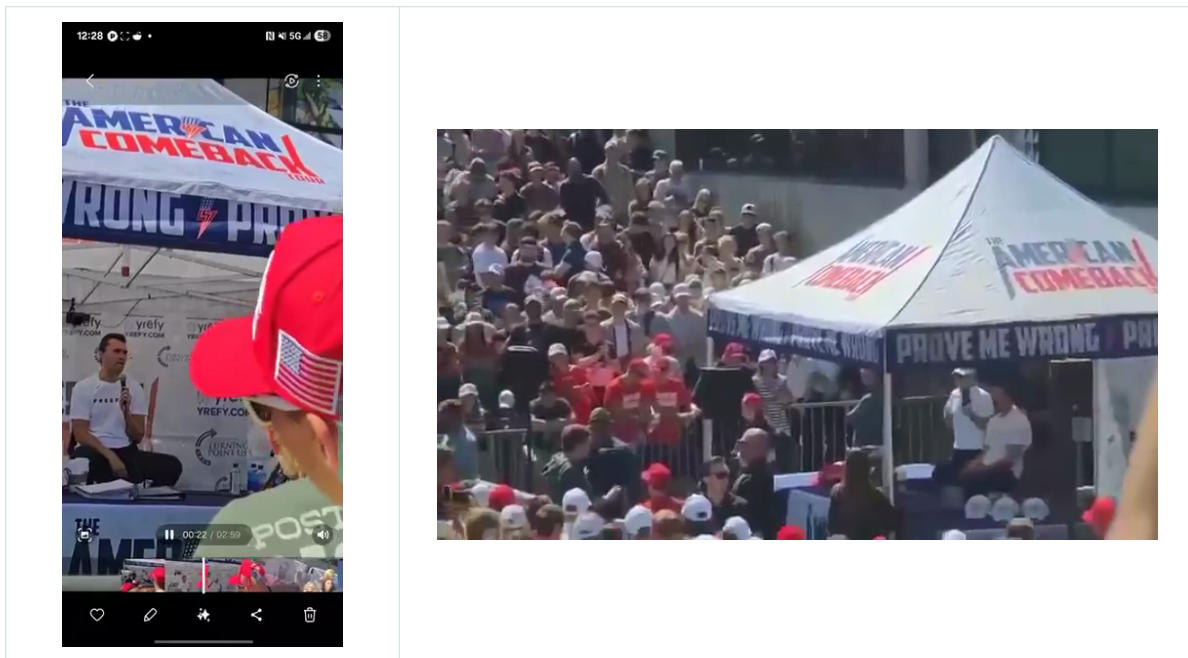


Figure 5. Pre-impact frames from two local video files. The closest file is a 288 x 640 phone-gallery recording partly blocked by a red cap; the other is a distant 640 x 364 view. They illustrate why these files cannot resolve wound margins or the opposite side of the neck. Repost provenance is not independently authenticated; no wound imagery is reproduced.

The workspace media show a transient red plume and heavy bleeding at the approximate left neck. They do not resolve wound margins or provide a clean view of the opposite side. The closest file is a 288x640 recording displayed within a phone gallery, partly obstructed by a red cap; the other angles are distant or obscured.

Consequently, the videos cannot reliably establish:

- entrance versus exit;
- arterial versus venous origin;
- an internal trajectory;
- whether a small exit or fragment exit existed elsewhere;
- a hypothetical exit direction or where rearward spray should have appeared.

The visible blood also cannot be classified confidently as arterial spray, impact spatter or evidence for a particular wound direction. NIST terminology recognizes that forward and back spatter can be associated with exit and entrance wounds respectively, but neither is a mandatory visible feature in a compressed, partly obstructed video. [NIST forward-spatter definition](#); [NIST backspatter definition](#).

One Metabunk analysis demonstrated that a particular reposted clip's audio was out of sync and produced a false appearance of reaction before the shot. That is useful for that clip, but it should not be generalized to every circulating copy. [Metabunk discussion and resynchronization](#).

What would resolve the issue

1. The medical examiner's complete external-wound description and photographs.
2. Radiographs/CT and a diagram of every recovered fragment.
3. Layer-by-layer wound-track and vertebral-injury findings.
4. Clothing examination and medical-procedure documentation.
5. The complete projectile inventory, locations and masses, reconciled with the possible seven-fragment photograph.
6. Identification of the actual bullet construction and nominal weight.
7. Any subsequent FBI virtual-comparison microscopy or metallurgical results.

Comparing recovered mass with nominal bullet weight could help assess near-total versus partial retention only if recovery and chain of custody were shown to be complete. A low recovered mass would not by itself prove an exit; pieces can remain unrecovered, be lost during treatment or be retained separately as evidence.

A Sitrec geometry reconstruction could test conditional visibility and backstop claims, but only after adopting explicit entry/track assumptions. Without the autopsy track, it cannot presently locate a hypothetical exit or prove what any camera should have recorded.

Final assessment

No exit wound is physically plausible and Harpole's firsthand external check supports it. The recovered fragments establish partial projectile retention and do not exclude the recovered Mauser, but they do not prove complete retention, a spine strike, a particular bullet design or the absence of an exit wound. Until the medical examiner's wound description is disclosed, both "there was definitely no exit" and "the visible left-neck wound had to be an exit" go beyond the official public evidence.

Visual sources and provenance

Figure 1: Original evidence-hierarchy graphic prepared for this report from the source categories described in the audit.

Figure 2: Cropped facsimiles of the ATF Laboratory Report dated September 17, 2025, reproduced as Exhibit 2 to a public defense filing. Public filing PDF pages 26-27; ATF report pages 1-2. Crops remove unrelated surrounding filing material but do not alter the quoted findings.

Figure 3: Original conceptual schematic prepared for this report. It illustrates logical possibilities only and is neither anatomical nor case-specific.

Figure 4: U.S. House Select Committee on Assassinations, MLK Report, Volume XIII, printed page 23, Figure 8. Government-report reconstruction reproduced for analysis of a limited historical comparison.

Figure 5: Pre-impact frames extracted from two local reposted video files solely to document resolution, distance and obstruction. Their repost provenance is not independently authenticated; no injury imagery is included.