

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF ILLINOIS

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CALEB BARNETT, et al.,)	
)	
Plaintiffs,)	
vs.)	
)	No.
KWAME RAOUL, et al.,)	3:23-cv-209-SPM
)	
Defendants,)	
_____)	
)	
DIANE HARREL, et. al,)	
)	
Plaintiffs,)	
vs.)	No.
)	3:23-cv-141-SPM
KWAME RAOUL, et. al,)	
)	
Defendants.)	
_____)	
)	
JEREMY W. LANGLEY, et al.,)	
)	
Plaintiffs,)	
vs.)	No.
)	3:23-cv-192-SPM
BRENDAN KELLY, et al.,)	
)	
Defendants.)	
_____)	
)	
FEDERAL FIREARMS LICENSEES OF)	
ILLINOIS, et al.)	
Plaintiffs,)	
vs.)	No.
)	3:23-cv-192-SPM
JAY ROBERT "JB" PRITZKER, et)	
al.)	
Defendants.)	

Page 2	Page 4
<p>1 The deposition of JEFFREY EBY, was 2 taken by Deborah A. Duffy, CSR, RPR, pursuant to 3 the applicable provisions of the Federal Code of 4 Civil Procedure and the rules of the Supreme Court 5 of the United States of America, pertaining to the 6 taking of depositions for the purpose of discovery, 7 via Zoom videoconferencing, commencing at 8 approximately 9:30 o'clock a.m. on the 18th day of 9 July, of the year 2024. 10 11 12 13 14 15 16 17 18 19 20 21 22 23 Reported by: Deborah A. Duffy CSR, RPR License No.: 084-002516 24</p>	<p>1 APPEARANCES CONTINUED: 2 3 4 BECKER, HOERNER & YSURSA, P.C. BY: Mr. Thomas R. Ysurua 5 5111 West Main Street Belleville, IL 62226 Try@bhyllaw.com 6 Appearing on behalf of the Plaintiff, 7 8 9 10 EVANS & DIXON, LLC BY: Ms. Kerry Banahan 11 211 North Broadway, Suite 2500 St. Louis, MO 63102 12 Kbanahan@evans-dixon.com 13 Appeared on behalf of the Randolph 14 County Defendants; 15 16 17 18 19 20 21 22 23 24</p>
Page 3	Page 5
<p>1 APPEARANCES: 2 3 SWANSON, MARTIN & BELL, LLP BY: Mr. Andrew A. Lothson 4 330 N. Wabash, Suite 3300 Chicago, Illinois 60611 alothson@smbtrials.com 5 appeared on behalf of the Plaintiff, 6 Barnett; 7 8 MITCHEL & ASSOCIATES, P.C. BY: Mr. Sean Brady, Esq. 9 180 Ocean Boulevard, Suite 200 Long Beach, California 90802 10 Sbrady@michellawyers.com 11 Appeared on behalf of the Federal 12 Firearms Licensees of Illinois and Steven Randall Watt; 13 14 ASSISTANT ATTORNEY GENERAL, SPECIAL LITIGATION 15 BY: Mr. Christopher Wells Office of the Attorney General of Illinois 16 115 S. LaSalle St., 20th Floor Chicago, Illinois 60603 (773) 758-4496 17 Michael.Tresnowski@ilag.gov 18 Appearing on behalf of the Illinois Attorney 19 General's Office; 20 21 LAW FIRM OF DAVID G. SIGALE, P.C. BY: Mr. David G. Sigale 22 55 West 22nd Street, Suite 230 Lombard, IL 60148 Dsigale@sigalelaw.com 23 Appearing on behalf of the Plaintiff, 24 Harrel;</p>	<p>1 INDEX 2 3 WITNESS PAGE 4 JEFFREY EBY 5 EXAMINATION 6 BY: Mr. Wells 6 7 EXHIBITS MARKED FOR IDENTIFICATION 8 9 EXHIBIT 1 53 EXHIBIT 2 57 EXHIBIT 3 86 10 EXHIBIT 4 151 EXHIBIT 5 129 11 EXHIBIT 6 137 EXHIBIT 7 194 12 EXHIBIT 8 254 13 ***** 14 15 16 17 18 19 20 21 22 23 24</p>

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1 (Witness sworn.)
 2 JEFFREY EBY,
 3 called as a witness herein, having been first
 4 duly sworn, was examined and testified as follows:
 5 EXAMINATION
 6 BY MR. WELLS:
 7 Q. Good morning, Mr. Eby. My name is Chris
 8 Wells. I'm an attorney with the Illinois Attorney
 9 General's Office. I represent some of the
 10 defendants in this case; the Governor of Illinois,
 11 J.B. Pritzker, Attorney General and the director of
 12 the Illinois State Police, Brendan Kelly.
 13 It is nice to meet you this
 14 morning. Thank you for joining us. And just for
 15 the record, your name is Jeffrey Eby, and that is
 16 E-B-Y. Is that correct?
 17 A. Yes, sir. That is correct.
 18 Q. Mr. Eby, have you ever given a
 19 deposition before?
 20 A. No, sir.
 21 Q. So you understand that the court
 22 reporter just had you take an oath, and you are
 23 testifying here today under oath, and it is the
 24 same as if we were in court.

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1 Do you understand that?
 2 A. Yes, sir, I understand.
 3 Q. You've met the court reporter Debbie,
 4 who is going to be helping us today.
 5 She is going to be taking down
 6 everything we say. So in order to help her do her
 7 job and to make sure what you say is fairly
 8 recorded in the transcript, I'd ask a couple things
 9 from you:
 10 First, if you would just wait
 11 for me to finish my question before you start
 12 answering, that would be much appreciated. Just so
 13 she can get down the question and the answer.
 14 Since you've never had a
 15 deposition before, I will go ahead and tell you --
 16 you will inevitably break this rule.
 17 Every witness breaks this rule.
 18 I will probably interrupt you at various times. We
 19 will try to remind each other to slow down and
 20 pause and give each other a chance to finish.
 21 It is just the nature of the
 22 depositions and sometimes Zoom doesn't help in that
 23 respect.
 24 As I'm asking you questions, you

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1 may hear an objection from Mr. Brady. Mr. Brady,
 2 you understand, is representing you in today's
 3 deposition. Is that fair to say?
 4 A. That is fair to say.
 5 Q. So Mr. Brady may object, but you will
 6 generally still need to answer the question that I
 7 asked, if you understand the question. If you
 8 don't -- if you don't understand the question, I
 9 would ask you to state that and ask you to clarify.
 10 If you answer the question I'm
 11 going to assume -- and everyone reading the
 12 transcript will assume that you understood the
 13 question as asked. Is that fair?
 14 A. Yes, sir.
 15 Q. The one exception that we may encounter
 16 is if Mr. Brady specifically instructs you not to
 17 answer because of the attorney/client privilege.
 18 In that case, that is the
 19 exception to the rule that you generally have to
 20 answer.
 21 Are you on any -- and I
 22 apologize for the intrusiveness of this question,
 23 but it is a standard question in this type of
 24 circumstance.

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1 Are you on any medication today
 2 that would prevent you from giving truthful
 3 testimony?
 4 A. No, sir.
 5 Q. So as you know, we are doing this
 6 deposition virtually today through Zoom. I'm in my
 7 office in Chicago. Where are you located today?
 8 A. I'm in my home office in southern
 9 Missouri. In Chadwick, Missouri.
 10 Q. Okay. And is there anyone in the room
 11 with you today?
 12 A. No, sir.
 13 Q. Are there any other applications --
 14 software applications open on your computer aside
 15 from Zoom?
 16 A. I will check real fast. I'm afraid I'll
 17 close the wrong one and shut us down.
 18 Q. I understand.
 19 A. I've closed everything else.
 20 Q. Thank you very much.
 21 I would ask you to keep the
 22 other applications closed other than Zoom. Do you
 23 have a smart phone on you?
 24 A. I put it away, out of my reach.

<p style="text-align: right;">Page 10</p> <p>1 Q. Okay. Great.</p> <p>2 If you could just keep the smart</p> <p>3 phone away from you. The reason I'm asking these</p> <p>4 questions is I would ask you, while we are on the</p> <p>5 record, the only way we should communicate is</p> <p>6 verbally through Zoom. And your attorney should</p> <p>7 only communicate with you on the record verbally</p> <p>8 through Zoom while we are on the record.</p> <p>9 So if that changes, let me know</p> <p>10 and we will address it. Despite being on Zoom,</p> <p>11 simulate as if we are in a room together if that</p> <p>12 makes sense.</p> <p>13 A. Yes, sir.</p> <p>14 Q. Do you have any documents in front of</p> <p>15 you?</p> <p>16 A. No, sir.</p> <p>17 Q. And if you have any problem with the</p> <p>18 technology we are using today, please let me know.</p> <p>19 Please speak up and let the court reporter know.</p> <p>20 Mr. Eby, the name of the lawsuit</p> <p>21 you are being deposed is Barnett v. Raoul, Case</p> <p>22 Number 23 CV 209. It is pending in the U.S.</p> <p>23 District Court. There are three other cases that</p> <p>24 have been consolidated with the Barnett Case.</p>	<p style="text-align: right;">Page 12</p> <p>1 A. I'm a technical consultant. I currently</p> <p>2 have a primary role with Trijicon, Incorporated out</p> <p>3 of Michigan. I work with their business</p> <p>4 development office in Virginia.</p> <p>5 Q. What does Trijicon, Incorporated, do?</p> <p>6 A. They make optics; hunting scopes and</p> <p>7 for the military, they make machine gun optics,</p> <p>8 rifle optics, pistol optics, iron sights. They are</p> <p>9 in the business for about 40 years now.</p> <p>10 Q. You said it is pronounced Trijicon?</p> <p>11 A. Yes, they made up the name. So it is</p> <p>12 not a logical form of English.</p> <p>13 Q. Can you spell it for us?</p> <p>14 A. T-R-I-J-I-C-O-N.</p> <p>15 Q. You said Trijicon makes optics. Is that</p> <p>16 optics for firearms?</p> <p>17 A. Yes, sir. And iron sights for pistols.</p> <p>18 Q. You mentioned that some of the optics</p> <p>19 that Trijicon makes are for hunting. So is that</p> <p>20 for firearms used in the civilian market or sold in</p> <p>21 the civilian market?</p> <p>22 A. Yes, sir.</p> <p>23 Q. Would that include AR platform rifles?</p> <p>24 A. Yes, sir.</p>
<p style="text-align: right;">Page 11</p> <p>1 Harrel vs. Raoul 23141 Langley v. Kelly, 23 CV 192;</p> <p>2 and Federal Firearms v. Pritzker 23 CV 215. Do you</p> <p>3 know that the deposition you are giving today may</p> <p>4 be used in all four of those cases?</p> <p>5 A. I do know.</p> <p>6 Q. And do you understand that the</p> <p>7 plaintiffs in all four of those cases have</p> <p>8 identified you as an expert witness?</p> <p>9 A. I do know.</p> <p>10 Q. When you say you do know, what do you</p> <p>11 mean?</p> <p>12 A. I mean, I didn't realize I was in all</p> <p>13 four cases, but I do understand that now. That is</p> <p>14 fine.</p> <p>15 Q. Do you know if you've been specifically</p> <p>16 retained by the other plaintiffs in all four cases?</p> <p>17 A. I have one point of contact and that is</p> <p>18 Mr. Sean Brady. I don't know if I've been</p> <p>19 retained. I wasn't aware of that.</p> <p>20 Q. So is it fair to say the one point of</p> <p>21 contact you've had about this litigation is Sean</p> <p>22 Brady?</p> <p>23 A. Yes, sir.</p> <p>24 Q. Where are you currently employed?</p>	<p style="text-align: right;">Page 13</p> <p>1 Q. What other types of firearms for the</p> <p>2 civilian market does Trijicon make optics for?</p> <p>3 A. They make thermal optics for both</p> <p>4 civilian and military use. Machine gun optics.</p> <p>5 Missile so -- I'll say missile. They sell boosters</p> <p>6 called "Gustav" -- is a rocket, but they have</p> <p>7 submunitions that can be guided which make them</p> <p>8 missiles --</p> <p>9 Q. I'm sorry. Go ahead.</p> <p>10 A. Did I answer the question or did I miss?</p> <p>11 Q. No. You did. Thank you.</p> <p>12 You also mentioned that there is</p> <p>13 a military component of Trijicon's business. How</p> <p>14 is the military component of Trijicon's business</p> <p>15 different than the civilian component?</p> <p>16 A. They are business developers; both</p> <p>17 international and domestic. They interact with</p> <p>18 each military branch with a program manager to find</p> <p>19 out what capability gaps those branches have and if</p> <p>20 we can build or supply a solution to those gaps.</p> <p>21 Q. And just roughly, what is the proportion</p> <p>22 of Trijicon's business that is military side versus</p> <p>23 civilian side?</p> <p>24 A. I'm throwing an opinion out there, but I</p>

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1 think it is roughly 70 percent civilian and 30
 2 percent military. And with zero basis to make that
 3 number.
 4 Q. That is just your best estimate?
 5 A. Based on money, primarily. I understand
 6 how much revenue comes in from each side, and that
 7 would probably put it in the 70/30, but that may
 8 not be true on products. It may be more products
 9 towards one versus whether they are more expensive
 10 than the civilian market than the military that
 11 buys under contract with Highbolt.
 12 Q. So your assessment of the 70 percent/30
 13 percent split is based upon your understanding of
 14 where the revenue comes from?
 15 A. Yes, sir. Yes, sir.
 16 Q. Do you know if Trijicon is a member of
 17 the National Shooting Sports Foundation?
 18 A. I do not know.
 19 Q. What assignment were you given in this
 20 case?
 21 A. Expert witness on the law itself as I
 22 understand it. So I was presented the areas of the
 23 law that Governor Pritzker signed. "What do you
 24 think?"

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1 Q. Which law?
 2 A. Assault weapons banned law. I don't
 3 know the name. I did know it, but I can't recall
 4 it.
 5 Q. And did you look at the terms of the
 6 statute itself in preparing your expert reports?
 7 A. I read through the list of the weapons
 8 primarily -- and no guarantee that I even knew what
 9 those were.
 10 There were quite a few weapons
 11 on there.
 12 Q. When you say there was no guarantee that
 13 you knew what those were, what do you mean?
 14 A. Meaning, my expertise relies upon
 15 weapons I had used in the military. And then a few
 16 civilian of the myriad of civilian options.
 17 So I would also have to look
 18 some of those weapons up using the internet for me
 19 to totally understand that.
 20 So I'm not an expert in all
 21 weapons. I'm an expert in which I had to train
 22 within the military.
 23 Q. So is it fair to say your expertise is
 24 specific to the weapons that you were trained on in

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1 the military?
 2 A. Limited because I also teach as a
 3 National Rifle Association instructor for pistols.
 4 Graduated tactical training course, but even those
 5 are limited in nature to the amount of weapons
 6 there are in the world.
 7 Q. You mentioned two civilian training
 8 courses. What were those again?
 9 A. Law enforcement tactical instructor.
 10 Q. And who provided that training?
 11 A. The National Rifle Association provided
 12 that.
 13 Q. What weapons were utilized in that
 14 training?
 15 A. We brought our own weapons, your
 16 preferred pistol. I took a GLOCK 19, and your
 17 preferred rifle. I had one of the AR-15 variants
 18 that I own.
 19 Q. Do you remember what variant
 20 specifically?
 21 A. I do not.
 22 Q. And what -- generally speaking, what
 23 AR-15 variants do you own?
 24 A. I have Larue tactical Daniel Defense. I

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1 call them -- I bought several of these where I
 2 bought independent components and assembled them.
 3 They don't really have a clear identity.
 4 Q. In addition to law enforcement -- I'm
 5 sorry. Did I cut you off with others?
 6 A. There are, but I can't recall the names
 7 of them.
 8 Q. Just approximately how many AR-15
 9 variants do you own?
 10 A. Approximately 22. And they are
 11 comprised in different configurations. As an
 12 AR-15, with the 16-inch barrel, as an AR pistol
 13 with a pistol base. As a pistol caliber carbine --
 14 unless my wife asks, at which point I have three.
 15 Q. And are you familiar with the National
 16 Firearms Act?
 17 A. Yes, sir.
 18 Q. Is it fair to say that some of those
 19 weapons that you mentioned would be NFA, or
 20 National Firearms Act --
 21 MR. BRADY: Objection. Calls for a legal
 22 conclusion to the extent there is an NFA issue,
 23 which the witness understands may not be -- have
 24 the proper tax stamp. I would instruct the witness

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1 not to answer and assert his Fifth Amendment.
 2 MR. WELLS: So let's keep it to form, if we
 3 could, Sean.
 4 BY MR. WELLS:
 5 Q. I'm really just asking your
 6 understanding. I'm not asking whether you are
 7 complying with any law or not complying.
 8 I just want to know if you have
 9 an understanding as to whether some of the firearms
 10 you have possessed would be classified as NFRA
 11 firearms?
 12 MR. BRADY: I will renew my objection. The
 13 witness has a right to be instructed on his rights
 14 to answer that if there is an issue, so...
 15 BY MR. WELLS:
 16 Q. Do you understand?
 17 A. Do I understand?
 18 Q. Yes. Do you understand? Are you able
 19 to answer?
 20 A. I have deliberately not signed up to the
 21 NFA because I have no weapons that meet that
 22 description. I have no short-barreled weapons. I
 23 have no any other weapons where you can stick a
 24 pistol on and reclassify a weapon simply by that

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1 small little hand grip in the front.
 2 I have deliberately avoided
 3 having any NFA items outside of suppressors, which
 4 I have six. And those were all registered.
 5 Q. Understood. Thank you, Mr. Eby.
 6 And what I'm trying to
 7 understand -- because you make different
 8 recommendations later in the report and
 9 considerations about what rules might apply to
 10 different weapons.
 11 So I'm really trying to
 12 understand your knowledge with the applicable
 13 regulations.
 14 So I don't mean to be intrusive.
 15 That is really the purpose. Okay. How would you
 16 describe your field of expertise?
 17 A. Small arms/weapons expert. We have a
 18 very deliberate training program from the Marine
 19 Corps, and some side training programs from the
 20 National Rifle Association on both pistols and
 21 tactics. I was the officer in charge of the small
 22 arms instructors instructor course, which is the
 23 premiere instructor development course for all
 24 small arms.

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1 During my tenure, I oversaw the
 2 development of the combat marksmanship program,
 3 which included combat marksmanship instructor
 4 training and combat marksmanship coach training.
 5 In addition, I oversaw the
 6 development of the foreign weapons instructor
 7 course and the foreign weapons coaches course.
 8 That lasted for a period of three years.
 9 I've been an instructor for
 10 small arms, for machine guns, missiles, rockets,
 11 motors, rifles, grenade launchers and explosives.
 12 Q. And I believe we were talking about two
 13 specific civilian training courses. You mentioned
 14 military experience. You talked about one of them.
 15 What was the second civilian training course you
 16 received?
 17 A. Basic pistol course.
 18 Q. And was that a course from the National
 19 Rifle Association?
 20 A. Yes, sir.
 21 Q. Are there any other civilian trainings
 22 that you've received that you think are relevant to
 23 your testimony?
 24 A. Not with certifications, no.

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1 Q. What materials did you review in
 2 preparing your initial expert report in this case?
 3 A. I reviewed field manuals and operational
 4 manuals, primarily written by the Army as they are
 5 well funded for the development of those.
 6 I read historical reports and
 7 experiments, a secretary defense report following
 8 Vietnam. My initial days of Vietnam primarily --
 9 that is quite a large sum of publications just in
 10 that statement.
 11 Q. And are all of those publications, the
 12 ones you cited -- the ones you cited in your expert
 13 report?
 14 A. Yes, sir.
 15 Q. Beyond what is cited in either your
 16 initial expert report or your rebuttal expert
 17 report, are there other materials you reviewed that
 18 are not cited in those documents?
 19 A. Nothing distinguishable.
 20 Q. So everything you reviewed and relied
 21 upon is reflected and cited in the expert report
 22 and rebuttal report?
 23 MR. BRADY: Objection. Vague.
 24 THE WITNESS: That is correct. Yes.

<p style="text-align: right;">Page 22</p> <p>1 BY MR. WELLS:</p> <p>2 Q. Did you review the expert reports of any</p> <p>3 other experts in this case?</p> <p>4 MR. BRADY: Objection. Vague as to when.</p> <p>5 MR. WELLS: If you understand, you can answer.</p> <p>6 THE WITNESS: Yes, sir, I did.</p> <p>7 BY MR. WELLS:</p> <p>8 Q. Which expert reports did you review that</p> <p>9 are related to this case?</p> <p>10 A. Segments of Andrews Tucker and Lucier --</p> <p>11 or something very similar to that. Butchering the</p> <p>12 name.</p> <p>13 Q. Were there any other expert reports or</p> <p>14 segments of expert reports that you reviewed in</p> <p>15 your work on this case?</p> <p>16 A. I don't recall.</p> <p>17 Q. You mentioned expert report from</p> <p>18 Mr. Tucker. Do you know Mr. Tucker?</p> <p>19 A. Oh, yes, sir.</p> <p>20 Q. Who is Craig Tucker?</p> <p>21 A. Craig Tucker was my commanding officer</p> <p>22 in 1999 to late 2000. He was the lieutenant</p> <p>23 colonel then. I was recently a marine gunner,</p> <p>24 which is a commissioned officer. Served with him</p>	<p style="text-align: right;">Page 24</p> <p>1 limited as they should be. That is not his role.</p> <p>2 Q. What is the role of an officer, then?</p> <p>3 A. He is to manage the forces that provide</p> <p>4 the fight against the opponent. And he does that</p> <p>5 very well.</p> <p>6 Those forces are air, sea, land,</p> <p>7 space, cyber. He manages that very well to apply</p> <p>8 pressure on the opponent. His role is not to</p> <p>9 identify characteristics of employment of</p> <p>10 individual weapons.</p> <p>11 Q. How does a commander make decisions</p> <p>12 about what particular forces to deploy if they</p> <p>13 don't understand the underlying weapon systems?</p> <p>14 MR. BRADY: Objection. Calls for speculation.</p> <p>15 THE WITNESS: I would be speculating on his</p> <p>16 training and education that got him prepared to do</p> <p>17 so. Because I didn't undergo that level of</p> <p>18 training.</p> <p>19 BY MR. WELLS:</p> <p>20 Q. How is your role as a Marine gunner</p> <p>21 distinct from the role of your commanding officer?</p> <p>22 A. I was an advisor with no authority.</p> <p>23 Q. Can you explain more of what that means,</p> <p>24 that you were an advisor?</p>
<p style="text-align: right;">Page 23</p> <p>1 in 29 Palms at 2nd Marines, 2004 and 2005. Then</p> <p>2 Colonel Tucker was my commanding officer as we</p> <p>3 served together in Iraq in Al Anbar Province.</p> <p>4 Q. What is your opinion of Mr. Tucker?</p> <p>5 MR. BRADY: Objection. Vague. Calls for</p> <p>6 narrative. You may answer.</p> <p>7 THE WITNESS: I served with Craig Tucker. He</p> <p>8 is an honorable outstanding combat commander. I</p> <p>9 have a very high regard for him.</p> <p>10 BY MR. WELLS:</p> <p>11 Q. What is your opinion of Colonel Tucker's</p> <p>12 knowledge of military small arms?</p> <p>13 A. That is not so high. He used me to</p> <p>14 answer those questions on all occasions.</p> <p>15 I don't believe he has had any</p> <p>16 deliberate training and certifications on small</p> <p>17 arms other than holding it and using it. And even</p> <p>18 that is limited.</p> <p>19 It is very common for an officer</p> <p>20 to not hold the rifle past the rank of lieutenant.</p> <p>21 And, for instance, 30 years of service maybe you</p> <p>22 hold the rifle for three years of that, and use a</p> <p>23 pistol. So his knowledge and expertise on that</p> <p>24 rifle, the employment, the instruction are very</p>	<p style="text-align: right;">Page 25</p> <p>1 A. I can explain what he tasked me to do,</p> <p>2 if that would help. He would inform me to create</p> <p>3 training programs for each of our individual</p> <p>4 weapons. Not only on the loading unloading</p> <p>5 characteristics nomenclature but on the employment</p> <p>6 of them individually.</p> <p>7 And then he would task me</p> <p>8 to create training events that would group weapons</p> <p>9 and systems and people together in ever-escalating</p> <p>10 sizes. From fire team to rifle squad, to platoon,</p> <p>11 to company, battalion and regiment.</p> <p>12 And I would create these</p> <p>13 training events to employ the best practices for</p> <p>14 weapon system and grouping, so we could evaluate</p> <p>15 our readiness with his participation. We would</p> <p>16 identify weakness through those training events and</p> <p>17 have follow-along training to correct those</p> <p>18 shortfalls.</p> <p>19 Q. So I want to come back to some of that</p> <p>20 here in a few minutes. But before I do that, I</p> <p>21 just want to be clear. The initial report that you</p> <p>22 prepared in this case was prepared with</p> <p>23 Mr. Musselman. Am I saying that correctly?</p> <p>24 A. You are.</p>

<p style="text-align: right;">Page 26</p> <p>1 Q. How do you know Mr. Musselman?</p> <p>2 A. He was also a Marine gunner close</p> <p>3 friends and still are.</p> <p>4 Q. Can you tell me how it came to be that</p> <p>5 the two of you prepared an initial report together?</p> <p>6 MR. BRADY: Objection to the extent it calls</p> <p>7 for communication with counsel. You may answer.</p> <p>8 THE WITNESS: I think Mr. Brady is the one</p> <p>9 that brought Mr. Musselman in. Mr. Musselman and I</p> <p>10 met at a retirement ceremony in Washington, D.C.,</p> <p>11 for a friend of ours.</p> <p>12 We had spoken that we had both</p> <p>13 been requested by Mr. Brady to write statements.</p> <p>14 We each had a divergent path on what that statement</p> <p>15 would look like. And I was not a fan of the</p> <p>16 direction Mr. Musselman wanted to go into.</p> <p>17 So we agreed to write individual</p> <p>18 separate statements and we would communicate with</p> <p>19 Mr. Brady as we wrote these individual statements,</p> <p>20 but at the end of the day, I believe Mr. Brady</p> <p>21 preferred my statement better, and Mr. Brady handed</p> <p>22 it to Mr. Mussleman to corroborate and look for any</p> <p>23 errors.</p> <p>24 So to be fair, it was my</p>	<p style="text-align: right;">Page 28</p> <p>1 .357 Magnum. Pistols. Ruger 14 was employed in</p> <p>2 that engagement.</p> <p>3 I think he was leaning more</p> <p>4 towards how hard it is to put an opponent down.</p> <p>5 How resilient the human body is.</p> <p>6 My comment to him was neither</p> <p>7 one of us are ballisticians or forensic experts,</p> <p>8 and it is really out of our lane to speak so</p> <p>9 heavily in the lethality role when there are so</p> <p>10 many variables involved.</p> <p>11 BY MR. WELLS:</p> <p>12 Q. In formulating your opinions as</p> <p>13 reflected in your expert report and your rebuttal</p> <p>14 report, did you rely on any evidence from the</p> <p>15 civilian world?</p> <p>16 MR. BRADY: Objection. Vague.</p> <p>17 THE WITNESS: Most likely I did. Only because</p> <p>18 I read a lot. I study both civilian and military</p> <p>19 engagements. From not only weapons employed, the</p> <p>20 bullets that are used. The human performance of</p> <p>21 the body. The body alarm response, and how that</p> <p>22 alters your memory of an event if you were close.</p> <p>23 So it would be impossible for me</p> <p>24 to tell you the levels of influence of all writings</p>
<p style="text-align: right;">Page 27</p> <p>1 statement that Mr. Mussleman witnessed, approved</p> <p>2 and corroborated. I think he added one line into</p> <p>3 it on the addition of a 149 and hand rifle. I</p> <p>4 forgot to mention. And the rest of that was my</p> <p>5 statement.</p> <p>6 BY MR. WELLS:</p> <p>7 Q. When you say you were not a fan of the</p> <p>8 direction that Mr. Mussleman wanted to go, what</p> <p>9 direction did Mr. Mussleman want to go?</p> <p>10 A. I think he was leaning more towards</p> <p>11 articles from civilian world and use of guns and</p> <p>12 mass murders, and I disagreed that that was my</p> <p>13 strength and my training. And I didn't want to</p> <p>14 start quoting what was happening outside of the</p> <p>15 military as that would just be pure opinion.</p> <p>16 Q. What types of articles from the civilian</p> <p>17 world describe mass shootings?</p> <p>18 MR. BRADY: Objection. Vague.</p> <p>19 THE WITNESS: The Miami-Dade shooting in 1986.</p> <p>20 For instance, initially eight</p> <p>21 FBI agents engaging two hostiles, hundreds of</p> <p>22 rounds were fired at a distance of 20 feet.</p> <p>23 Speaking towards -- I think he was going after the</p> <p>24 lack of lethality in some engagements for shotguns.</p>	<p style="text-align: right;">Page 29</p> <p>1 from all natures as I certainly didn't shelter</p> <p>2 myself only to the military world, when there is</p> <p>3 tons of evidence or opinions in the civilian world.</p> <p>4 Yes, I did, but if I had to list</p> <p>5 those out I wouldn't be able to do so.</p> <p>6 BY MR. WELLS:</p> <p>7 Q. Did you review any publications</p> <p>8 discussing the lethality of firearms used in mass</p> <p>9 shootings?</p> <p>10 A. Not for this event, no. That would have</p> <p>11 been previous to over the last 40 years.</p> <p>12 Q. Why did you not review those types of</p> <p>13 materials?</p> <p>14 A. Just time. I had plenty to research to</p> <p>15 find those historical studies that I knew existed,</p> <p>16 read them again, understand what they conveyed and</p> <p>17 what their out-brief was -- what their final facts</p> <p>18 were, and whether or not those fit with my own</p> <p>19 thoughts. And there was just no time to do the</p> <p>20 research and external -- there are a lot of words</p> <p>21 involved.</p> <p>22 Q. So you looked for sources that fit with</p> <p>23 your own thoughts? Did I hear that correctly?</p> <p>24 MR. BRADY: Objection. Misstates testimony.</p>

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1 Vague.
 2 THE WITNESS: I looked for sources that I knew
 3 I had read before in order to quote them and
 4 reference them.
 5 BY MR. WELLS:
 6 Q. Would reports of lethality of firearms
 7 and civilian mass shootings be relevant to an
 8 expert in your field?
 9 MR. BRADY: Objection. Vague. Calls for
 10 speculation.
 11 THE WITNESS: It is my opinion that most
 12 reports I see outside of FBI are not scientifically
 13 studied, evaluated, controlled for variables.
 14 When the military does a report,
 15 it is very much a fifth-grade science project where
 16 they control for variables, evaluate the outcomes
 17 and provide me something that I can have confidence
 18 in instead of a very wordy opinion piece.
 19 So other than FBI documents,
 20 which are very few that I've had access to,
 21 majority of my opinion has been shaped by military
 22 studies.
 23 BY MR. WELLS:
 24 Q. Did you review any FBI reports

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1 discussing civilian mass shootings in preparing
 2 either your expert report or your rebuttal report
 3 in this case?
 4 A. No, sir.
 5 Q. In discussing the statement that you
 6 prepared that Mr. Musselman also signed onto, do
 7 you stand by everything that is written in that
 8 statement?
 9 MR. BRADY: Objection. Vague.
 10 THE WITNESS: I have no reason to change my
 11 opinion on anything that I wrote.
 12 BY MR. WELLS:
 13 Q. And that statement reflects your words
 14 in its entirety. Is that fair to say?
 15 MR. BRADY: Objection. Vague.
 16 THE WITNESS: Yes.
 17 BY MR. WELLS:
 18 Q. And same thing goes for the rebuttal
 19 report. The rebuttal report you prepared in this
 20 case is your words. Is that fair to say?
 21 MR. BRADY: Objection. Vague.
 22 THE WITNESS: Yes, sir.
 23 BY MR. WELLS:
 24 Q. Okay. I'm going to talk a little bit

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1 about -- more about your Marine Corps experience.
 2 When did you join the Marine
 3 Corps?
 4 A. I went on active duty in June of 1982.
 5 Q. And I believe you mentioned earlier that
 6 you became a Marine gunner in 1999. Is that right?
 7 A. That is correct.
 8 Q. If you could just describe for me
 9 generally your roles in the Marine Corps from 1982
 10 to 1999?
 11 A. I joined the Marine Corps, and I was
 12 assigned as an assaultman, which is a demolitions
 13 man with a rocket capable of reducing bunkers.
 14 I served in that role no more
 15 than nine months before being accepted into an
 16 anti-tank missile course that was on-the-job
 17 training. There was no school for it. We were
 18 trained by the people that already knew. I stayed
 19 in anti-tank missile until 1987. In 1987 I was
 20 sent out on embassy duty for Brussels Belgium and
 21 Dehli, India. Eighteen months in each one of
 22 those. Returning back to the fleet Marine Corps in
 23 1990 where I joined, second Battalian, 8th Marine.
 24 I was assigned as a machine gun

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1 section leader initially and then moved over to
 2 scout sniper platoon. It is the scout sniper,
 3 staff NCO, staff non-commission officer in charge.
 4 And then I was assigned in 1993
 5 to fleet anti-terrorism security team company out
 6 of Norfolk, Virginia, where we were the world
 7 response force for the chief of naval operations.
 8 I had a 50-man platoon with our
 9 own mortars, rockets. Every man had a rifle and a
 10 pistol. I had sniper systems. I had light machine
 11 guns as part of that 50-man platoon. I did that
 12 for three years.
 13 And in 1996 I was reassigned to
 14 be the chief mortar instructor at school of
 15 infantry, Camp Lejeune. Eighteen months later, I
 16 was reassigned to be the infantry platoon course
 17 instructor where we were to teach a 13-week course
 18 across all of the small arms -- a rifle battalion;
 19 motors, rockets, missiles, mortars, rockets,
 20 missiles, machine guns, grenade launchers,
 21 explosives, rifles and no pistols. We honestly
 22 didn't have pistols in the infantry.
 23 By 1999 -- late '98 I was
 24 selected to be the Marine gunner. The performance

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1 for that selection, we had to be an enlisted E-7
 2 Gunnery sergeant with 16 years' experience to be
 3 eligible.
 4 I had the sixteen years in the
 5 Gunnery service. I was selected and transferred,
 6 and I had seven months of school in Quantico,
 7 Virginia, before I went to second Battalion 7th
 8 Marines Twentynine Palms in late September of 1999.
 9 I was then in marines until January 2003 where I
 10 just came off of deployment with the 2nd battalion
 11 7th Marines. Joined 7th Marines regiment, 17 days
 12 before leaving again for the Operation Iraqi
 13 Freedom.
 14 I was with 7th Marines until
 15 returning from Iraq in 2005 where I was transferred
 16 to be the instructor. The officer in charge of the
 17 small Arms Weapons instructor's course of the
 18 battalion in Quantico, Virginia. Three years in
 19 that billet, before General Dunford created a
 20 billet for Marine gunner at the Pentagon, and
 21 brought me up as the first Marine gunner to serve
 22 at the Pentagon to serve as an advisor, as
 23 confidant, for plans policies and operations.
 24 I served in that for three years

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1 before retiring in November of 2010.
 2 Q. Can you describe just generally your
 3 combat experience in the marines?
 4 A. Yes, sir. In 1991 I was on Operation to
 5 Provide Comfort in Northern Iraq. Separating the
 6 Iraqis who were killing the Kurdish people.
 7 Created a safe zone for those Kurdish people.
 8 Spent four months patrolling the
 9 separation of the Iraqis from the Kurds in Northern
 10 Iraq with 2nd Battalion 8th Marines as part of the
 11 24th Marine Expeditionary Unit.
 12 Later I deployed on Operation
 13 Iraqi Freedom from Kuwait to Baghdad in a 4 month
 14 -- slightly 57 days of straight combat before
 15 settling down for another two months of just
 16 pacifying the area and retrograding.
 17 Working our way back down to
 18 Kuwait and leaving for the United States. So from
 19 January 2003 until late May of 2003, I was sitting
 20 in that Kuwait and Iraq and back to Kuwait time
 21 frame on Operation Iraqi Freedom.
 22 I returned in January of 2004
 23 with Colonel Tucker and stayed until May of 2005,
 24 approximately 15 months, overall, of combat in

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1 Western Iraq from Al-Asad to the border of Turkey
 2 -- in Syria rather.
 3 With a slight deviation for
 4 November 2004, our regiment was brought in to
 5 assist on the Second Battle of Fallujah in 2004.
 6 Q. And have you discharged a weapon in
 7 combat?
 8 A. Yes, sir.
 9 Q. Did you do that in 1991?
 10 A. No, sir. Not 1991.
 11 I ordered the discharge of
 12 weapons, machine guns and mortars and riflemen. I
 13 did not personally position myself to do so.
 14 Q. And when you did discharge your weapon
 15 in combat, when did that occur?
 16 A. That occurred in the 2003 push to
 17 Baghdad. And also in the 2004 to '05 time,
 18 specifically in and around Fallujah, but also
 19 around Al-Qa'im, and then bounced in between.
 20 Some of those were just trying
 21 to defeat an IED. Some of those were obstacles in
 22 the road, and I would shoot them to see if they
 23 would detonate or move or show up some wires.
 24 Others were joining in somebody

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1 else's fight at Al-Qa'im when they were closing in
 2 on the objective and all throughout Fallujah.
 3 Q. When you say some of those discharges
 4 were trying just to defeat an IED, what do you
 5 mean?
 6 A. An obstacle in the road that could be
 7 filled with explosives that can detonate on a
 8 passing vehicle. There was seldom a way around
 9 that.
 10 So a means of identifying it to
 11 see if it was just a random obstacle that fell off
 12 of the vehicle or if they delivered an improvised
 13 explosive device, would try to change the way it
 14 laid in the ground.
 15 Rifles won't detonate
 16 explosives, but I could move it. I could see if
 17 any wires or signals were tied to it or disrupt it.
 18 Or it being able to be detonated by wireless
 19 remote.
 20 So these were just means before
 21 walking over and detonating it.
 22 Q. When you say "shooting at them," what
 23 type of weapon would you use to shoot at the IED?
 24 A. I had an M4, which is all I had

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1 available to use so I used it.

2 Q. What kind of M4?

3 A. There is one type of M4, and it is a

4 slight -- adjustable buttstock, 14.5-inch rifle

5 barrel with a flash hider on it. A non-free

6 floating rail, a slip lever with a safe semi-auto.

7 Q. You mentioned another combat experience

8 in which you joined other people's fight. What

9 type of weapon would you be using in that combat?

10 A. -- I also had an M4 at that time with a

11 Trijicon optic on it.

12 In these engagements, someone

13 from a position of defense had shot at marines.

14 And marines immediately cordoned the area and

15 surrounded it to prevent that individual or

16 individuals from leaving.

17 On these occasions we did not

18 try to enter. We isolated the objective when we

19 brought something heavy to destroy the building or

20 destroy the bunker or destroy hideaway as a safer

21 means for us to eliminate that threat without

22 having to get into the room and get shot in the

23 face.

24 Q. Other than the M4 rifle, are there any

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1 other weapons that you discharged in combat?

2 A. M240 machine gun in position. Only to

3 relieve the marine that burned himself with hot

4 brass. That machine gun was on a military Humvee.

5 He was suppressing the whole side of the building

6 with traversing fire just to keep somebody from

7 stepping up into a window or shoot out of it.

8 For about one minute, I relieved

9 him and continued suppressing while he got the

10 brass out of his flak jacket. And he was ready to

11 get back in position, and I gave him the position

12 back.

13 Q. So that was one minute of suppression

14 fire? Is that right?

15 A. Yes. Many times, not engaged in combat,

16 where I fired weapons, and I did a lot of training

17 to teach the marines how to work as a group because

18 you are always doing pick-up teams.

19 People are changing out

20 regularly and you are always having to reinstall

21 that level of knowledge of how they all need to

22 work around each other.

23 So heavy machine guns. M2 heavy

24 machine guns. M240 medium machine guns. M249

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1 light machine guns. The Barrett sniper rifle. The

2 M110 semi-automatic sniper rifle. The M16A4, were

3 all -- I had shotguns many times, but most of those

4 were in training scenarios I created outside of

5 Al-Asad to train the force that was going to use

6 them.

7 Q. So I understand that a lot of the

8 discharges took place in training, but in terms of

9 combat, the two weapons you fired in combat were

10 the M4 rifle and M240 machine gun. Is that fair to

11 say?

12 A. Yes, sir.

13 Q. And when you fired the M4 rifle in

14 combat, what setting was the rifle in?

15 A. Always in semi-auto.

16 Q. So in your report, you mentioned a

17 variety of different weapon systems that you became

18 familiar with and became an expert in as a Marine

19 gunner. And you described some of them as

20 individual and some of them as a crew served.

21 What is the difference between

22 an individual and a crew-served weapon?

23 A. Every Marine is assigned an individual

24 weapon whether that is an M4, M16 A4 or M9 pistol,

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1 now replaced with an M17 pistol.

2 Crew-server weapons are those

3 medium machine guns -- it starts with a medium

4 machine gun. It is a three-man group. Those three

5 men be assigned to that medium machine gun, yet all

6 of them have individual weapons as well.

7 So they will all have either

8 pistol -- the gunner will usually get the pistol.

9 The assistant gunner and the team leader will get

10 an M4 or M16A4. That transitions over time.

11 Meaning what we assign them changes by the year as

12 it progresses.

13 If you were to ask me what their

14 weapon was in 1999, it was an M16A4, but by 2003 it

15 was an M4A1, and by 2010 it was M27.

16 So that weapon progressed as

17 technology progressed, and as acquisitions changed.

18 So crew serves are more than one individual

19 assigned to a weapon that requires a crew to

20 operate. Three different machine guns. Two

21 different mortars. One -- two missiles, are all

22 crew weapons.

23 Q. In your report, you specifically list or

24 you identify two rifles, three sniper rifles, two

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1 grenade launchers, four different machine guns, two
 2 mortar systems, four rocket systems, two anti-tank
 3 missile systems, and a 25 Bushmaster canon.
 4 Do you recall that part of your
 5 report?
 6 A. I do.
 7 MR. BRADY: Objection. Vague.
 8 BY MR. WELLS:
 9 Q. When you mentioned the two rifles, what
 10 model of rifles were you referring to?
 11 A. M4A1, M16A4.
 12 Q. What were the fire settings on the
 13 M4-A1?
 14 A. Safe, semi-automatic and burst.
 15 Q. What were the fire settings on the
 16 M16-A4?
 17 A. The same. Safe, semi-auto and burst.
 18 Q. What does "burst" mean?
 19 A. It fires a three-round burst every time
 20 you pull the trigger.
 21 Q. You mentioned three sniper rifles in
 22 your report. What models of sniper rifles?
 23 A. Initially the M40A5, at the time I
 24 think. It could have been an A4, but it was a bolt

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1 action rifle. The M110 semi-auto special
 2 application rifle. And then the Barrett M107
 3 special application scoped, which was a 50 caliber.
 4 We honestly don't call that a
 5 sniper rifle. It is in the sniper platoon, but it
 6 is special application scoped rifle. It is not
 7 very accurate. It is designed to shoot equipment
 8 primarily -- vehicles.
 9 Q. Do you know if any of those three sniper
 10 rifles are available in the civilian market?
 11 A. All three of them are available on
 12 civilian market. All three are semi-auto only.
 13 Q. And I believe you said that -- what was
 14 the Barrett model again?
 15 A. At the time it was M107.
 16 Q. And what type of application was the
 17 Barrett M107 used for in the Marine Corps?
 18 A. Shoot at engine blocks. Shoot at
 19 radiators. Try to stop mobility for opposing
 20 vehicles. It is actually very limited if you are
 21 against a peer threat because peer threats will
 22 come with armor that we can't penetrate with that
 23 rifle.
 24 It is fine against third-world

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1 countries that are going to show up in a Toyota
 2 Highlander. So it is limited in nature where we
 3 can use it.
 4 Q. Can you imagine a scenario in a civilian
 5 setting where a civilian would use a Barrett M107
 6 for self-defense?
 7 MR. BRADY: Objection. Vague. Calls for
 8 speculation. Incomplete hypothetical.
 9 THE WITNESS: Yes, I could. And it wouldn't
 10 be the best solution, but if that was the only
 11 solution, that would be the only thing he could
 12 use. And there are those who are long-range
 13 precision shooters. That may be his only weapon.
 14 So I will tell you now, my
 15 favorite weapon is the one I grab first.
 16 BY MR. WELLS:
 17 Q. You said it wouldn't be the best
 18 solution. Why wouldn't it be the best solution?
 19 A. It is extremely cumbersome, heavy,
 20 awkward. Low in portability. Heavyweight. Really
 21 requires a prone shooting position, which may not
 22 be applicable at the time of the engagement
 23 depending where you are at.
 24 So it is not what I would

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1 recommend, but if it is the only one you have.
 2 Q. If you were in a home setting, would you
 3 recommend using an M107 for -- a Barrett M107 for
 4 self-defense?
 5
 6 MR. BRADY: Objection. Vague incomplete
 7 hypothetical.
 8 THE WITNESS: No, sir. I would not.
 9 BY MR. WELLS:
 10 Q. Why not?
 11 A. It is heavy. It is cumbersome. It
 12 requires prone shooting position. It is very
 13 low-volume ammunition. Not very portable. Not
 14 maneuverable. Not made for small-stature people.
 15 Not only for its weight and length, and limited
 16 ammunition, and being limited ammunition, it has a
 17 harsh recoil.
 18 THE COURT REPORTER: Did you say horse.
 19 THE WITNESS: Say that again, please.
 20 THE COURT REPORTER: You said it has a
 21 harsh --
 22 BY MR. WELLS:
 23 Q. Harsh recoil, H-A-R-S-H.
 24 A. Harsh recoil.

<p style="text-align: right;">Page 46</p> <p>1 Q. Would use of a Barrett M107 rifle in a 2 home setting for self-defense create the risk of 3 overpenetration? 4 MR. BRADY: Objection. Vague. Calls for 5 speculation. Incomplete hypothetical. 6 THE WITNESS: I would presume a significant 7 amount of overpenetration, yes. 8 BY MR. WELLS: 9 Q. Why would you presume a significant 10 amount of overpenetration? 11 A. That bullet can travel 7,200 meters 12 without obstruction when launched at a 40-degree 13 angle with sea level, 72 degrees, no humidity. 14 That has a lot of distance behind it. 15 So because it has such a long 16 distance behind it, it has the potential to 17 penetrate easier than a lower-velocity smaller 18 bullet. 19 Q. How does the velocity of a bullet affect 20 the distance it can travel? 21 MR. BRADY: Objection. Vague. It calls for 22 speculation. 23 THE WITNESS: The velocity of being able to 24 fire, temperature, altitude. All of those affect</p>	<p style="text-align: right;">Page 48</p> <p>1 speculation. 2 THE WITNESS: They are available only through 3 NFA effort. You would have to locate them and have 4 a special buy. 5 BY MR. WELLS: 6 Q. Is one person able to carry an M203 7 attachment grenade launcher? 8 A. Yes, sir. 9 Q. And is one person able to carry a 10 beltmark 19 grenade launcher? 11 A. No, sir. That is a three-man crew 12 requirement. 13 Q. You mentioned four different machine 14 guns, that as a marine gunner, you had to be an 15 expert in. What were those four different machine 16 guns? 17 A. M249 light machine gun. M240 Bravo 18 medium machine gun. The M2 heavy machine gun. And 19 the Mark 19, heavy grenade launcher. 20 Q. M249 light machine gun, can one person 21 carry that? 22 A. Yes, sir. 23 Q. The M240 Bravo medium machine gun, can 24 one person carry that?</p>
<p style="text-align: right;">Page 47</p> <p>1 how far the bullet can travel. 2 BY MR. WELLS: 3 Q. And how does velocity affect the 4 wounding capacity of a bullet? 5 MR. BRADY: Objection. Vague. Incomplete 6 hypothetical. 7 THE WITNESS: That would be best answered by a 8 ballistician other than myself. I would be stating 9 an opinion that is ever influenced by changing 10 thoughts on what metric we use for lethality. 11 BY MR. WELLS: 12 Q. You mentioned two grenade launchers in 13 your expert report in conjunction with, you know, 14 your training and familiarity as a Marine gunner. 15 What models of grenade launchers were you referring 16 to? 17 A. An under barrel M203, which is now 18 getting ready to be M320, individual grenade 19 launcher tied to a billet in the rifle squad, and 20 then we have a belt-fed automatic M19, which is 21 usually vehicle mounted. 22 Q. Are either of those weapons available in 23 the civilian market, as far as you understand? 24 MR. BRADY: Objection. Vague. Calls for</p>	<p style="text-align: right;">Page 49</p> <p>1 A. One person can carry it. It is a 2 three-man crew, so the ammunition can be brought 3 with it. 4 Q. In the event two members of the 5 three-man crew are incapacitated, could one person 6 both carry and operate the M240 medium machine gun? 7 A. Yes, sir. 8 Q. And with respect to the M249 light 9 machine gun, a person could both carry it and shoot 10 it, correct? 11 A. Correct. 12 Q. A single person? 13 A. Yes, sir. 14 Q. How about the M2 heavy machine gun? Is 15 that something that an individual person could 16 carry and fire? 17 A. Very limited duration, like 50 meters 18 perhaps. One person could pick the machine gun and 19 lift it up. That weighs 174 pounds and then haul 20 -- now I can't recall the weight of the ammunition, 21 but it comes with 100 round belts. I'm thinking it 22 is 30 pounds, so he would be very limited in 23 distance. 24 Once he sets the weapon down,</p>

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1 yes, he could employ it by himself.
 2 Q. You mentioned four rocket systems. What
 3 rocket systems, as a Marine gunner did you have to
 4 be an expert in?
 5 A. The M72 light weapon is a rocket. The
 6 AT4 rocket. The SAAB Bofors Carl Gustav had two
 7 different variants. So the M3 and the M4 variants
 8 are Carl Gustav rockets.
 9 They are Carl Gustav depending
 10 on what we decide to buy 7 of the 10 different
 11 ammunitions that are available to load into it,
 12 whereas the M72 and AT4 come with an anti-tank
 13 rocket, only.
 14 Q. Is the M72 light anti-tank weapon one
 15 that could be carried by one individual and fired
 16 by one individual?
 17 A. Yes, sir.
 18 Q. Is the AT4 rocket system one that could
 19 be fired by one individual and carried by one
 20 individual?
 21 A. Yes, sir.
 22 Q. Is the Gustav M3 a weapon that can be
 23 carried and fired by a single individual?
 24 A. It is a crew weapon of two, but, yes, it

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1 is can be carried and fired by one individual.
 2 Q. Can the Gustav M4 also be carried and
 3 operated by a single individual?
 4 A. Yes.
 5 Q. You mentioned two anti-tank missile
 6 systems. What are those missile systems?
 7 A. Initially there were three. The dragon
 8 missile, but they are obsolete and replaced by the
 9 Javelin anti-tank missile. Again, another exchange
 10 happened. The -- again, another exchange happens,
 11 the tube launched optically tracked wire command
 12 link ATM, the was replaced by the Saber anti-tank
 13 missile.
 14 So at the end of the day we
 15 still had two. Either the dragon and a tow or it
 16 went from Javeline to Saber.
 17 Q. And can those missile systems that you
 18 just described be carried and operated by a single
 19 individual?
 20 A. No, sir. Those are extremely heavy and
 21 cumbersome and, again, a three-man crew.
 22 Q. If two members of the three-men crew are
 23 incapacitated, can that remaining member operate
 24 that weapon system?

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1 A. Yes. Move it, not likely.
 2 Q. I'm going to cover -- I should mention
 3 to you, Mr. Eby, at the outset. If you need to
 4 take a break at any point, you should let me know.
 5 The only thing I would ask if
 6 there is a question pending, you just answer the
 7 question pending before we take a break.
 8 So we've been going a little
 9 under an hour. Would you like to continue or would
 10 you like to take a break?
 11 A. I'm okay to continue.
 12 Q. Just let me know if that changes. I'm
 13 going to cover just some basic concepts with you.
 14 What is a rifleman?
 15 A. Rifleman is an individual that is armed
 16 with a rifle who has a duty and responsibility to
 17 shoot a point targets under the command of a fire
 18 team leader or the commander of the squad leader.
 19 Q. Let me just show you something here.
 20 Okay. Mr. Eby, I've put up on the screen a
 21 document with the heading "Joint reported experts,
 22 witness, Jeff Eby and Michael Musselman." Do you
 23 see that?
 24 A. I do.

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1 Q. Have you seen that document before?
 2 A. I have.
 3 Q. What is it?
 4 A. My report.
 5 Q. Okay. It is a 305-page document, which
 6 includes both the report and the exhibits as
 7 submitted from your counsel.
 8 So I'm just going to scroll
 9 through it. I'm not going to go through the whole
 10 thing, but just the report section. Does this look
 11 like it is the report that you prepared and drafted
 12 in this case?
 13 A. It does.
 14 MR. WELLS: So for the sake of the record, I'd
 15 ask the court reporter just to note that this is
 16 Exhibit 1.
 17 (Deposition Exhibit 1 was marked
 18 for identification.)
 19 BY MR. WELLS:
 20 Q. It is the expert report of Jeffrey Eby
 21 and Michael Musselman. And as I'm scrolling
 22 through here on page 14 of the PDF, are you
 23 familiar with this document?
 24 A. I am.

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1 Q. And what is it?
 2 A. It is the FM350 Operations.
 3 Q. And these are the exhibits to your
 4 report. Is that fair to say?
 5 A. Yes, sir.
 6 Q. I'm just going to scroll to the end
 7 here.
 8 Does this look like the last
 9 exhibit in your report, PDF 45, which has been
 10 marked as Exhibit 5 -- I'm sorry -- Exhibit 1?
 11 A. Yes.
 12 Q. So I've just marked here your report as
 13 Exhibit 1. I would just like to now show you a
 14 different document. Okay? Do you see a document
 15 labeled "Expert Witness Rebuttal Report of Jeffrey
 16 Eby" on the screen now?
 17 A. I see that.
 18 Q. Are you familiar with this document?
 19 A. Not that I can recall.
 20 Q. I'm scrolling through the second page
 21 here of this report. Does this page look familiar
 22 to you?
 23 A. No. Let me read it.
 24 In part, it looks like I'm being

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1 quoted. Maybe it is mine. Yes. This does look
 2 familiar.
 3 Q. I'm scrolling to page 4. Does page 4
 4 look familiar to you?
 5 A. Yes.
 6 Q. Does page 4 look familiar to you?
 7 A. Yes, sir.
 8 Q. Okay. And Page 6. Do you see at the
 9 bottom of Page 6, it says "S, slash Jeffrey Eby."
 10 Do you see that?
 11 A. Yes, I do.
 12 Q. Did you input your signature in that
 13 document?
 14 A. I don't recall.
 15 Q. Do you --
 16 A. I do not recall whether I signed that
 17 digitally or not, or just authorized a signature.
 18 I don't recall.
 19 Q. Do you know if you reviewed this
 20 document before your digital signature was applied
 21 to it?
 22 A. Yes, sir. I do know that I reviewed
 23 that document.
 24 Q. And when did you review that?

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1 A. I don't recall the date.
 2 Q. Did you personally draft the contents of
 3 this document?
 4 A. Yes, sir, I did.
 5 Q. And when we looked at the first page of
 6 this document titled "Expert Witness Rebuttal
 7 Report of Jeffrey Eby," you didn't initially recall
 8 it. Do you recall that document now?
 9 A. I recall pieces of it. What confused me
 10 was the expert witness rebuttal. That part speaks
 11 to somebody else. Altered pieces of this. I would
 12 have to read the entire document to see what was
 13 altered. Because these look like my words on the
 14 front of it, but that doesn't look like -- maybe it
 15 does.
 16 I guess that isn't somebody
 17 rebutting me. That is my rebuttal statement. I
 18 just didn't recall the title of it.
 19 Q. So the title indicated to you that there
 20 may have been some altercations of the document
 21 after you reviewed it last?
 22 MR. BRADY: Objection. Misstates testimony.
 23 THE WITNESS: I believe this is my statement.
 24 I initially read that incorrectly thinking that was

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1 somebody else's rebuttal to me, and they were
 2 listing quotes from me.
 3 This appears not to be the case.
 4 This is my statement in entirety.
 5 MR. WELLS: Okay. I'd like to mark this
 6 Exhibit 2. It is expert witness rebuttal report of
 7 Jeffrey Eby.
 8 (Exhibit 2 was marked for
 9 identification.)
 10 BY MR. WELLS:
 11 Q. Mr. Eby, this is both your expert report
 12 and an underlying exhibit, which is 803-page PDF.
 13 Do you see that?
 14 A. I do.
 15 Q. And in keeping with this case, can you
 16 tell me how this -- besides the part that you
 17 drafted, what comprises the rest of the 803 pages?
 18 MR. BRADY: Objection. Vague.
 19 THE WITNESS: I believe it is the references
 20 that you see at the bottom. These are lengthy
 21 publications where you see the army studies or
 22 operation manuals.
 23 They comprise the majority where
 24 I took my statements from, what I base them upon.

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1 BY MR. WELLS:
 2 Q. So I'm moving to Page 111 of the PDF,
 3 which it has been marked as Deposition Exhibit 2
 4 and within the PDF is labeled as Exhibit 4 to
 5 Mr. Eby's rebuttal expert report.
 6 Looking at page 111 of the PDF,
 7 do you recognize this document?
 8 A. I do.
 9 Q. What is it?
 10 A. It is a marksmanship publication titled
 11 "Rifle Carbine" written by the Department of the
 12 Army.
 13 Q. Does it have a number at the top there
 14 that says TC322.9?
 15 A. Yes, sir. Training circular is what TC
 16 means. Training circular 22.9.
 17 Q. And are you familiar with this document?
 18 A. I have read this document, yes.
 19 Q. What is it?
 20 A. It is a marksmanship publication
 21 designed to teach the best practices on an
 22 individual training program for a rifle and a
 23 carbine.
 24 Q. What function does this document serve

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1 in the Army?
 2 A. It is the beginning stages of
 3 instruction for a weapon program usually in
 4 isolation and in sterile controlled environments
 5 that will initially start off with no time limits,
 6 and then grow to small easily achieved time limits
 7 that teach loading, unloading, sighting, aiming,
 8 methods of marksmanship for shots.
 9 It is our beginning stages of
 10 when we introduce weapon platform or conduct annual
 11 training to re-establish a baseline of knowledge.
 12 Q. Does the U.S. Marine Corps also use this
 13 document?
 14 A. We will refer to it, but we have our own
 15 document that we would use.
 16 Q. What is the name of that document?
 17 A. I don't recall the current name as it's
 18 been updated. It would be a training publication,
 19 and the naming convention that changed after I
 20 retired. I may not recall the variety, like
 21 Marine Corps Warfighting Publication, Marine Corps
 22 Doctrinal Publication, Marine Corps Training
 23 Publication.
 24 All of those naming conventions

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1 changed after my service. I don't recall what they
 2 are right now.
 3 Q. In preparing your rebuttal expert report
 4 why did you choose to rely on this document as
 5 opposed to Marine Corps publication?
 6 MR. BRADY: Objection. Misstates testimony.
 7 THE WITNESS: I had seen a reference of the
 8 same number.
 9 I believe it was FM-22.9
 10 referred to with a statement that I disagreed with.
 11 At the most -- I disagreed with it for two reasons.
 12 The most common and best method of engagement was
 13 rapid semi-automatic fire on engagements. And I
 14 realize how dangerous that statement was if we were
 15 to fight Russia, China, Iran or North Korea.
 16 In the last 70 years we have
 17 been fortunate to fight only third-world countries
 18 that cannot match us with manpower.
 19 In all engagements since then,
 20 we had a five-to-one minimum ratio of our forces
 21 against theirs. And we even increased that at
 22 point of contact by matching forces together.
 23 So the reason we've been able to
 24 use semi-auto only for so long is because the

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1 opponents we have faced since the Korean War, have
 2 been non-peer. They didn't equal us in manpower.
 3 They didn't equal us in armor. They had no air
 4 superiority. They had no naval forces to project
 5 power. They had no low-training military force
 6 equal to ours, and it gave us this capability to
 7 overrun them with semi-auto carbs -- would be five
 8 of us shooting for every one of them.
 9 But the reality is we prepared
 10 the workforce for a peer opponent that we haven't
 11 faced maybe since Korea, maybe even World War II.
 12 World War II certainly is pretty amazing. I don't
 13 know if they have equal superiority to the Naval
 14 force.
 15 So by limiting automatic fire,
 16 it takes away the critical requirements for react
 17 to ambush. We had two different ambush reactions,
 18 have been room clearings, not ambush. Those are
 19 all critical times where automatic fire has to be
 20 available. And in the previous document to this
 21 one, it had made that statement that semi-automatic
 22 fire was the preferred method of engagement without
 23 putting it into context. Without understanding the
 24 significant danger a statement like that could lead

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1 to if automatic fire was eliminated from future
 2 military weapons.
 3 Q. Is it fair to say that during your time
 4 in the military you were a vocal proponent of
 5 automatic fire?
 6 A. Yes, sir.
 7 Q. Did others in the military disagree with
 8 that view?
 9 MR. BRADY: Objection. Calls for speculation.
 10 THE WITNESS: It is calling for speculation,
 11 but I will say there is a time phase.
 12 Prior to 2001, there was no
 13 disagreement. After -- I'm sorry. 2003. When we
 14 went into Iraq, and we did automatic fires
 15 throughout Iraq through 2003, '04 and '05. The
 16 automatic fire tended to go away after 2005. We
 17 went into more a guard force, police-style
 18 behavior.
 19 We were literally reading
 20 Miranda rights to people we captured. It became --
 21 we were an extension of a large police force.
 22 So the nature of the war changed
 23 after 2005 to low-intensity police style
 24 engagement. We would have been better off sending

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1 police forces, as a matter of fact, instead of
 2 military as our overreaction led to more harm and
 3 problems.
 4 So probably from 2005 on, the
 5 experience of the force led to poor conclusions of
 6 what we needed. They would have taken away the
 7 body armor, taken away the automatic fire. They
 8 would have moved the machine guns off the table for
 9 use and probably very much limited the use of
 10 machine guns, because they created more harm.
 11 I mean you shoot at one guy and
 12 kill 10 civilians in the process, and then you
 13 have 10 people trying to kill you tomorrow. Likely
 14 so.
 15 So the nature of the war
 16 changed. So I would say today, after 20 years of
 17 war, you probably had a force that would be
 18 perfectly fine eliminating the automatic fire
 19 foolishly and hindering our ability to fire.
 20 Q. When you say "They would take away
 21 automatic fire," who is "they"?
 22 A. Anybody with time in the service, whose
 23 limited experience was that 2006 and on, in either
 24 Afghanistan or Iraq, would come to completely

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1 different conclusions than somebody before 2005.
 2 Q. And when you were in the military in
 3 that time frame, so in the first decade of the 21st
 4 century, were there some in the military that you
 5 encountered that were advocating taking away
 6 automatic fire capability on M4/M16 rifles?
 7 A. I recall nobody trying to take it away
 8 during my time of service.
 9 Q. So I'm just trying to understand the
 10 comments you were making previously that there was
 11 based on the -- the way the war in Iraq changed,
 12 there was a shift in viewing semi-automatic versus
 13 automatic fire. Is that what you were saying?
 14 A. Yes, sir. And it was about every six
 15 months. The nature of the war changed from more
 16 control -- literally with lawyers. Rules of
 17 engagement changed significantly.
 18 So to the point where if
 19 somebody jumped out of a building to shoot at me
 20 and then dropped his weapon, I was no longer
 21 allowed to engage him.
 22 Prior -- during my time frame we
 23 would have killed him on the spot. And be careful
 24 what type of path I lead you on here too, because

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1 predominantly, 99 percent of the time, we never saw
 2 an individual to shoot at.
 3 We received fire from a
 4 position, and we suppressed that position. So the
 5 stupid people all got killed very quickly in the
 6 war, and they learned to take cover and hide and
 7 they didn't shoot at us from a position where they
 8 could get shot back very easily.
 9 So that is why automatic fire
 10 was critical. That is why machine guns were
 11 critical, but there was a point in that 2006, '07,
 12 '08, we were limiting the use of machine guns. You
 13 were not allowed to fire. You had to get direct
 14 approval from a commander to engage somebody that
 15 was shooting at you, if your only tool to shoot
 16 with was a machine gun.
 17 As we were restrained, and
 18 restraining the force, so as to do no harm, and
 19 kind of create a police-style behavior of trying to
 20 capture that individual -- we call it a targeting
 21 board. We would write out a whole list and spend a
 22 week with the lawyers and the prosecuting
 23 attorneys, trying to show the evidence as to why
 24 they should be apprehended and held. That is the

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1 nature of the war as it was changing.
 2 By the time you get to 2010,
 3 there was no combat by us. We were guarding our
 4 security positions while the Iraqis were doing the
 5 killing.
 6 Our mission had evolved to
 7 training the Iraqis or Afghans and let them go
 8 fight.
 9 Q. I believe I heard you say earlier that
 10 automatic fire created more harm than it solved in
 11 the latter stages of the Iraq conflict. What did
 12 you mean by that?
 13 MR. BRADY: Objection. Misstates testimony.
 14 THE WITNESS: I meant just that.
 15 Meaning that those automatic
 16 fires went beyond a target of being aimed at,
 17 whether it was a building or position and hit
 18 goats, sheep, camels, people, And it created
 19 animosity, likely so. That is why it would be
 20 better at that time not to use the U.S. military
 21 that had been trained at high intensity and try to
 22 perform a police action.
 23 It was not our training program.
 24 We were being drug down this path of low intensity

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1 and behaving other than our training programs were,
 2 and we should have just switched the force and sent
 3 in LAPD and NYPD.
 4 Q. So is it fair to say that at times in
 5 the latter stages of the Iraq war, automatic fire
 6 sometimes resulted in unintended casualties?
 7 MR. BRADY: Objection. Incomplete
 8 hypothetical. Misstates the testimony.
 9 THE WITNESS: I only got half of the question.
 10 Please restate it.
 11 BY MR. WELLS:
 12 Q. Sure. Is it fair to say, as you were
 13 just describing that in the later stages of the
 14 Iraq war, at least post-2005, I think is the time
 15 frame that you used, use of automatic fire at times
 16 resulted in unintended civilian casualties?
 17 MR. BRADY: Objection. Vague. Misstates the
 18 testimony. Incomplete hypothetical.
 19 THE WITNESS: It is potential -- but I think
 20 automatic fire had been done by the end of the
 21 time.
 22 High-intensity fighting, but
 23 over the last fights were Fallujah and Ramadi in
 24 the 2005 time frame. After that we had sufficient

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1 manpower and force to overwhelm them with slow
 2 fire, sustained fire. We would have anywhere from
 3 10 to 50 upon one opponent, and still have trouble
 4 capturing them because of the rules of engagement
 5 that prevented us from shooting while we are
 6 wearing heavy body armor, and weapons and ammo.
 7 General Mattis coined quite a phrase, "Do no harm."
 8 And what he meant by that "Do no harm" is don't
 9 hurt one civilian in your effort to attack ten
 10 opponents. Because one civilian will have a family
 11 that will fight you again later.
 12 So General Mattis understood
 13 that low-intensity conflict more than anybody else.
 14 It was really hard to ramp down the marines to that
 15 low level of engagement when all of our training
 16 was at the high-end, high-intensity combat.
 17 Q. Is it fair to say that your opinion is
 18 that automatic fire is most necessary in
 19 high-intensity combat?
 20 A. Yes, sir. I think -- the 13-man patrol
 21 moving across a rural area, urban street, and I
 22 receive fire from one individual. I can't see that
 23 individual. He is hidden back into a room. I'm
 24 not even sure which window or building he came

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1 from.
 2 Our immediate response to that
 3 right then is all weapons go to full auto. And we
 4 have altered our weapons since 2010. The M27 has
 5 now replaced with the M4 and the M160A4 in the
 6 Marine Corps infantry. That is a full auto. There
 7 is no more burst. We got rid of -- because it was
 8 inhibiting our ability for high-intensity combat as
 9 we prepared to face China, Russia, Iran and North
 10 Korea.
 11 The Army did an improvement on
 12 their M481 to eliminate the burst trigger and went
 13 back to full auto. And for the same reason. So
 14 even in that low-intensity conflict, if one person
 15 shoots at me, we all immediately fire full auto
 16 with everything we have to suppress that location
 17 while we bound ourself to cover. Something that
 18 stops bullets is how we define cover.
 19 Then that usually takes up one
 20 magazine. Then we immediately uncover, switch back
 21 over to semi-auto, which we will probably stay for
 22 duration of this. Try and do it as -- assume where
 23 are they. How do we pin them in. Can we really
 24 locate the fire position they are from. And then

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1 make decisions on what we do about it.

2 Q. Is it fair to say that use of full

3 automatic fire from an M4 or M16, the way in which

4 it is used is suppression in combat?

5 MR. BRADY: Objection. Incomplete

6 hypothetical. Vague. Calls for speculation.

7 THE WITNESS: Yes, sir. I would say that.

8 And I will tell you, historically, and I wrote in

9 one of these reports, the rifle has created less

10 and less overall casualties over time.

11 For instance, in Civil War, 70

12 percent of all casualties were produced by a

13 rifleman. And then degraded over time, to the

14 point where in World War II, 25 percent of all

15 casualties were produced by a rifleman, and the

16 majority of the casualties were produced by

17 artillery.

18 If you look at Ukraine and

19 Russia today, it is closer to 99 percent of all

20 casualties are produced by artillery. High

21 explosives delivered by air or artillery. Less and

22 less by the rifle. The rifle is used as a tool to

23 pin forces down while you bring other deadly forces

24 to bear. That is that orchestration of force that

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1 Colonel Tucker was so well at -- was use the

2 rifleman, not to inflict casualty, just to hold him

3 in place. Keep them from running away to fight

4 another day, and then bring other forces to bear to

5 destroy them.

6 Q. That 70 percent figure and that 99

7 percent figure, what sources are you relying upon

8 for that?

9 A. I would not be able to answer that off

10 the top of my head. And I quoted them in this

11 document wherever they came from. That is the

12 other nature -- is I don't have all these readily

13 available to reference.

14 Q. Why don't you have them available?

15 A. I don't have any documents directly in

16 front of me and you have control of the mouse.

17 Q. I see. I see. I thought you were

18 saying you didn't have access to them at all.

19 But you believe 70 percent and

20 99 percent are quoted in your expert report?

21 A. Yes, sir, they are. Or they were. They

22 may have been pulled out. I don't recall.

23 If I take control of that

24 document, not the 803 pages, but the references,

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1 we will see if it jumps in my mind, but to see --

2 I have read this over and over. I looked for

3 specifically, when preparing this, because in

4 conversations with my peer group, we have often

5 talked about the value of a rifle in combat and how

6 high of a value was it. And we agreed that the

7 rifleman has not been the cause of a win. It has

8 been a supporting factor in winning these heavy

9 intensity fights. The cause of the win has been

10 air-delivered ammunition and artillery, the tanks.

11 Q. And as I understand those figure

12 breakdowns, so you said 70 percent of casualties in

13 the Civil War were caused by rifles, but now in the

14 Russia/Ukraine war, 99 percent of casualties are

15 caused by something other than a rifle. Did I

16 state that correctly?

17 A. You are correct. And I just read that

18 recently in another document that came out. I

19 believe it was a senator from Mississippi who wrote

20 it. It started from with a W. Whiten, perhaps?

21 He was quoting the forces that we may potentially

22 face. And in that, he is quoting the stalemate

23 that is happening in Ukraine and Russia right now,

24 where if you can be seen, you can be killed.

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1 So now they have gone back into

2 a quasi-trench warfare of stalemate because of the

3 heavy sensors in the air, the thousands upon

4 thousands of drones all keyed into artillery

5 systems ready to fire on a seconds, notice.

6 So that is why if you can be

7 seen you can be killed. Artillery is winning this

8 fight in common-day war.

9 Q. How does the lethal capability of a

10 Civil War rifle compare to the lethality of an M4

11 like you carried in the Marine Corps?

12 MR. BRADY: Objection. Vague.

13 THE WITNESS: Probably better answered by a

14 ballisticsian. What -- the advantage of the

15 rifleman had there is they had this sense of honor

16 to face each other from 50 yards apart and take

17 turns firing. With a 50 caliber bullet that would

18 do massive tissue damage and very low competency on

19 medical availability.

20 So you have two factors, right?

21 Short range. Horrible medical treatment capability

22 during Civil War. Compared to today to small

23 bullet, which creates a significant wound, with

24 very good medical. And we developed these things

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1 called the "golden alley" where we will take a
 2 casualty. We will get you to treatment within one
 3 hour.
 4 We will find a way and we work
 5 on it very diligently. Every casualty will get to
 6 a shock trauma unit within one hour that can save
 7 their life.
 8 In the Civil War, they would
 9 probably have died or had their leg cut off. Today
 10 we kept them alive. So you have a false
 11 measurement between the Civil War and today because
 12 of the medical factor.
 13 Q. So is it your testimony the Civil War
 14 rifleman is more effective in combat than the
 15 American soldier carrying an M4 -- rifleman?
 16 MR. BRADY: Objection. Vague.
 17 THE WITNESS: I would not say it is more
 18 effective. It is more lethal because we are
 19 standing there facing each other. We can see each
 20 other. They are 50 yards apart.
 21 Every single engagement for the
 22 Marine Corps, it is very rare to see who you are
 23 shooting at. They certainly aren't at 50 yards
 24 waiting your turn to fire.

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1 So no, I would not say the
 2 rifleman was more effective. He had better
 3 opportunity against a stationary force which was
 4 following a Napoleonic formation facing each other,
 5 taking turns to fire.
 6 Q. I'm just asking about the weapon now.
 7 So a Civil War rifle compared to an M4, which is
 8 more lethal?
 9 MR. BRADY: Objection. Vague.
 10 THE WITNESS: I'm going to have to speculate.
 11 I would take today's weapon over Civil War any day
 12 of the week, but the method to fighting then led to
 13 more individual casualties by rifle.
 14 BY MR. WELLS:
 15 Q. Are you a military historian?
 16 A. No, sir.
 17 Q. Are you a firearms historian?
 18 A. I'm not.
 19 Q. What training do you -- did you receive
 20 any training from the military on historical
 21 tactics as they relate to Civil War battles?
 22 A. Yes, sir, I did. We call them
 23 generations of warfare. Generation 1 was
 24 Napoleonic tactics; square against square.

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1 The value of that square when
 2 presented by calvary and artillery and how you
 3 would strengthen the square; and then Generation 2,
 4 where we are adding armor and aviation elements.
 5 So you would have more than one
 6 dimension of the fight. Instead of just ground,
 7 you have ground air and ground, air, Navy, and then
 8 you have armored systems.
 9 So this progressed over time to
 10 hybrid warfare that we are in today. Sometimes
 11 referred to as Generation 5.
 12 A type of war meaning non-state
 13 actors can stand up against state militaries,
 14 equally. Non-state actors of whether it is squeaky
 15 rebels or the S-bullet who had his own aviation
 16 elements, artillery elements, missile forces.
 17 These are non-state -- that was not typical before
 18 World War II, but now it is more typical.
 19 There may not be a state where
 20 you can have a reasonable conversation with. Does
 21 that answer your question?
 22 Q. It is helpful, yes.
 23 So can you tell me. You said
 24 you would prefer an M4 over a Civil War rifle. Why

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1 would you prefer the M4 over a Civil War rifle?
 2 A. Civil War rifle is heavy, long,
 3 cumbersome, slow to reload, and very harsh recoil
 4 to manage.
 5 Recoil management is critical to
 6 follow on shots. So if I don't get kicked
 7 backwards by the recoil of that heavy musket where
 8 my muzzle rises up to the air, and there is a time
 9 loss of getting that muzzle back down to the
 10 target. So the shot, if I missed, I'm about able
 11 to watch the effect of the shot and make a quick
 12 adjustment from that shot, because I have to reload
 13 and reacquire the target.
 14 The AR platform has a buffer
 15 system in it. Has an adjustable stop to fit my
 16 body stature and whatever clothing that I'm
 17 wearing.
 18 Has a shorter barrel to bring
 19 the weight closer to me. Has a free-floated
 20 forehand so I don't deviate the barrel. And it has
 21 a lethal enough projectile to hit the target more
 22 accurately than -- at further distances.
 23 The AR platform is portable,
 24 lightweight, maneuverable, to allow me to get into

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1 and out of different positions of protection. The
 2 musket does none of those.
 3 Q. When you say that the AR cartridge is
 4 lethal enough, what do you mean?
 5 A. I just want to make him stop shooting.
 6 I don't need to blow his arm off or his head. I
 7 just put a hole in him to make him react. That is
 8 our entire premise of combat is present a
 9 life-threatening challenge to opponent to make him
 10 stop firing or stay hidden.
 11 Rifleman, more often than not,
 12 just keep him hidden. And while he is hidden and
 13 unable to shoot at us, we bring other forces to
 14 destroy him.
 15 Q. When you said that "that AR cartridge
 16 was lethal enough," what AR cartridge were you
 17 referring to?
 18 A. Mentally. I was thinking of the M855
 19 green tip 62 grain bullet that was the primary
 20 bullet we used. We had plenty of other options.
 21 They weren't always readily available.
 22 We had to plan ahead to get
 23 them. Tracer bullets they made, 56 was available.
 24 Today they've replaced the M55 with enhanced

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1 performance called M855-A1.
 2 Predominantly all my engagements
 3 around my career were with the MA-55 and MA56, the
 4 green tip bullet and a tracer compatible to that
 5 green tip bullet.
 6 There were occasions where I had
 7 frangible bullets when I was on an anti-terrorist
 8 unit we used frangible bullets when doing shipboard
 9 takedowns so we wouldn't poke a hole in a nuclear
 10 reactor or ricochet around and hit ourselves.
 11 Those bullets disintegrated on impact. And then we
 12 used them in Fallujah to kill the cats and dogs
 13 dragging the bodies around so we could collect up
 14 those bodies before disease was rampant.
 15 Q. When you were talking about the virtues
 16 of AR-15 rifle -- and you mentioned the lethal
 17 enough round, you were specifically referring to --
 18 or you had your M855 round that you used in the
 19 military; is that right?
 20 MR. BRADY: Objection. Misstates testimony.
 21 BY MR. WELLS:
 22 Q. Can you say that again, Mr. Eby?
 23 A. Yes, sir, at that time, M855.
 24 Q. And is that M855 round available in the

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1 civilian market?
 2 A. Yes, sir, it is.
 3 Q. And is that M855 round, as you
 4 understand, one that folks who own AR-15 rifles
 5 frequently used?
 6 MR. BRADY: Objection. Vague. Calls for
 7 speculation.
 8 THE WITNESS: I would say no, sir, it is not.
 9 We really do not like that round. It is a full
 10 metal jacket with an armor penetrator. It doesn't
 11 expand well. It will seriously just poke a hole in
 12 most targets without expansion.
 13 So as a civilian, I would want
 14 something that would create a larger wound cavity,
 15 that did not over penetrate, that stayed inside the
 16 body as much as possible.
 17 So the last bullet I would
 18 choose would be the M855 bullet.
 19 Q. But the M855 is available in the
 20 civilian market for folks to purchase and civilian
 21 semi-automatic MA-15. Is that correct?
 22 A. Yes, sir, it is.
 23 Q. You mentioned that you wouldn't want a
 24 bullet that did not overpenetrate. Does the M855

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1 round pose a risk in a home setting?
 2 MR. BRADY: Objection. Incomplete
 3 hypothetical. Calls for speculation.
 4 THE WITNESS: Yes, sir. It has a penetrator
 5 in it that could get through barriers easier.
 6 There are some negatives to it
 7 under 27 meters -- I don't know why that number
 8 came up. It was converted to yards.
 9 It is under such high stress
 10 that if it hits a barrier, a door frame or a
 11 doorknob, it can disintegrate itself. So there are
 12 limitations to it. It is also velocity dependent.
 13 It needs to have 2500 feet per second or more to
 14 enter the body, rotate and break apart.
 15 Under that 2500 feet per second
 16 it doesn't break apart. It just flips over and
 17 exits. So you have basically a ice pick hole that
 18 doesn't have that decompression of blood loss, loss
 19 of a limb, major muscle damage. And, again, for
 20 self-defense, it is a horrible bullet design.
 21 Q. You mentioned flipping over and exiting.
 22 Is that commonly referred to as "yaw"?
 23 A. Yaw leads to flipover. So yaw is the
 24 angle of entry, and we call that bullet "yaw

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1 dependent." It has to be off axis. On axis would
 2 be a zero of liquidity of entry. Off axis would be
 3 anything plus or negative from zero.
 4 If it has yaw -- any bullet
 5 entry, and still has 2500 feet per second, as it
 6 rotates, it will break apart at the cannelure,
 7 which is a little crimp where you see at the top of
 8 the brass casing right where it meets the
 9 projectile. It will break apart at that point and
 10 give multiple trauma wounds with the goal of
 11 stopping the aggression faster.
 12 On the M4-A1, and M4 and A1,
 13 that bullet reaches speeds under 2500 meters at 75
 14 meters victorious.
 15 The M16A4 with a 20-inch barrel,
 16 that distance happens at 175 meters. That makes it
 17 a very limited projectile. It is difficult to
 18 shoot it in a short range, because it is under such
 19 high stress. It hasn't stabilized and it is
 20 difficult to shoot at the further ranges because it
 21 loses velocity and no longer brakes apart and gives
 22 multiple target points.
 23 Q. So in the civilian market, are there
 24 other types of ammunition available for an AR-15

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1 platform rifle to correct for those concerns you
 2 just identified?
 3 A. Yes, sir. There is plenty. There is
 4 more than I am an expert on. Probably 20 different
 5 variations. And a lot of them are sold as hunting
 6 rifles -- hunting bullets.
 7 Q. And the bullets in those categories,
 8 that -- is it fair to say you would recommend those
 9 more for self-defense than an AR-15 platform for
 10 rifle?
 11 A. Yes, sir, I would. I would have to
 12 review them individually to do so.
 13 Q. And is that because the bullets in that
 14 category, the 20 to 25 examples that you just
 15 mentioned or that category, those bullets are more
 16 likely to break apart upon hitting a body. Is that
 17 fair to say?
 18 MR. BRADY: Objection. Misstates testimony.
 19 Vague.
 20 THE WITNESS: I would say yes. That is fair
 21 to say. They don't have the same level of stress.
 22 I say "they," right? But when I say "they," I'm
 23 talking about 20 or 30 different bullet designs.
 24 So it is really hard to say one answer to answer

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1 your question without picking a bullet, starting a
 2 bullet, which I don't do. I never get to pick my
 3 bullets. I get to shoot what I was issued.
 4 BY MR. WELLS:
 5 Q. So you do make a recommendation about
 6 use of AR platform rifle for self-defense in this
 7 case. Is that right?
 8 A. Yes, sir.
 9 Q. And what bullet would you recommend to
 10 use in that rifle in a home defense setting?
 11 A. I would search a line of a small
 12 deer-type of bullet. 55 to 62 grains or -- as a
 13 matter of fact, when I shoot deer right now, I use
 14 a Federal 77 grained Open Tip Match bullet, which
 15 would be a very good bullet for humans.
 16 Q. Why is it a good bullet for humans?
 17 A. Because it expands into the target and
 18 it breaks. It comes apart into multiple track
 19 wounds. So there is a chunk of it that will
 20 mushroom out and give me a larger hole diameter to
 21 give me more blood loss. A lot of casualties stop
 22 fighting due to decompression. They just lose
 23 blood. But that can last two minutes before that
 24 individual stops shooting at me.

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1 So we tend to put more bullets
 2 in, try to get more trauma wounds until that
 3 aggressor stops.
 4 Q. Is it fair to say that you would
 5 recommend, for instance, a 77 grain bullet along
 6 the lines of what you just described because the
 7 trauma wounds will be greater from that bullet? Is
 8 that fair to say?
 9 MR. BRADY: Objection. Vague. Misstates the
 10 testimony. Incomplete hypothetical.
 11 THE WITNESS: Yes. Those strong of wounds
 12 would be significantly better than the M855 bullet.
 13 BY MR. WELLS:
 14 Q. Okay. I'm going to pop back to Exhibit
 15 4 of your reply -- or your rebuttal.
 16 I showed it to you. It is the
 17 TC322.9. It is a publication called "Rifle and
 18 Carbine, May 2016." And I believe you testified
 19 earlier that you wanted to include this exhibit in
 20 your rebuttal because a prior version of this
 21 document was referenced by other experts in this
 22 case.
 23 And you disagreed with the
 24 statements in the prior version. Is that fair to

<p style="text-align: right;">Page 86</p> <p>1 say?</p> <p>2 A. Yes, sir. That is fair to say.</p> <p>3 Q. I just want to show you that other</p> <p>4 document and make sure we are talking about the</p> <p>5 same one.</p> <p>6 Okay. Mr. Eby, do you see a</p> <p>7 document labeled "Rifle Marksmanship, M16-M4 Series</p> <p>8 Weapons"?</p> <p>9 A. Yes, sir.</p> <p>10 Q. And it has an FM3-22-9?</p> <p>11 A. Yes, sir.</p> <p>12 Q. Have you seen this document before?</p> <p>13 A. Briefly. I have not read it totally. I</p> <p>14 just went to a reference.</p> <p>15 Q. And what is the date on this document?</p> <p>16 A. August 2008.</p> <p>17 Q. So flip to Page 7.89 in this document,</p> <p>18 which for the record, I think I'd like to mark as</p> <p>19 Deposition Exhibit 3.</p> <p>20 (Deposition Exhibit 3 was marked</p> <p>21 for identification.)</p> <p>22 BY MR. WELLS:</p> <p>23 Q. And directing your attention to the</p> <p>24 bottom of the page Bates-labeled 0AG3359, do you</p>	<p style="text-align: right;">Page 88</p> <p>1 aware of what it is for final approval. They have</p> <p>2 a doctrine command. I doubt it is at the 3-star</p> <p>3 level. The subordinates, they offered the</p> <p>4 opportunity to approve these. I wrote doctrine for</p> <p>5 awhile for the Marine Corps. And our methods are</p> <p>6 completely different than the Army. So I can't</p> <p>7 even speculate on what their approval process is.</p> <p>8 BY MR. WELLS:</p> <p>9 Q. Do you know whether this document would</p> <p>10 have been authored by a single person?</p> <p>11 A. Army is probably a 20-man crew with an</p> <p>12 individual per chapter.</p> <p>13 Marine Corps would be at a</p> <p>14 single person on the entire bulletin.</p> <p>15 Q. And do you have any sense at what level</p> <p>16 in the chain of command this document would have to</p> <p>17 receive final approval before it could be used to</p> <p>18 train soldiers?</p> <p>19 A. Yes, sir. Probably a colonel level, an</p> <p>20 06 after approval from editors and grammar</p> <p>21 specialists.</p> <p>22 Q. And in your experience in the military</p> <p>23 where a colonel signing off on a document like</p> <p>24 this, would they know what is in it?</p>
<p style="text-align: right;">Page 87</p> <p>1 see that statement that says "rapid semi-automatic</p> <p>2 fire"?</p> <p>3 A. Yes, sir. I see that.</p> <p>4 Q. And do you see that it states the most</p> <p>5 important firing techniques during fast-moving</p> <p>6 modern combat is rapid semi-automatic fire?</p> <p>7 Did I read that correctly?</p> <p>8 A. You did read that correctly.</p> <p>9 Q. And is that the statement that you were</p> <p>10 describing earlier that you disagreed with?</p> <p>11 A. Yes, sir, that is.</p> <p>12 Q. And I believe you stated in your</p> <p>13 rebuttal report that this was just the author of</p> <p>14 this document's opinion. Is that fair to say?</p> <p>15 A. It is. There is no reference alluded</p> <p>16 to. As a matter of fact, every report I've ever</p> <p>17 read says the exact opposite of that.</p> <p>18 Q. And this type of document, how -- what</p> <p>19 level of approval would be required for this</p> <p>20 document to be used in the Army for training?</p> <p>21 MR. BRADY: Objection. Calls for speculation.</p> <p>22 Vague.</p> <p>23 THE WITNESS: I don't know how the Army would</p> <p>24 approve this. They have a process, but I'm not</p>	<p style="text-align: right;">Page 89</p> <p>1 MR. BRADY: Objection. Calls for speculation,</p> <p>2 incomplete hypothetical. Vague.</p> <p>3 THE WITNESS: I would say no. The colonel</p> <p>4 would take advice of the people who wrote it, the</p> <p>5 grammar specialist who edited it and then the</p> <p>6 photographers or graphic artists. He would more</p> <p>7 than likely just take those advisors input and then</p> <p>8 sign it once they told him it was ready.</p> <p>9 BY MR. WELLS:</p> <p>10 Q. And this document was in effect, when</p> <p>11 you were serving alongside U.S. Army soldiers in</p> <p>12 the military, correct?</p> <p>13 A. Yes, sir.</p> <p>14 Q. And those soldiers would have been</p> <p>15 governed by this document. Is that fair to say?</p> <p>16 MR. BRADY: Objection. Vague, calls for</p> <p>17 speculation.</p> <p>18 BY MR. WELLS:</p> <p>19 Q. You can answer.</p> <p>20 A. Eventually, yes.</p> <p>21 Q. And just trying to understand what the</p> <p>22 author was communicating here. What is your</p> <p>23 understanding as to why the author would make this</p> <p>24 statement?</p>

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1 MR. BRADY: Objection. Vague. Calls for
 2 speculation.
 3 THE WITNESS: I would speculate that with 70
 4 years of fighting low-intensity conflict or police
 5 actions from Vietnam, Afghanistan to Iraq, the
 6 experiences perceived by the authors, the actions
 7 in contact with enemies, led him to believe that
 8 only semi-automatic fire was necessary.
 9 At no time since World War II
 10 or maybe Korea have we fought somebody equal to us
 11 in strength training and capabilities to counter
 12 that statement. And my concern was they are
 13 learning the wrong lessons from the wrong fights.
 14 By setting the force up to
 15 continually fight in a third-world country, we fail
 16 to prepare the force for a first-world peer threat.
 17 Q. So your read of this document in this
 18 particular statement is that the statement about
 19 the most important firing technique during
 20 fast-moving modern combat being rapid
 21 semi-automatic fire is the product of the nature of
 22 the wars that the United States has fought during
 23 the last 60 years being low intensity. Is that
 24 right?

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1 A. Yes, sir --
 2 MR. BRADY: Objection. Misstates the
 3 testimony.
 4 BY MR. WELLS:
 5 Q. Is that a "yes"?
 6 A. Yes, sir.
 7 Q. Let me show you one more document, and
 8 then we will take a break since we've been going
 9 here for awhile.
 10 Okay. Mr. Eby, I've put up on
 11 the screen a document labeled "ATM321.8 Infantry
 12 Rifle Platoon Squad," dated January 2024.
 13 Have you seen this document?
 14 A. No, but I've seen previous versions of
 15 this.
 16 Q. When you say "previous versions," what
 17 do you mean?
 18 A. These documents are regularly updated on
 19 a time span. When they can afford to do so and
 20 have the time to get to them.
 21 Some are called for review every
 22 three years, and that review may decide no changes
 23 recommended, or it may go back into a full edit and
 24 restructure.

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1 Q. So when you say "every three years," is
 2 it fair to say that this January 2024 date
 3 indicates to you that this is the most recent
 4 iteration of this document?
 5 A. Yes. Now, I can see it was an
 6 eight-year delay from the previous one.
 7 It supersedes the April 2016
 8 document of the same number.
 9 Q. And you're basing that on the text that
 10 says, "Distribution restriction approved for public
 11 release. Distribution is unlimited. This
 12 publication supersedes ATP321.8 dated 12 April
 13 2016." Is that right?
 14 A. Yes, sir. Whenever we need to pull the
 15 date and search for a super session to see if it
 16 has been replaced.
 17 Mostly we wouldn't do that. We
 18 will take the document we had originally and just
 19 work with it.
 20 Q. And do you see at the bottom there, this
 21 has been labeled OAG 006571? Do you see that page
 22 number?
 23 A. I do.
 24 Q. All right. And do you see that it is

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1 596-page PDF that I'm not going to make you read
 2 all of it, but I will scroll to the end here and
 3 just show you final page numbers, OAG 007166. Do
 4 you see that?
 5 A. I do.
 6 Q. And is that consistent with the
 7 understanding of this publication, that it is close
 8 to a 600-page manual?
 9 A. Correct.
 10 Q. And what is the function of this
 11 document in the military?
 12 MR. BRADY: Objection. Vague.
 13 THE WITNESS: These documents are designed to
 14 give a squad leader, commander a best practice
 15 overview of how to think about using their force.
 16 Using their weapon systems.
 17 So when I say "best practice,"
 18 it means a generalization of any engagement you may
 19 or may not get into with an unknown enemy force.
 20 We call this a "baseline." Give me a start point
 21 to make my considerations on when forming my plan.
 22 At least I have -- I don't know
 23 if you've ever heard phrases such as "get out of
 24 the box." You have to mentally get out of the box.

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1 Well, this is the box. This is our start point on
 2 what should I be considering on manning, training
 3 and equipment before I adjust that plan based on
 4 enemy situations. Troops and fire support who are
 5 available, weather, and then my own available
 6 personnel, and my own available personnel, and then
 7 enemy situation.
 8 So these are not cookie-cutter
 9 actions. You just use this as you start your
 10 argument for your plan. Does that help?
 11 Q. That is helpful. And is it -- how does
 12 the function of this document differ from the one
 13 that we've previously looked at, TC322.9 Rifle and
 14 Carbine?
 15 A. Without reading this document, the rifle
 16 and carbine would be individual skills. This would
 17 be more collective. This would probably take you
 18 to the tactical operations of the squad and the
 19 platoon with various weapons. The grenade
 20 launchers, the rifles, the automatic rifles. The
 21 Army still uses the light machine gun within their
 22 squads.
 23 They could have assets and
 24 support, such as mortars and machine guns, and

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1 aerial support, gun fire support. Drones for
 2 sensors.
 3 This is a collective effort to
 4 try to bring it all together.
 5 Q. Okay. I'm scrolling to Page 3 of the
 6 PDF, which has Bates Label OAG 006573 to show you
 7 the table of contents.
 8 Do you see that?
 9 A. I do see that.
 10 Q. Okay. And just to give you a second to
 11 look at the table of contents, with small Roman
 12 numeral one, OAG6573, and you move to the second
 13 page.
 14 And do you see on the second
 15 page, which is Bates-labeled OAG 006574, Chapter 4
 16 is labeled "Offense," and Chapter 5 is labeled
 17 "Defense."
 18 Do you see that?
 19 A. I do.
 20 Q. And based on this table of contents and
 21 your understanding of what this document is, what
 22 is -- why would Chapter 4 be labeled "Offense"?
 23 What is that about?
 24 MR. BRADY: Objection. Calls for speculation.

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1 THE WITNESS: We have different behaviors in
 2 an organization. We use different weapon systems
 3 when we go into the offense than we do when we go
 4 into the defense.
 5 We have different expectations
 6 of behavior, different tools that we will need.
 7 These give me that start point of the conversation
 8 and understanding what an average might be that I
 9 can deviate from building my plan.
 10 The more of these you read, the
 11 faster you develop your plan.
 12 Q. And when you were in the military would
 13 you have been the one developing the plan or would
 14 you have been a commanding officer?
 15 A. The commanding officer would have been
 16 developing the plan. I would have been the advisor
 17 on whether we were offense or defense or in between
 18 the two. We may have just been patrolling a prior
 19 developing situation and we need to go into
 20 defense, depending on enemy size, capabilities.
 21 Q. And what is the nature of the advising
 22 that you would provide in that relationship?
 23 MR. BRADY: Objection. Incomplete
 24 hypothetical. Vague. Go ahead.

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1 THE WITNESS: The majority of the time, I
 2 would be asked a specific question, "which of our
 3 elements is the best applied in this situation."
 4 Will the weapons that we had available benefit or
 5 hinder in whatever hypothetical situation?
 6 In the defense, are we organized
 7 properly? Are there some best practices we have
 8 forgotten? I usually would get tasked. Go down to
 9 the companies. Overview their defensive parameters
 10 and behaviors and identify any friction points that
 11 needed resolving.
 12 Q. And how is an offensive operation at a
 13 higher level different than a defensive operation?
 14 A. We task organize for the mission. For
 15 instance, in the offense -- we have standard
 16 administrative organizations. A rifle squad. A
 17 rifle platoon. A rifle company. They have
 18 adjustable war organization and adjustable
 19 equipment. Those are administrative in nature
 20 only.
 21 We only use them to manage the
 22 force in the peacetime -- we call it "Garrison,"
 23 but it is the area around the barracks that we stay
 24 in the majority of the time.

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1 Once we go into combat, we task
 2 organize for the mission. So depending on the
 3 mission, what is the enemy situation? What are
 4 troops? Is fire support available? What does the
 5 terrain look like? What is the weather? We will
 6 task organize completely away from a standard
 7 organization.
 8 We will break down to assault
 9 support, security and headquarter elements. We
 10 will identify the needed external assets; tanks,
 11 artillery, amphibious tractors, aviation, naval
 12 gunfire, and we will add that altogether.
 13 Q. I think that is helpful.
 14 Let me just ask to try to
 15 situate this publication and how it is used. In
 16 your rebuttal report on Page 5, you said "The
 17 military does not teach automatic fire skills in
 18 marksmanship facilities. Automatic or burst firing
 19 skills are taught during tactical scenarios and
 20 field training environments using different
 21 publications than the marksmanship ones to guide
 22 these best practices."
 23 Is this publication we are
 24 looking at right now, the infantry squad, ATP3

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1 21.8? Is this one of the publications that would
 2 be used to train riflemen on tactical scenarios?
 3 A. Potentially, yes. It is a start point,
 4 but it is also modified by student handouts and
 5 instruction classes from the basic school, the
 6 infantry squad leader school and the infantry
 7 platoon training course. And those areas will use
 8 training handouts to help refine this start point.
 9 So in conjunction with several
 10 documents, we start building behaviors and
 11 practicing those.
 12 Q. So just kind of using a school analogy,
 13 is it fair to say this document we are looking at
 14 right now. This ATP328.1 is sort of like a
 15 coursebook, and then in training, the instructor
 16 will add on and build from that course book. Is
 17 that a fair analogy?
 18 MR. BRADY: Objection. Vague.
 19 THE WITNESS: Yes, sir. In that training
 20 outline they have to paint a picture of a scenario.
 21 This manual probably won't do that well. It will
 22 probably be a World War II scenario with some
 23 historical action. In that actual classroom where
 24 we break it down into the squad leader training or

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1 basic response training, it will create the
 2 hypothetical scenario that forces decisions on task
 3 organization and equipment to go over, and that may
 4 change in the very next class. They will refine it
 5 because they didn't like the outcome of an event.
 6 So, those are -- I call them "live." Those are
 7 living documents that are worked on each and every
 8 occasion of use. But it starts with something like
 9 this. It is grounded in some kind of best practice
 10 recommendation of behavior that you can consider.
 11 You are not bound by it. Nobody is going to grade
 12 you and hold you to it.
 13 So this is a good start point to
 14 read through to formulate in a young officer's --
 15 or young officer's mind, the right words, the right
 16 organizations, the right expected behaviors
 17 depending on the mission and enemy. It is a good
 18 baseline and very good documents for that, but we
 19 don't run around with them with this checklist to
 20 make sure that is how we are behaving, because it
 21 depends upon the hypothetical situation that you
 22 are faced with to execute.
 23 MR. WELLS: Okay. Mr. Eby, we've been going
 24 about two hours. Why don't we take a break. It is

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1 11:02. Why don't we reconvene on 11:15. And
 2 you're on central time, right?
 3 THE WITNESS: Yes, sir.
 4 MR. WELLS: Let's reconvene at 11:15.
 5 (Recess.)
 6 BY MR. WELLS:
 7 Q. Let's go back on the record. It is
 8 11:16 AM. Did you speak to anyone during --
 9 A. I spoke to my counsel.
 10 Q. Let's jump in here to a document that
 11 was previously marked as an Exhibit, ATP321.8.
 12 We are specifically looking at
 13 OAG 65943. I'm directing your attention, Mr. Eby,
 14 to paragraph marked 111. Do you see that?
 15 A. Sir, I have a screen in front of the
 16 screen.
 17 I don't know if that is mine or
 18 yours. Oh, I got it.
 19 Q. Okay. Can you see it now?
 20 A. I do. Yes, sir.
 21 Q. Do you see where it says "111. Fire
 22 teams are designed as self-contained team?" Do you
 23 see that?
 24 A. Yes, sir.

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1 Q. And it goes on to say, "The automatic
 2 rifleman provides an internal base of fire with the
 3 ability to deliver sustained suppressive small arms
 4 fire on area targets. The rifleman provides
 5 accurate, lethal direct fire for point targets."
 6 Do you see that?
 7 A. I do.
 8 Q. Do you agree with those statements?
 9 A. They are in the initial development of
 10 skills, yes.
 11 Q. What is a fire team?
 12 A. An administrative organization designed
 13 to train and develop skills in a peacetime area.
 14 We don't fight like that. We fight in
 15 task-organized elements, assault support security
 16 and headquarters. We can use these in defensive
 17 situations, if it is beneficial to us, to simplify
 18 command and control. But these are for developing
 19 understanding the roles, duties and
 20 responsibilities during training.
 21 Q. When it says here, "The rifleman
 22 provides accurate lethal direct fire for point
 23 targets." What are "point targets"?
 24 A. It is a misnomer. Point target is

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1 designed for machine guns where a full burst of
 2 fire can hit that same cone of fire where all
 3 bullets impact.
 4 Point and area targets should
 5 never have been incorporated into a rifle because a
 6 rifle is an uncontrolled aim. It doesn't have a
 7 tripod. I can't control the direction of fire.
 8 And the point would be the size of a bullet being
 9 fired. So that point would be a .223 caliber from
 10 a rifle or .308 from a larger rifle to -- this was
 11 a mistake in publication that derive from 1960s
 12 that should never be incorporated. We just can't
 13 get rid of it.
 14 It is one of these things that
 15 stuck there, but it would be a single point, single
 16 aim, point and shoot, and hit that one spot would
 17 be the intent to this statement.
 18 Q. So is it fair to say that point target,
 19 when it is used, regardless of whether you agree
 20 with its usage or not, refers to shooting and
 21 hitting one spot? Is that right?
 22 A. Yes, sir. Yes, sir. Whether that is a
 23 door, window, person, if you ever see one.
 24 Q. And the term "area target," regardless

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1 of whether you agree or disagree with the term, how
 2 is that different from the term "point target"?
 3 A. Area target is controlled by techniques
 4 of employment. Searching is an elevation change.
 5 I aim higher. I aim lower. Traversing. I aim
 6 further left. I aim further right.
 7 On the machine guns -- the heavy
 8 machine guns and medium machine guns, they have a
 9 tripod where they traverse an elevation mechanism
 10 that controls the size per the impact of an area.
 11 So a squad leader can give a
 12 command. They fire on a 10-foot wide area of that
 13 bunker on Gun 1, and then overlay that with a fire
 14 command to Gun 2 to ensure that this entire width
 15 and height can be impacted with machine gunfire.
 16 We can do the same thing with
 17 mortars. We can do the same thing with artillery.
 18 It doesn't apply to the rifle because, A, we can't
 19 control the overall aim, and they are not designed
 20 to shoot area targets without a tripod.
 21 Q. When you say "A rifle is not designed to
 22 shoot area targets without tripod," what rifle are
 23 you referring to?
 24 A. Any handheld rifle should not be

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1 receiving these artillery point targets. But they
 2 got imbedded so early and have been stuck in our
 3 doctrinal publications for 60, 70 years -- as a
 4 matter of fact, I received meritorious promotions
 5 that I now know to be incorrectly applied.
 6 Q. Are you including machine guns within
 7 your usage of the term "rifle"?
 8 A. No, sir. Machine guns point and area
 9 applies. They have control features where I can
 10 control the beaten zone. The beaten zone is that
 11 area where all bullets impact.
 12 That same area is called "cone
 13 of fire" when the bullets are in the air. So a
 14 machine gun shoots 5 to 8 rounds of burst. As
 15 those bullets go up in the air, they are forming
 16 this cone of fire. So as bullets lay onto the
 17 ground, that terms changes to "beaten zone" where
 18 the bullets made impact.
 19 So because they have a search
 20 and traverse mechanism, we can control the size of
 21 that location of the beaten zone. It can be a
 22 point area or an area -- impact area.
 23 So the fire command from the
 24 leader, whoever that is, can designate point

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1 targets for medium and heavy machine guns, light
 2 and heavy mortars. We mistakenly use it often in
 3 rifles, where a logic flow would take it out of the
 4 conversation.
 5 Q. Just explain to me one more time -- I
 6 may have missed this -- why it shouldn't be applied
 7 to a rifle. Because I think you said something
 8 like a rifle can't be controlled in the same way.
 9 Why can't these terms be applied to a rifle?
 10 A. Even when I'm rifle shooting fully
 11 automatic and it is out on my tripod, he is
 12 subjected to the recoil of the weapon. And then he
 13 is subjected to his own training capability to
 14 manage that recoil to keep the whatever burst of
 15 rounds into a certain area. We can't do that
 16 deliberately. We don't control the recoil between
 17 rifle systems, between shooters.
 18 There are too many variables.
 19 We can control the area of the impact with medium
 20 and heavy machine guns with mortars because those
 21 are all controlled with traversing elevation
 22 mechanisms.
 23 So that is how I define this --
 24 is because the rifle is too subjected to the recoil

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1 management of the shooter, too subjected to the
 2 different position. I don't know if they can
 3 manage that recoil in an area to guarantee -- point
 4 an area of coverage. Therefore, it doesn't apply.
 5 Q. I see. So your description of an
 6 infantryman with an M4/M16 rifle, there is too much
 7 variation across an individual infantryman's
 8 ability to stay in a particular area when using
 9 automatic fire to apply the point target and the
 10 area target. Is that fair to say?
 11 MR. BRADY: Objection. Misstates testimony.
 12 Vague.
 13 BY MR. WELLS:
 14 Q. Is that fair to say?
 15 A. Yes, sir.
 16 Q. And when you say M4/M16 rifle is too
 17 subjective to recoil, what do you mean?
 18 A. I mean that the muzzle rises, dependent
 19 upon the shooter's ability to manage it.
 20 And I don't know the individual
 21 shooter. I can put him through training programs
 22 to help get the body mass behind the weapon. I can
 23 show him stance position and grip to enhance the
 24 tightness of that first fire or full auto. But I'm

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1 not the guy shooting it.
 2 And every shooter is different.
 3 So it is not repeatable the way it is with a
 4 machine gun.
 5 Q. So is it fair to say, then, that some
 6 infantrymen may be able to effectively use fully
 7 automatic fire and stay on target, but others may
 8 not be able to be -- stay on target?
 9 MR. BRADY: Objection. Incomplete
 10 hypothetical. Calls for speculation. Vague.
 11 THE WITNESS: Yes. Fair statement.
 12 Without the proper training,
 13 repetition, there is no two shooters that will
 14 perform the same way.
 15 BY MR. WELLS:
 16 Q. Okay. Just looking back at the screen
 17 here, this Section 1.11 that we previously
 18 mentioned is on OAG-006594, the statement -- the
 19 second sentence in 111, "The automatic rifleman
 20 provides an internal base of fire with the ability
 21 to deliver sustained suppressive small arms fire on
 22 the area of targets."
 23 What weapon does an automatic
 24 rifleman carry?

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1 A. The Army uses an M249 light machine gun.
 2 The U.S. Marine Corps uses an M27 select fire
 3 rifle.
 4 At the end of the day, that is a
 5 role to play that is less dependent upon the weapon
 6 system, and about the duty assigned by the
 7 commander -- the fire team, the squad, whatever the
 8 element leader is.
 9 If my automatic rifleman that
 10 had the designated automatic rifle gets shot, the
 11 guy with the rifle gets told, "You are now the
 12 automatic rifleman. You will perform the duties to
 13 suppress at a high volume against this location for
 14 this duration."
 15 So it is an assigned role.
 16 Weapon -- the Army uses it differently than the
 17 Marine Corps because they use a light machine gun.
 18 We do not.
 19 Q. What is "sustained suppressive small
 20 arms fire"?
 21 A. Dependent upon the timing of the enemy
 22 that comes up, the element leader will tell you at
 23 a rate of fire. He may choose 10 rounds a minute
 24 or 45 rounds a minute.

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1 He may tell you to empty a
 2 magazine in 10 second. He gets to choose because
 3 the enemy has a vote. Whatever the volume of the
 4 enemy, the behavior of the enemy, that behavior
 5 determines our response.
 6 Q. Have you ever seen a commander give an
 7 instruction to empty a magazine in 10 seconds?
 8 A. Not in that nature. I've heard an
 9 instruction to suppress --- well, it is a response
 10 behavior.
 11 We have to have an immediate
 12 response action. And we rehearse these before we
 13 go out. So in that time frame -- I will give you
 14 an example.
 15 If we are on movement to
 16 contact, and we take chance contact, the immediate
 17 action drill is empty your magazine as fast as
 18 possible in auto fire while moving to cover.
 19 Once in cover, slow down, shoot
 20 sustainably as we assess the situation. So we run
 21 these prior to -- I know where I'm going to go. I
 22 get a mission. I'm getting ready to execute it. I
 23 have a full laundry list of how do I react to
 24 incoming air? How do I react to naval gunfire.

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1 How do I react to artillery? What do I do with an
 2 IED? So every potential scenario
 3 is rehearsed with an immediate action drill so that
 4 no commands be given. You have an expected drilled
 5 response to perform until you get into cover and
 6 out of that immediate danger area.
 7 Then you receive different
 8 commands. Does that make sense?
 9 Q. It does. And you mentioned earlier that
 10 a team leader or a commander may give an
 11 instruction of a rate of fire, 10 rounds a minute,
 12 sometimes 45 rounds per minute. In what scenario
 13 would you expect 10 rounds a minute to be given?
 14 MR. BRADY: Objection. Incomplete
 15 hypothetical. Vague.
 16 THE WITNESS: I'm picturing something in my
 17 mind. I know the answer to that. Meaning I have
 18 to now formulate what is the size of the enemy.
 19 How many people do I have? What weapons do I have
 20 available? How much ammunition do I have? Will I
 21 finish this engagement so I have ammunition to
 22 continue on my primary mission?
 23 Those are hypotheticals I have
 24 to make something up in order to answer.

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1 Q. But just walk me through this -- go
 2 ahead.
 3 A. So in a hypothetical. If I am evenly
 4 matched, I won't give a round count. I would just
 5 suppress until we get into cover. That would be a
 6 full automatic suppression until we get into cover.
 7 This is the most dangerous time for me. The enemy
 8 picked the location of this fight. I'm standing
 9 and moving wide open to their gun fire, and I can't
 10 figure out where they are at.
 11 I don't see them. They are
 12 shooting, trying to make as many casualties out of
 13 us as possible before we get undercover. It is our
 14 high volume of fires that become our protection for
 15 the next twenty seconds, trying to get undercover.
 16 Q. And is that the typical time period in
 17 which you would expect automatic suppression fire
 18 to take place, twenty seconds?
 19 MR. BRADY: Objection. Vague. Misstates
 20 testimony. Incomplete hypothetical.
 21 THE WITNESS: Unfortunately, you would have to
 22 set the scenario of how far is it for me to get
 23 into cover? How many of my people are there? How
 24 many of them are there? What weapons do they have?

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1 You would have to paint a really
 2 deep picture to get a single answer, and it would
 3 only apply to that one scenario that you painted.
 4 BY MR. WELLS:
 5 Q. And when you are talking about giving
 6 commands in that circumstance as Marine gunner,
 7 would you be giving commands, or would another
 8 officer give commands in those types of scenarios?
 9 MR. BRADY: Objection. Vague.
 10 THE WITNESS: It would not be me. It would be
 11 whoever the element leader was at the point of
 12 contact. And he wouldn't issue a command at all,
 13 initially. They would follow the immediate action
 14 they rehearsed.
 15 His first command opportunity is
 16 when he finally gets in a safe position to assess
 17 and decide.
 18 BY MR. WELLS:
 19 Q. A commander that gives a fire command,
 20 you said, 10 rounds per minute. Is that a common
 21 way of giving a fire command to instruct a team at
 22 what rate they should fire based on the number of
 23 rounds per minute?
 24 A. It is. We have a little. Acronym we

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1 call it ADDRAC. "Alert, direct, description,
 2 range, assignment and control." Who is going to
 3 shoot. And then the control piece of it -- you are
 4 going to get ready to fire.
 5 That is not an immediate -- that
 6 order to the force is not the first thing that
 7 happens. The first thing that happens is survival.
 8 Get out of this -- what we call a "kill zone" of
 9 the enemy's choice.
 10 That reaction is rehearsed and
 11 delivered, and once you get in to wherever the
 12 cover is -- now, unfortunately we don't get to
 13 patrol only where there is nearby safety areas.
 14 You could be standing in the middle of an empty
 15 parking lot -- that doesn't happen immediately.
 16 Nobody can hear. The gun fire is too loud.
 17 We are all suppressing and
 18 moving undercover.
 19 Q. Is what you're describing characterized
 20 as a movement to contact?
 21 MR. BRADY: Objection. Vague.
 22 THE WITNESS: No. It is any time I'm moving.
 23 I could have an immediate action while I'm in the
 24 stationery defense of a building. Artillery is

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1 coming in, and I have a planned behavior to
 2 execute. Run down in the basement and get
 3 undercover.
 4 No. It is not just one mission
 5 movement to contact. I could be on the street. I
 6 could be out just trying to hand out water to the
 7 local kids and take chance contact.
 8 I had an immediate planned
 9 response at that point to execute. Whatever that
 10 element leader made up, he may use this document as
 11 a baseline, but it doesn't fit the scenario, the
 12 location, the personnel he has available, the enemy
 13 capability. And he has to make the baseline
 14 modification, maybe from this, maybe from the class
 15 that he had, or maybe he makes something up to be
 16 unpredictable.
 17 BY MR. WELLS:
 18 Q. So as I understand what you are saying
 19 there is a couple of phases to what you are
 20 describing. There is contact which triggers
 21 immediate action or immediate response. Is that
 22 fair to say?
 23 A. Yes, sir.
 24 Q. And that immediate action or immediate

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1 response involves both firing and moving to cover.
 2 Is that right?
 3 A. Yes, sir.
 4 Q. And then once that initial round of fire
 5 and moving to cover has been accomplished, then the
 6 commander will set a rate of fire; is that right?
 7 A. In part. At the time he gets
 8 undercover, he has to make an assessment -- am I
 9 strong enough to overwhelm this enemy? If I'm not,
 10 can I get more assets to do so.
 11 If I can get more assets to do
 12 so, how am I going to do it? If I can't get more
 13 assets to do so, I can't overwhelm that enemy, I
 14 need to disengage. So he has to assess all this
 15 action and situation and make a decision in issuing
 16 an order.
 17 In that issuing an order when he
 18 finally gets around to it, he might give a rate of
 19 fire command if it's necessary, and he may just
 20 say, "Look around the area, and let's leave."
 21 So it is not a fixed answer
 22 without a scenario.
 23 Q. Understood. And I'm just trying to
 24 understand so -- your testimony that it is in that

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1 initial time period between the contact and
 2 obtaining cover, that in your view, full-on
 3 automatic fire from an M4 or M16 is critical. Is
 4 that your testimony?
 5 MR. BRADY: Objection. Misstates the
 6 testimony.
 7 THE WITNESS: Yes, sir. I would probably be
 8 able to identify five areas where automatic fire is
 9 absolutely critical, and that would be a night
 10 ambush when the enemy is standing, and I am trying
 11 to ambush him. I want a high volume of fire in the
 12 area immediately.
 13 Room clearing. Where I don't
 14 know where he is at, but I'm the one who has to run
 15 into the room, and he is hidden behind a -- you
 16 know, a barrier somewhere, and I can't find him.
 17 We use our automatic fire then.
 18 Trench warfare, we use that as
 19 well because we don't know -- we don't know where
 20 they are at. So we are using bullets to search and
 21 make them psychologically suppressed. And then
 22 near and far ambush.
 23 So urban warfare, trench
 24 warfare, near and far ambushing, and that is

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1 another oxymoron. When I'm there, everything is
 2 near ambush. Take cover.
 3 Q. Understood. And I'm just trying to
 4 understand. So in your report you specifically
 5 discuss suppression, use of automatic fire and
 6 suppression, but you didn't mention those other
 7 scenarios. Why not?
 8 A. Very lengthy responses with
 9 uncontrollable variables.
 10 Q. And are there publications from either
 11 the Army or Marine Corps that you would point to
 12 that identify those scenarios as ones where you
 13 would use full automatic fire come in M4 or M16?
 14 MR. BRADY: Objection. Vague. Incomplete
 15 hypothetical.
 16 THE WITNESS: I don't know if the publications
 17 get into those weeds. We have a post-war battle
 18 school that we will talk about urban room clearing.
 19 We have shipboard takedown
 20 tactics course. We talk about the use of automatic
 21 fire. Using frangible bullets on ships.
 22 We have squad leader schools
 23 that talk about trench warfare. We have a combined
 24 arms exercise out in Twentynine Palms that forces

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1 into trench warfare.
 2 So not necessary the
 3 publications, but the schoolhouses would find
 4 behaviors -- we call them "tools in a toolbox."
 5 They are not a cookie cutter. Do this. Do that.
 6 It is things to think about in order to survive
 7 this problem, and then you decide.
 8 BY MR. WELLS:
 9 Q. In the time period from 2005 after, in
 10 Iraq, which you described earlier, which I think
 11 you indicated that the nature of the war changed,
 12 were room-clearing operations still happening in
 13 Iraq post-2005?
 14 A. I don't know. I would think
 15 room-looking operations were happening. In our
 16 tactical documents, we teach room clearing. We
 17 teach a couple things, like enter from the top of
 18 the building and work your way down.
 19 The Marines refused to do that
 20 because we have so much armor on that we would cut
 21 a hole in the ceiling when they would come in, if
 22 they took casualty, they couldn't get the casualty
 23 back up.
 24 So then when they had to flood

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1 the building with a hand grenade, these are my
 2 propriety to get out. So the Marines stopped doing
 3 that. So that was the case where the tactical
 4 publication was absolutely incorrect, and the
 5 Marines, by de facto behavior, changed what they
 6 were doing. They started going from the bottom up.
 7 In were probably clearing rooms
 8 like we were some police force getting ready to
 9 issue an arrest warrant for about 10 days. And we
 10 recognized we were taking too many casualties. So
 11 then we became the room looking force where if we
 12 thought there was a hostile in that building, we
 13 didn't go in. We isolated it. Cordoned it. We
 14 brought in an air-delivered JDAM, joint direct
 15 attack munition, or we brought a tank to shoot it,
 16 or we brought a bulldozer and leveled the building.
 17 So our doctrine, we thought, was
 18 invalidated with our behavior and Fallujah. It was
 19 the first time we were able to use that doctrine
 20 since it had been written probably in the '60s.
 21 Q. So prior to 2008, which was the date
 22 when we looked at an earlier publication, did
 23 Marines in Iraq encounter night ambushes?
 24 MR. BRADY: Objection. Vague.

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1 THE WITNESS: Yes. They did. IED-initiated
 2 attacks with one or two support systems. Did the
 3 Marines conduct night ambush? I'm sure --
 4 Q. No. Did they --
 5 A. Did they react -- probably not very
 6 often. It would probably be an IED strike and not
 7 ambush.
 8 They just didn't form enough
 9 manpower to act that cohesively against us.
 10 Q. Is it fair to say what you just
 11 described would also apply to soldiers in the army,
 12 Iraq --
 13 MR. BRADY: Objection. Vague. Calls for
 14 speculation.
 15 THE WITNESS: It does call for speculation.
 16 Unfortunately, the Army was tied
 17 to their vehicles. Their actions didn't mirror
 18 ours. And I would totally speculate on what their
 19 immediate action goals would be. But they tended
 20 to suppress with their Bradley 25-millimeter
 21 Bushmasters, and not disload the infantry.
 22 Q. So the Army would use 25-millimeter
 23 bushmasters to provide suppressive fires. Is that
 24 right?

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1 A. Yes, sir.

2 Q. What is the 25-millimeter bushmaster?

3 A. It is a chain gun -- it is -- 25

4 millimeter equals one inch. So it is a one-inch

5 bullet. It is about a foot long with a lot of

6 power behind it. Seven or eight different munition

7 options from training practice -- from armor

8 incendiary to high explosive.

9 It is a very heavy machine gun

10 that is -- that a million-dollar ballistic

11 calculated laser range -- enabled range finder to

12 help aim.

13 Q. Based on your experience in Iraq, that

14 is the weapon that the Army would use for

15 suppression?

16 MR. BRADY: Objection. Vague. Objection.

17 Vague and incomplete hypothetical.

18 THE WITNESS: If while moving, that would be

19 their first response.

20 Once they got to deliberate

21 objective, they would dismount the force, and you

22 have got the full litany of small arms available

23 from medium, heavy machine guns, grenade launchers,

24 rifles.

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1 BY MR. WELLS:

2 Q. Prior to 2008, did soldiers and Marines

3 engage in the room-clearing operations in Iraq?

4 MR. BRADY: Objection. Vague.

5 THE WITNESS: What do you mean by "room

6 clearing"? High-intensity assault? Shoot

7 everything? Throw a grenade and kill everyone or

8 just go in to look?

9 BY MR. WELLS:

10 Q. I mean room clearing as used earlier in

11 the deposition.

12 A. I have to have the situation of the

13 enemy to make that decision.

14 Q. You mentioned earlier that, you know,

15 past a certain time period, the way in which

16 Marines and soldiers would operate -- you said like

17 some police force. What did you mean by that?

18 A. The behaviors in the military were

19 constantly, continually constrained and restrained

20 over time. And I have randomly picked 2005 and

21 2008. The comments internally were that every six

22 months the nature of the war was changing.

23 So units -- for the infantry, we

24 didn't have -- we would go over for six months,

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1 come back for three, and go back over for six or

2 seven.

3 In my case, I went over for five

4 and went back for fifteen straight. And the nature

5 of that war kept changing both on the enemy

6 behavior, on assets available to us -- as new

7 assets became available -- and then on our

8 responses. And as more lawyers got involved.

9 We had legal teams -- at some

10 point, we had them at rifle platoon level at 40-man

11 unit. It started with one judge advocate general

12 at the regiment level -- a regiment of 10,000

13 people.

14 And it ended with a judge

15 advocate general representative at every force,

16 trying to help shape our reaction to the enemy.

17 I say "ended." Overtime it got

18 progressively harder to justify engagement.

19 Q. Why do you think of that as resembling a

20 police force?

21 MR. BRADY: Objection. Misstates testimony.

22 THE WITNESS: Police force. Their job is to

23 not harm the civilians, right? Their job is to

24 read you your rights and apprehend.

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1 Ours was to kill you. Our

2 training was to destroy you. So having to ramp

3 down this 19-year-old kid that we have spent a year

4 and a half to kill everything in front of him and

5 get him to slowly read your rights or arrest you,

6 we weren't prepared for that.

7 So in order to ramp that down,

8 that is when more and more restraints and

9 constraints and behavior controls were applied, and

10 we created rules. If you were on a machine gun,

11 somebody shot at you, you had to yell a warning.

12 Fire a pop-up at him. Shoot a warning shot and

13 then shoot them in the time span of them trying to

14 kill you.

15 At some point, like, 2008 and

16 beyond, it was no longer what we were good at was

17 destroying things. They should not have sent us if

18 they didn't want them destroyed.

19 BY MR. WELLS:

20 Q. I'm going to show you another document

21 here. Before I do that, let me ask you -- what is

22 "lethality"?

23 A. Vague, unmeasurable term.

24 Q. Have you ever used the term "lethality"?

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1 MR. BRADY: Objection. Vague.
 2 THE WITNESS: I've used it in an instruction
 3 to explain why that term has changed five times
 4 during my career.
 5 BY MR. WELLS:
 6 Q. Have you ever written the lethality of
 7 weapons has increased?
 8 A. Possibly.
 9 Q. Do you recall writing that the
 10 relationship between the lethality of weapons and
 11 the dispersement of troops found on the same battle
 12 field has been a consideration for commander since
 13 man first engaged in combat?
 14 A. Absolutely.
 15 Q. When did you write that?
 16 A. Probably in the late '90s. I was -- we
 17 were struggling to replace the M249. It was not
 18 working for us. The light machine gun was not
 19 working for us. It was an automatic rifle. It was
 20 too cumbersome. Too heavy. Got hot too fast.
 21 Failed to function when you were moving.
 22 So I was writing this -- for
 23 instance, in Agincourt, the year -- I don't know,
 24 1,000. We put 10,000 people on a square, as in a

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1 Napoleonic square.
 2 Today we would put four Marines,
 3 because as lethality of systems increased; air,
 4 naval, armor, weaponry, machine guns, mortars. As
 5 those increased, we could spread the force out and
 6 had to increase survivability.
 7 Q. Did I hear you say the word "Agincourt"?
 8 A. You did.
 9 Q. And so by Agincourt, you are referring
 10 to A-G-I-N-C-O-U-R-T, the famous battle?
 11 A. Yes, sir.
 12 Q. And when did that battle happen?
 13 A. I don't remember the year. I want to
 14 say the 1400s, maybe. Before we had the very
 15 strong mortars, artillery, tanks, aviation.
 16 Q. What was the missile weapon that was
 17 predominantly used at the battle of Agincourt?
 18 A. Trebuchet.
 19 Q. Trebuchet?
 20 A. Yes, sir. All-artillery weapons.
 21 Q. What about non-artillery? What was --
 22 at the battle of Agincourt, what weapon was used
 23 that wasn't artillery?
 24 MR. BRADY: Objection. Vague.

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1 THE WITNESS: I don't remember any missile.
 2 Missile implies control. I
 3 launch it, and I can control it to the target.
 4 BY MR. WELLS:
 5 Q. Do you know which missile weapon is
 6 considered by military historians to have been
 7 decisive at the battle of Agincourt?
 8 MR. BRADY: Objection. Vague. Calls for
 9 speculation.
 10 THE WITNESS: No, sir.
 11 BY MR. WELLS:
 12 Q. Do you know what missile weapon English
 13 troops, the battle of Agincourt, would have been
 14 equipped with?
 15 MR. BRADY: Objection. Vague.
 16 THE WITNESS: I do not.
 17 BY MR. WELLS:
 18 Q. I'm going to direct your attention
 19 -- Mr. Eby, I'm showing you a document labeled
 20 "Automatic rifle concept Part One. History and
 21 empirical testing."
 22 Do you see that?
 23 A. I do.
 24 MR. WELLS: And for the court reporter, I'd

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1 like to mark this as an exhibit. I think we are up
 2 to Exhibit 5. Is that right?
 3 THE COURT REPORTER: Yes.
 4 BY MR. WELLS:
 5 Q. So I'm showing you what we are marking
 6 for identification purposes, Deposition Exhibit 5.
 7 What is this document?
 8 (Deposition Exhibit 5 was marked for
 9 identification.)
 10 BY MR. WELLS:
 11 Q. What is this document?
 12 A. Three-part document trying to convince
 13 the Marine Corps to shift away from the M-249 light
 14 machine gun to a true automatic rifle. Written
 15 approximately -- probably 2002, '03. Somewhere in
 16 that time frame.
 17 Q. So this is a document you wrote?
 18 A. I participated in and wrote. This got a
 19 lot of editorial effort from the officers of the
 20 2nd Battalion, 7th Marines.
 21 Q. And just reading the first paragraph, it
 22 says, "The relationship between lethality of
 23 weapons and dispersion of the troops found on the
 24 same battle field has been a consideration for

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1 commanders since man first engaged in combat."
 2 Do you see that?
 3 A. I do.
 4 Q. And that is the quote we read earlier,
 5 and that is your word, "lethality." Is that right?
 6 A. Yes.
 7 Q. And in that last same paragraph, it says
 8 "As lethality of weapons has increased, so has the
 9 dispersion necessary to preserve combat power."
 10 When you said "The lethality of
 11 weapons has increased," what were you referring to?
 12 A. The range and capability of artillery
 13 weapons. The range and capabilities of tanks,
 14 which didn't come out until World War II.
 15 The enhancement of aviation that
 16 really started in World War I but became supreme by
 17 World War II. Those systems changed the nature of
 18 wars.
 19 Forced dispersion as they were
 20 -- so explosive and dangerous covered more distance
 21 and range and more explosive distance on the
 22 ground.
 23 Q. Do you believe that the lethality of
 24 rifles has increased over time?

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1 MR. BRADY: Objection. Vague.
 2 THE WITNESS: I don't think so.
 3 I think -- if anything, their
 4 range has increased. Their performance on the
 5 human body has decreased compared to that musket we
 6 talked about earlier.
 7 And part of that could be the
 8 ability of medical.
 9 Their accuracy certainly has
 10 increased which has enabled further hits, but in
 11 the last 30 years we degraded to the lowest single
 12 fire bullet we can use for other reasons.
 13 We wanted to manage the recoil.
 14 We wanted affordability. Less weight. So I can
 15 certainly get more hazardous to the human body,
 16 projectiles, at the individual level.
 17 Q. Why would weight be a relevant
 18 consideration in deciding what ammunition to use?
 19 A. I think about my assault. I left Kuwait
 20 and I didn't get to Baghdad for 57 days. I didn't
 21 take my uniform off in those 57 days. I didn't
 22 take my boots off more than five minutes to wipe my
 23 feet with wipes, and the level of exhaustion, the
 24 degradation of nutrition. Weight -- every ounce

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1 matters more tomorrow than it does today, as my
 2 physical ability gets weaker over time.
 3 So weight always matters.
 4 Especially as that increases in time, duration and
 5 distance.
 6 Q. When you say "weight always matters,"
 7 you are referring to the aggregate weight of the
 8 different materials that an infantryman is carrying
 9 into combat. Is that what you are referring to?
 10 A. Yes, in sum. All weight that I'm
 11 carrying on my body matter.
 12 Q. Have you ever heard lethality being
 13 discussed in conjunction with weight?
 14 MR. BRADY: Objection. Vague.
 15 THE WITNESS: Not that I recall. Well, yes I
 16 have.
 17 BY MR. WELLS:
 18 Q. Explain.
 19 A. The ease of getting the weapon -- except
 20 a big rifle. I have to paint a picture in my
 21 brain again.
 22 The ease of getting a rifle into
 23 a firing position while in cover, weight matters.
 24 That variant you talked about earlier would be a

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1 horrible weapon to jump into a leaning position
 2 behind the couch. It is heavy. It is long. It is
 3 difficult to move away from.
 4 If I have to move positions, I
 5 have this 50-inch long musket to move with, and
 6 weight adds up as I present the rifle into my
 7 shoulder to make a standing shot. That weight gets
 8 hole very quickly as I'm aiming, trying to assess
 9 where the enemy is at and point it.
 10 So now, weight and length factor
 11 together, so if it is heavy and closer and shorter
 12 and closer to my body, it is easier to manage than
 13 it is heavy and it is four feet out away from me.
 14 Q. Okay. I'm sharing with you a document.
 15 It is previously marked as Deposition Exhibit 1.
 16 It is your expert report with attachments. I'm
 17 looking at PDF 299.
 18 Directing your attention to the
 19 numbered paragraph 23. Reading this paragraph, do
 20 you recognize what this document is?
 21 A. I do. I don't see the name, but this is
 22 the special infantry weapons studies or the SAWS
 23 studies. There were those Army studies from the
 24 late '50s, early '60s.

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1 Q. But you recognize this as a document
 2 that you attached to your expert report?
 3 A. I do. I do.
 4 Q. So looking at paragraph 23, it says,
 5 "Considerations of the relative lethality of 5.56
 6 millimeter and 7.62 millimeter ammunition with the
 7 possible exception to duplex, support all of the
 8 CDCEC SAWS conclusions. It is concluded that there
 9 are no tactically significant differences between
 10 5.56-millimeter and 7.62-millimeter ammunition per
 11 round of ammunition; however, 5.56-millimeter
 12 ammunition is significantly superior to
 13 7.62-millimeter ammunition in lethality per pound
 14 of ammunition, or per basic load carried by the
 15 soldier."
 16 Do you see that?
 17 A. I do.
 18 Q. And this is one of the documents that
 19 you relied upon in formulating your opinion in this
 20 case.
 21 Is that right?
 22 A. That is.
 23 Q. And do you have an understanding as to
 24 what lethality per pound of ammunition means?

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1 A. It is too vague for me to determine. As
 2 I told you earlier, I've undergone five definitions
 3 of lethality during my time of service.
 4 What we thought was a big old
 5 theory, hydrostatic shot, which was a mistake to
 6 now shock placement theory. Theories. All
 7 theories.
 8 We just were not ballisticians
 9 and not forensic experts. I understand whoever
 10 wrote that believed that to be true. Maybe in some
 11 -- whatever his thoughts were at the time -- but he
 12 certainly has more bullets per pound. Maybe that
 13 is how he is measuring it.
 14 Because a pound of 556 might
 15 give you 100 bullets, and a pound of 762 might give
 16 you 30. He has more opportunity, but lethality,
 17 I've been measuring it too many different ways to
 18 plant a flag on that definition.
 19 Q. Do you agree with the statement that
 20 there are no tactically significant differences
 21 between 5.56-millimeter and 7.62-millimeter
 22 ammunition per round of ammunition?
 23 A. I do not.
 24 MR. BRADY: Objection. Vague.

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1 THE WITNESS: I do not.
 2 BY MR. WELLS:
 3 Q. Why not?
 4 A. Weight, balance, load is far easier with
 5 that 556 than it is that 762. 762 may penetrate,
 6 but all I want to do is to duck, stay in position
 7 while I bring something heavy to kill him.
 8 I can do that with a small
 9 projectile.
 10 Q. In your expert reports, you cite the
 11 U.S. Army Weapons Systems handbook. Do you recall
 12 citing that document?
 13 A. I do.
 14 Q. And what generally is that document?
 15 A. Probably a snapshot for Congress
 16 primarily to show what we are currently using, kind
 17 of an update of changes. So if you haven't been
 18 paying attention, the systems change regularly.
 19 You can get kind of a quick look of what is
 20 currently there.
 21 Q. I've shared on the screen a document
 22 with Bates Label OAG-8050 that says, "Weapon
 23 systems handbook 2020 to 2021." Do you see that?
 24 A. I do.

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1 Q. Is this the document that you were just
 2 referring to?
 3 A. Yes.
 4 Q. This is the document that you cited in
 5 your report?
 6 A. Correct.
 7 Q. Okay. So in your understanding that
 8 this is a -- the document itself is hundreds of
 9 pages. Is that right?
 10 A. Normally it is. I only see three here.
 11 Q. I've created an excerpt to make it a
 12 little smoother for you, but you understand the
 13 document as a whole, which has been produced in
 14 this litigation several hundred pages long, and
 15 this is just an excerpt.
 16 A. I understand.
 17 MR. WELLS: And just for the record, I'd like
 18 to mark this as Deposition Exhibit 6.
 19 (Deposition Exhibit 6 was marked
 20 for identification.)
 21 BY MR. WELLS:
 22 Q. It is OAG-8050, and then OAG-008351 to
 23 8352. Do you see that, Mr. Eby?
 24 A. I do.

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1 Q. So I've excerpted a particular section
 2 of the weapon systems handbook, which you cited in
 3 your expert report related to the next generation
 4 squad weapons.
 5 Do you see that?
 6 A. I do.
 7 Q. What are "next generation squad
 8 weapons"?
 9 A. The Army's replacement to close combat
 10 force for primary general purpose rifles and light
 11 machine guns.
 12 So they replaced the M249 with
 13 an automatic rifle version of the next gun. And
 14 they created a whole new caliber in doing so.
 15 Q. Why did they do that as far as you
 16 understand?
 17 MR. BRADY: Objection. Calls for speculation.
 18 THE WITNESS: After WANAT Valley in 2008, when
 19 the Army was nearly overrun on outpost, there was a
 20 lot of anecdotal complaints that the 556 bullet was
 21 inadequate to putting the opponent down. And that
 22 started an effort to -- that is their first real
 23 evaluation of 556 of these Army's research and
 24 development. Finally went back and evaluated the

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1 bullets we were using to determine if they would
 2 penetrate far enough and create enough trauma to
 3 put a combatant down, and they determined that it
 4 does not.
 5 It needed to be bigger. So they
 6 created their own 6.8 millimeter as a result of
 7 that effort.
 8 Q. You mentioned "anecdotal complaints."
 9 Who are those anecdotal complaints from?
 10 A. The war fighters on the scene.
 11 Primarily they would do things called "lessons
 12 learned." "What do you think" type questions.
 13 "I think I shot that guy 47
 14 times, and he failed to die. My bullet doesn't
 15 work." Those are anecdotal because we had no
 16 ballisticians on site or doctors to evaluate, nor
 17 should they have.
 18 In my mind, they still remained
 19 anecdotal, and there is no evidence training.
 20 There is no scientific measure being used. And it
 21 may have been just poor shots.
 22 Q. Is it your understanding that those
 23 anecdotal complaints prompted the Army to initiate
 24 the Next Generation Squad Weapons Program?

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1 A. Not initially. Initially they tried to
 2 enhance the bullet and they created MA55-A1
 3 enhanced performance bracket. The Marine Corps
 4 worked simultaneously with its own SOST, special
 5 operations science technology bullet, and then we
 6 had a huge fight at the Army/Marine Corps levels,
 7 and Congress had to order the Marine Corps to
 8 follow suit with the Army, and take the M855A-1.
 9 That was Stage 1. Get a bullet in existing
 10 weapons.
 11 Then they went after what is a
 12 better solution. And ended up with a 6.8 x 51 mm.
 13 Q. When you say "get a better bullet,"
 14 better how?
 15 A. I think -- I don't know. I wasn't
 16 present for the evaluation, and they close hold all
 17 that information. I can make some assumption, but
 18 it would just be that.
 19 Q. Let's look at this document. Just
 20 zooming in on Internal Pagination 300. It is
 21 OAG-008531. This is deposition Exhibit 6. Top of
 22 the page says "Next generation squad weapons. I'm
 23 looking at the section that specifically says
 24 "Benefit to the soldier." Do you see that?

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1 A. (No response.)
 2 Q. Mr. Eby, can you see that?
 3 A. I'm not finding it -- oh, yes, I do.
 4 I'm sorry.
 5 Q. No. It's okay. Sometimes it's hard to
 6 see on screen. Okay.
 7 Under "Benefits of the soldier,"
 8 it says, "NGSW," which is Next Generation Squad
 9 Weapons program "significantly increases lethality
 10 and probability at the squad level.
 11 Due to the nature of the
 12 general purpose ammunition, the 6.8-millimeter
 13 projectile will outperform even the most modern
 14 5.56-millimeter and 7.62-millimeter ammunition.
 15 These weapon systems will give
 16 soldiers significant capability improvements and
 17 accuracy range, signature and lethality."
 18 Do you see that?
 19 A. I do.
 20 Q. Is this the transition you were
 21 describing? The transition from the
 22 5.56-millimeter round to the 6.8-millimeter
 23 projectile?
 24 A. It is.

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1 Q. Would you agree with me the way this
 2 program is described in this document is that
 3 transition would significantly increase lethality;
 4 is that right?
 5 MR. BRADY: Objection. Vague. Misstates the
 6 document.
 7 THE WITNESS: I would be limited to say that
 8 it improved accuracy, improve range, improve
 9 signature management. I can't define lethality.
 10 BY MR. WELLS:
 11 Q. Can you define probability of hit?
 12 A. Yes, I can.
 13 Q. What is that?
 14 A. Out of 10 out of 10 rounds, I will hit
 15 more often than a previous competitor.
 16 So I will increase my hit
 17 potential under the same exact circumstances, and
 18 in this platform, because it has a fire control
 19 system, it can give you range correct, it tells you
 20 what portion of the rifle to aim with, will
 21 logically increase hit potential.
 22 Q. Why is the probability of hit an
 23 important metric?
 24 A. In the marksmanship world that is how we

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1 measured you. You fire 100 rounds. You hit 80 of
 2 them. That is how we keep score. In a combat
 3 scenario. We are not actually expecting hits. We
 4 just want to keep you suppressed so we can kill you
 5 with other means. If we get hits out of that, by
 6 all means we are happy with that, but that is not
 7 the rule.
 8 Q. It notes here that the 6.8-millimeter
 9 projectile that the Army is moving to is going to
 10 out perform even the most modern 5.56 millimeter,
 11 and 7.62 millimeter. Do you see that?
 12 A. I do.
 13 Q. Do you have an understanding why the
 14 Army would have chosen a 6.8-millimeter projectile
 15 as opposed to a 7.62-millimeter projectile?
 16 A. I do not.
 17 Q. Do you have an opinion about whether a
 18 6.8-millimeter projectile can outperform even the
 19 most modern 7.62-millimeter projectile?
 20 MR. BRADY: Objection. Vague.
 21 THE WITNESS: I do not. I don't have any
 22 experience with the 6.8.
 23 BY MR. WELLS:
 24 Q. What is slow semi-automatic fire?

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1 A. Usually referred to as sustained rate of
 2 fire, 12, 15 rounds per minute.
 3 If it is going to use that term,
 4 then you can create your own answer.
 5 Q. Where did that fifteen rounds per minute
 6 figure come from?
 7 A. I think it was tied to the heat of the
 8 barrel. We can find no evidence of any test ever
 9 performed that tells us X number of rounds, when
 10 does the barrel get hot? We had general rules, but
 11 when a barrel gets hot, we need fifteen minutes to
 12 cool it down.
 13 So we were very careful not to
 14 get it hot. A weapon starts degrading as soon as
 15 it gets to 550 degrees. When rounds could cook off
 16 in the chamber.
 17 These are all just general
 18 guidelines, kind of help shape your logistics. I
 19 think, based on an enemy situation, it is going to
 20 take me 5 minutes to get across from the last spot
 21 to the enemy, I need 5 minutes' worth of ammo.
 22 Can I add more ammo or do I need
 23 to divide that five minutes into the ammo I am
 24 carrying? So we will build our combat prep based

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1 on these considerations.
 2 And then we will pre-issue
 3 commands to -- at certain points, I have more
 4 exposed force, so I want you to increase your rate
 5 of fire. When that exposed force goes undercover,
 6 decrease your fire. And we manage that so we have
 7 enough ammo to get through the fire.
 8 Q. Is management and preservation of
 9 ammunition an important consideration in combat?
 10 A. Yes, sir because I don't know where it
 11 is going to come from if I run out.
 12 Q. How does the use of automatic fire
 13 impact preservation of ammunition?
 14 MR. BRADY: Objection. Vague.
 15 THE WITNESS: Clearly it does not, and we
 16 probably -- if it is a deliberate attack, and I
 17 conducted the planning, I would never use automatic
 18 fire until I get into the building or into the
 19 trench.
 20 There are different applications
 21 where I need to use it to survive. Best-case
 22 scenario, I don't use it at all. I pin him down
 23 with sufficient overwhelming fires, and I drop the
 24 artillery until they are pounded.

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1 Q. So is it fair to say then, one of the
 2 reasons why soldiers and Marines use automatic fire
 3 sparingly, and only out of necessity, is to
 4 preserve ammunition?
 5 MR. BRADY: Objection. Vague. Incomplete
 6 hypothetical. Argumentative.
 7 THE WITNESS: I would say no. It is more of a
 8 survival tool. I need it when my plan fell apart
 9 or the enemy got a vote, I need to get out of a bad
 10 situation.
 11 Clearing rooms, again, is
 12 extremely dangerous. We don't know how many are in
 13 there, what weapons they are armed with, and we
 14 overwhelm that with hand grenades and fire for our
 15 self-preservation.
 16 When they attack me, I'm out in
 17 the open. I survive with high volume of fire at
 18 the expense of my weapon. I may melt that gun. As
 19 long as I can get undercover and survive, and then
 20 evaluate what is left of weapons.
 21 BY MR. WELLS:
 22 Q. When you said "melt that gun," what do
 23 you mean?
 24 A. When the Army went to WANAT Valley in

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1 2008, they melted their guns. The gas tube that
 2 allows air to come out of the barrel and cycle the
 3 bolt, and that gas impingement system, those melted
 4 in half. The gun was useless.
 5 The rifle got so hot that they
 6 -- the bullets -- took it out. So now you have a
 7 smooth musket, perhaps. The barrels got so hot
 8 they bent.
 9 Q. What caused that melting?
 10 A. Being overwhelmed. Not being prepared
 11 for 200 people to attack 48. And then -- they
 12 fired full auto. It is that or die. That will get
 13 overrun.
 14 So in that full auto with every
 15 magazine they had, they ruined their guns, but they
 16 defeated the enemies' attack in doing so.
 17 So in that case, that was a good
 18 choice either that or they would all be dead.
 19 Q. Are you familiar with rapid
 20 semi-automatic fire?
 21 A. I am. It's an Army term. I don't know
 22 that the Marine Corps picked it up yet.
 23 Q. What is rapid semi-automatic fire?
 24 A. Generally referred to as three times the

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1 sustained rate, so approximating about 45 rounds
 2 per minute.
 3 Q. Where -- you said generally defined.
 4 Where would that be defined?
 5 A. That is usually a marksmanship
 6 publication. That is a very valid technique if the
 7 shooter has been trained well to manage recoil.
 8 Q. What if the shooter has not been
 9 adequately trained to manage recoil, would you
 10 recommend rapid semi-automatic fire?
 11 MR. BRADY: Objection. Incomplete
 12 hypothetical.
 13 THE WITNESS: I would not.
 14 BY MR. WELLS:
 15 Q. Why not?
 16 A. Deplete his combat load. Increase
 17 danger on the reload process. Overheat his rifle
 18 with no effect.
 19 Q. You said that sometimes, though, rapid
 20 fire could be a valid technique. In what
 21 circumstances would rapid semi-automatic fire be a
 22 valid technique?
 23 MR. BRADY: Objection. Incomplete
 24 hypothetical.

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1 THE WITNESS: Hypothetical situation where the
 2 range is probably too far for automatic fire to
 3 control the burst on the target. So rapid fire
 4 would allow -- there is a phrase we use called
 5 "controlled pairs" and "hammer pairs".
 6 Hammer pairs, I see the sight
 7 one time and I fire two bullets. I pull the
 8 trigger twice to get hammered, but I only saw the
 9 site one time for accurate alignment. That is a
 10 very close proximity and target.
 11 And if I were measuring me, that
 12 might be -- at 50 meters, I would have to stop and
 13 start finding the shot in order to control the
 14 beaten zone into the target area.
 15 Rapid fire would be superior to
 16 automatic fire at a certain distance, depending on
 17 that shooter, and that shooter's capabilities to
 18 manage recoil over automatic fire.
 19 Q. And you said rapid semi-automatic fires
 20 three times the sustained rate, and that
 21 approximates to 45 rounds per minute.
 22 At 45 rounds per minute in an
 23 M4/M16, that would require a magazine change in
 24 that minute; is that correct?

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1 A. Yes.

2 Q. How does that impact -- how does the

3 magazine change impact the rate of fire?

4 MR. BRADY: Objection. Vague. Incomplete

5 hypothetical.

6 THE WITNESS: Every one of us changes the

7 magazine at different speeds. It is a rehearsed

8 behavior. It is a gear and location requirement.

9 Individual training requirement. I could give you

10 assumptions of trained shooter versus untrained

11 shooter.

12 Novice versus expert on speed to

13 do so. You know, it is not uncommon for a trained

14 shooter to change magazines in one and a half

15 seconds.

16 It is not uncommon for people

17 I've spent time with on NRA training, that had to

18 be 10 seconds to change their magazine. So that

19 would affect overall their fire if those are

20 fictional numbers that we can't scientifically

21 prove true.

22 Q. I'm going to show you a document, PDF

23 page 254 of your expert report and attachments. Do

24 you recognize this document?

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1 A. Can you scroll up and show me the name

2 training circular or ATP? I recognize it from one

3 of those.

4 Q. It is Exhibit 4 to your rebuttal report,

5 TC3229, "rifle and carbine." Are you familiar with

6 that?

7 A. I am.

8 Q. Do you see that? So it is Exhibit 4 to

9 your rebuttal report, and it says "Rifle and

10 carbine"?

11 A. I do see it.

12 (Exhibit 4 was marked for

13 identification.)

14 BY MR. WELLS:

15 Q. So this is a document that you chose to

16 attach to your rebuttal report. Is that right?

17 A. That is correct.

18 Q. Okay. So going back to the page I was

19 at previously, which is, again, 254, and a PDF, and

20 it is 86 -- page 86 "internal pagination." It is

21 Chapter 8 at the top, and it says "Rate of fire."

22 Do you see that?

23 A. I do.

24 Q. And would you agree with me that this

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1 page describes slow semi-automatic fire or rapid

2 semi-automatic burst fire?

3 A. I do.

4 Q. And those figures you gave before, were,

5 I think, 12 to 15 rounds of what you called

6 sustained fire. Do you see that underneath "slow

7 semi-automatic fire"? Do you see that?

8 A. I do.

9 Q. And so you said the Army uses the term

10 "slow semi-automatic fire." You would characterize

11 this as "sustained fire"; is that correct?

12 A. That is right. People may have changed

13 their mind because we tend to steal these

14 publications and throw a camouflage cover on it and

15 claim we wrote it.

16 Q. And under "rapid semi-automatic fire,"

17 that 45 rounds per minute figure that you quoted

18 earlier, you see that reflected here. Is that

19 right?

20 A. I do.

21 Q. Under automatic or burst fire, there is

22 no numerical value for rounds per minute. Do you

23 have an understanding as to why that might be?

24 MR. BRADY: Objection. Calls for speculation.

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1 THE WITNESS: In the fire engagement, I think

2 we train too specifically. We don't expect that to

3 happen beyond one magazine, so it is 20 or 30

4 rounds. Well, it is not even that. We don't load

5 30. We load 28 because the spring system gets too

6 tight, and the magazine won't lock on the weapon.

7 So with a 30 magazine holds 28

8 rounds. In those engagements where my life is at

9 risk, and I have ordered an immediate action drill

10 to use automatic fire, it is very limited in

11 duration.

12 BY MR. WELLS:

13 Q. Okay. And tell me again what burst fire

14 is?

15 A. Burst is a trigger limiter that only

16 allows three rounds be fired for every pull -- or

17 every trigger bullet.

18 Q. Why would there be a trigger limiter

19 installed that limits three rounds to one trigger

20 pull?

21 A. It is anecdotal. As I understand it, it

22 was logisticians wanting to apply how much bullets

23 to buy and they didn't burn through it all, so they

24 put a burst limiter on there. Number one, to limit

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1 how much you shot that range, but, two, to limit
 2 your ability to overheat the weapon.
 3 Q. And you said it was whose decision? The
 4 logisticians?
 5 A. Logisticians. They have to pre-plan how
 6 much ammunition we get each year in training. How
 7 much we are using in war.
 8 They pre-plan these logistical
 9 load outs. For them, that benefited. For us, it
 10 was a horrible idea. For the fighter this is one
 11 of the worst designs ever built because the trigger
 12 went through different trigger pulls as it went
 13 through different sear positions, and it prevented
 14 in a life critical moment from having access to
 15 full auto.
 16 And as I mentioned, we have
 17 since moved away from this. We've gone back to
 18 full auto, but it took us 40 years to do.
 19 Q. When you logisticians, are those members
 20 of the Marine Corps or who are these logisticians?
 21 A. Logisticians are occupational, both Army
 22 and Marine Corps, who have an influence on how much
 23 ammunition we get to train, how much they have to
 24 buy.

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1 As a matter of fact, in the
 2 training and readiness manual that depicts what
 3 skills we need to perform for the Marine Corps,
 4 they did not buy the ammunition, that is written in
 5 those documents sufficient to develop a skill.
 6 They gave us a flat rate of
 7 ammo. So -- for instance, in my training manual,
 8 it might call for ten thousand rounds of 556
 9 bullets for every individual rifleman. Yet I only
 10 get 500.
 11 So they have an overall
 12 influence about what they are willing to buy, and
 13 they don't let the training and readiness manual
 14 that we use to develop skills to change their mind.
 15 Q. You would agree, though, that running
 16 out of ammunition in combat is a major issue,
 17 right?
 18 A. Absolutely.
 19 Q. And the role of the logisticians is to
 20 plan to make sure that there is enough ammunition
 21 for war fighters. Is that right?
 22 MR. BRADY: Objection. Vague.
 23 THE WITNESS: In part. He has to have enough
 24 in theater to feed me, but the combat element

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1 leader has to determine what he is going to take
 2 forward based on his evaluation of the situation.
 3 BY MR. WELLS:
 4 Q. Are you familiar with the scenario that
 5 Colonel Tucker has referenced at various points in
 6 which the Marine Corps was running very low on
 7 ammunition in the battle of Fallujah? Do you
 8 recall -- are you aware of that situation?
 9 MR. BRADY: Objection. Vague.
 10 THE WITNESS: I'm not.
 11 BY MR. WELLS:
 12 Q. All right. I'm going to direct your
 13 attention now of page 148 of this same PDF, which
 14 is still within the same rebuttal Exhibit 4.
 15 Rebuttal Exhibit 4 of your
 16 rebuttal report, do you see in PDF 148, which is,
 17 again, part of TC322.9, dated May 13, 2016, Table
 18 21. Do you see that?
 19 A. I see that.
 20 Q. What is being shown in Table 21 here?
 21 A. Switch levers, overall barrel length,
 22 and 3 settings for select fire.
 23 Q. And you see the left column? It says
 24 "weapon, M16-A2, M16-A3, M16-A4." What is that

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1 describing?
 2 A. The M16 series of weapons.
 3 The Marine Corps never bought
 4 the A3. The U.S. Navy bought it. We went from the
 5 M16 to the A1 to the A2 to the A4. And then we
 6 switched from the M4 to the M4-A1.
 7 Q. And so the left column then describes
 8 the different rifles that were issued to soldiers
 9 and Marines?
 10 A. That is correct.
 11 Q. And the next column -- set of columns,
 12 where it says "selector switch positions." Do you
 13 see that?
 14 A. I do.
 15 Q. What is being described in those three
 16 columns?
 17 A. The three different settings and type of
 18 behavior of the weapon when you choose a semi. I
 19 can shoot semi. One shot for one pull, or I can
 20 have the option depending on the variant,
 21 three-round burst or full auto.
 22 Q. And for the M16-A2, you would agree with
 23 me that the three selector switch position lists
 24 are safe, semi and burst. Is that right?

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1 A. That is correct.
 2 Q. And there is no full auto?
 3 A. There is no full auto --
 4 MR. BRADY: Objection. Vague.
 5 BY MR. WELLS:
 6 Q. The M16-A3 are safe, semi and auto. Do
 7 you see that?
 8 A. I do. That is correct.
 9 Q. And does auto there refer to full
 10 automatic?
 11 A. Yes, sir.
 12 Q. And that full automatic would be -- as
 13 long as you are squeezing the trigger rounds you
 14 are going to be firing until the magazine is
 15 exhausted. Is that right?
 16 A. That is correct.
 17 Q. And that is different than the burst of
 18 fire you described earlier where as long as you are
 19 squeezing the trigger, the most you are going to
 20 get is three shots in one squeeze. Is that right?
 21 A. That is correct.
 22 Q. In M16-A4, the selector switch position,
 23 it says "safe, semi and burst." Do you see that?
 24 A. I do.

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1 Q. And, again, that is -- burst is three
 2 shots. There is no list for listing of full
 3 automatic selector switch position for M16-A4; is
 4 there?
 5 A. There is not.
 6 Q. All right. So just focusing on the M16
 7 variants here. So for the M16-A2 and M16-A4, which
 8 you said are the only ones that the Marine Corps
 9 actually used. They didn't use M16-A3. Those
 10 rifles, the M16-A2 and M16-A4, did not have full
 11 automatic capability on them; is that right?
 12 A. That is correct.
 13 Q. And those are the rifles -- well, let's
 14 go to the M4.
 15 So the M4 you see it says "safe,
 16 semi and burst." Is that right?
 17 A. That is correct.
 18 Q. And then the next line M4-A1, "safe,
 19 semi and auto." "Auto" is referring to full
 20 automatic?
 21 A. Yes.
 22 Q. So on this chart, which of these rifles
 23 did you carry during your time in the Marine Corps?
 24 A. The M4 and M16-A4 and M16-A2.

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1 Q. So all of the rifles you carried in the
 2 Marine Corps, only had burst fire, and no full
 3 automatic capability. Is that right?
 4 A. From that chart you are missing the
 5 M16-A1 that did have full auto, which I did carry.
 6 I did carry an M4-A1 in a limited duration for a
 7 three-year period. Very short duration.
 8 So I would carry everything, but
 9 the M16-A3 from that, and in addition, I would have
 10 had the M16-A1.
 11 Q. And the M16-A1 was full automatic?
 12 A. I believe so. There were two. M16,
 13 M16-A1. They are original, and the original weapon
 14 I carried was full auto.
 15 Q. But subsequent to that, the weapons that
 16 you carried only had burst fire; is that right?
 17 MR. BRADY: Objection. Vague.
 18 BY MR. WELLS:
 19 Q. What was your answer?
 20 A. Yes. Only had burst fire for the
 21 majority.
 22 Q. What was your understanding as to why
 23 the military switched from an M16 with full
 24 capability to an M16 with only burst fire

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1 capability?
 2 MR. BRADY: Objection. Calls for speculation.
 3 Misstates testimony.
 4 THE WITNESS: To preserve ammunition.
 5 We did not have the marksmanship
 6 training program to incorporate accurate automatic
 7 fire.
 8 All of our marksmanship training
 9 was bulls-eye training designed by the NRA in 1908,
 10 and that is the only way we measured success was to
 11 shoot very slow and methodically from very stilled
 12 firing positions of standing, kneeling, prone or
 13 squatting for one shot, one hit measures.
 14 We didn't measure anything
 15 tactically.
 16 Q. Was the military also concerned with
 17 increasing hits on target?
 18 A. In the marksmanship range, yes. And the
 19 tactical scenarios, no. In the tactical scenarios,
 20 you don't see your target. You see an area. You
 21 have to suppress the area.
 22 Q. How does burst fire save ammunition
 23 compared to automatic fire?
 24 A. It limits how many rounds you can get

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1 out per trigger pull, forcing you to reset the
 2 trigger, which made that extremely dangerous.
 3 Because now, when I'm trying to get out of a near
 4 ambush or run into a house, I can't shoot
 5 everything in the house. I have to keep resetting
 6 the trigger.
 7 Q. When Marines are being trained on the
 8 amount of rounds they should discharge in full
 9 automatic fire per trigger pull, how many rounds
 10 are they trained per trigger pull for full
 11 automatic fire?
 12 MR. BRADY: Objection. Vague.
 13 THE WITNESS: We try to get them to control it
 14 down to three to five, because that manages the
 15 recoil to keep the shots. But if they had to vote,
 16 if they are three feet off of the target as the are
 17 entering the room, just pull the trigger until it
 18 is out of ammo.
 19 So that is where that full auto
 20 helps if a condition requires it.
 21 Q. So when the Marines are trained to use
 22 full automatic fire, they are trained to use three
 23 bursts of fire?
 24 MR. BRADY: Objection. Misstates testimony.

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1 Vague. Incomplete hypothetical?
 2 THE WITNESS: During the initial training, we
 3 try to get them to control the three to five --
 4 three to five rounds we need to try to fix their
 5 body position to manage the recoil.
 6 During advanced training, we
 7 don't give them a limit. They determine that based
 8 on the situation they are in.
 9 So during advanced training of
 10 shipboard tactic or close-quarter battle, they
 11 decide how many rounds they need to finish the
 12 fight.
 13 BY MR. WELLS:
 14 Q. And you specifically mentioned
 15 room-clearing scenarios. Is that a scenarios -- is
 16 that a scenario in which you would expect
 17 full-automatic fire to be used?
 18 MR. BRADY: Objection. Misstates the
 19 testimony. Vague. Incomplete hypothetical.
 20 THE WITNESS: Yes. That is one of the
 21 scenarios I would expect full auto to save their
 22 life.
 23 BY MR. WELLS:
 24 Q. In a home defense scenario, would the

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1 same calculus apply that you would want to use full
 2 automatic fire in a home defense scenario?
 3 MR. BRADY: Objection. Vague. Incomplete
 4 hypothetical. Calls for speculation.
 5 BY MR. WELLS:
 6 A. If the cost of doing so wasn't so
 7 exorbitant, I would expect that skill to save
 8 lives.
 9 Q. When you say the cost of doing so
 10 weren't so exorbitant. What do you mean?
 11 A. The NFA made fully automatic rifles
 12 \$40,000 each. I can get an AR or a semi-automatic
 13 for 500. That is a pretty high price to pay for a
 14 middle-class person, even if they chose to get the
 15 training and they understand how to use it
 16 properly. The price of entry is too high.
 17 Q. So just setting aside the cost
 18 consideration. So if the price were the same
 19 between a semi-automatic AR-15 and a full automatic
 20 AR-15, if that were legal and able to be purchased,
 21 would you recommend for self-defense scenarios in
 22 the home a full automatic AR-15?
 23 MR. BRADY: Objection. Vague. Incomplete
 24 hypothetical.

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1 THE WITNESS: I would recommend a full
 2 automatic pistol caliber carbine to reduce weight,
 3 length, portability, maneuverability to increase
 4 the volume of fire so I win this fight. Yes.
 5 BY MR. WELLS:
 6 Q. In untrained civilian hands, you would
 7 recommend a full automatic pistol carbine for use
 8 in self-defense in the home?
 9 MR. BRADY: Objection. Misstates testimony.
 10 Argumentative. Vague. Incomplete.
 11 THE WITNESS: I would require a training
 12 program for that.
 13 MR. WELLS: It's 12:28. We've been going an
 14 hour and 15 minutes since the last break.
 15 Would you like to take a lunch
 16 break? Is that okay to you?
 17 THE WITNESS: It's up to you. I'm fine.
 18 MR. WELLS: Okay. Why don't we take a lunch
 19 break so I can see if I can try to cut some stuff
 20 to make this process a little more streamline. Is
 21 that okay?
 22 THE WITNESS: Yes, sir.
 23 MR. WELLS: Let's go off the record.
 24 (Recess).

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1 MR. WELLS: Back on the record at 1:15.
 2 BY MR. WELLS:
 3 Q. Mr. Eby, as a reminder, you are still
 4 under oath.
 5 Did you have a good lunch?
 6 A. No. I just had a lunch.
 7 Q. All right. Fair enough. Mine wasn't so
 8 good either.
 9 All right. I'd like to ask you
 10 about the term "peer opponent. Your report uses
 11 the term "peer opponent." What does that mean?
 12 A. Equal in force across multiple
 13 war-fighting functions is what that means.
 14 They are equal to us in space
 15 capabilities, cyberspace, air, sea, land. But it
 16 also means they have a well-trained force. They
 17 have leadership courses to teach their leaders
 18 instead of restricted course where you tend to get
 19 only the leaders that had any education.
 20 Everybody else is just ordered to be that.
 21 So a well-trained peer force can
 22 match our capabilities across all of the war
 23 fighting functions and spectrums, and they equal or
 24 exceed us in mass.

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1 Where we would no longer have
 2 this five-to-one ratio we were accustomed to in the
 3 last 60 years.
 4 Q. I'm going to show you a section from
 5 your expert report. It is a document that we
 6 previously looked at. That is marked FM30, date
 7 stamped October 1st, 2022. It is Exhibit 1 to your
 8 initial expert report. What is this document?
 9 A. It is FM30, 3-0 is operations. It is
 10 that general baseline of how to consider organizing
 11 your force and what assets have available.
 12 These, again, are designed to
 13 give you best practice thoughts to shape your mind.
 14 This is not a higher level. This will be more of
 15 an operational level of two-star generals need this
 16 level of education.
 17 Q. Is this is a concept that you as a
 18 Marine gunner would have trained on?
 19 A. In conversation only. It would not have
 20 been my deliberate training as mine were more
 21 individual and weapons, but having an understanding
 22 of all this is just a byproduct of existence, and
 23 the Marine Corps, especially at that final billet,
 24 I had at three-star level. This is using like the

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1 real words. It means something to them.
 2 Q. So who specifically is using this
 3 document that we are looking at if it means
 4 something to them?
 5 A. Probably your colonel and above.
 6 Q. It says at the top there, "Peer threats
 7 contest the joint force and all that remains
 8 through several methods." Do you see that?
 9 A. I do.
 10 Q. And we said peer threat opponent,
 11 earlier, but is peer threat the same thing as peer
 12 opponent?
 13 A. It is. These are, again, couple
 14 relatively recent terms that come out.
 15 We didn't really use these words
 16 when focused on Afghanistan, Iraq or Vietnam. We
 17 didn't consider them equal to our capabilities or
 18 cross-war functions. This is coming out more
 19 recent probably in the last 10, 15 years.
 20 Q. You retired from the military when?
 21 A. 2010.
 22 Q. And were these terms being used in 2010
 23 when you retired from the military?
 24 A. They were just beginning. It was our

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1 group mainly. They were trying to shape their
 2 understanding of how the threat is changing. So
 3 these are all -- and this is still what it is
 4 doing. This will probably change a couple more
 5 times because it is all relatively new.
 6 Q. When was the first time you heard the
 7 phrase peer threat in the military?
 8 A. I don't recall. I actually -- we used
 9 general terms like this, "forces of equal
 10 capabilities" in the early '80s.
 11 We were doing methodical warfare
 12 at the time. Talking about the fights against
 13 Russia really during the Cold War, where we
 14 considered them a peer threat.
 15 Then it kind of went away when
 16 we started talking low intensity for 20 years, and
 17 now it is coming back again. I don't remember if
 18 we used the exact word "peer," but "equal force."
 19 "Equal capabilities."
 20 Q. All right. And you mentioned earlier
 21 joint force -- well, we didn't discuss joint force.
 22 What is joint force?
 23 A. Multi-services and multi-nations
 24 comprise of joint force.

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1 Q. What are domains?
 2 A. Air, sea, land, cyber and space.
 3 Q. Do you see this illustration here that
 4 has kind of a black square and a blue square and a
 5 green and blue square?
 6 A. I do. I do.
 7 Q. And next to that are labels of space,
 8 cyberspace, air, land and maritime. Are those the
 9 domains?
 10 A. Yes.
 11 Q. And I think you said earlier what
 12 defines a peer threat. The ability to contest the
 13 joint force, so the combined U.S. forces and
 14 potentially allies in all domains. Is that right?
 15 MR. BRADY: Objection. Misstates the
 16 testimony.
 17 THE WITNESS: It is, and there is an entire
 18 definition to that, meaning that if they can
 19 contest us in air, it is for limited amount of
 20 time. And limited space, if they can create a
 21 moment of superiority, then they have contested or
 22 overwhelmed us in that asset.
 23 BY MR. WELLS:
 24 Q. Has the number of domains increased over

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1 time?
 2 A. Cyber increases what I remember the
 3 most. Recently added. And then space is
 4 relatively new. As we consider navigational
 5 capabilities and satellites and centers. The space
 6 part came first, and now cyber is now we consider
 7 weaponized capability and an area that we need to
 8 sustain and contest.
 9 Q. How does an adversary's ability to
 10 contest U.S. forces in cyberspace impact whether a
 11 rifleman uses semi-automatic or automatic fire in
 12 combat?
 13 MR. BRADY: Objection. Incomplete
 14 hypothetical.
 15 THE WITNESS: Yes. I'm trying to place that
 16 myself. I suppose you could hack a command if it
 17 came through digital means, or hack the location of
 18 targeting that comes out of these digital awareness
 19 kits. It is called ATAK. The commanders can send
 20 down targeting information to those digital kits
 21 through cyber. They could give me the feeling of
 22 being overwhelmed, which would trigger my behavior
 23 to use automatic fire.
 24 So that is a completely made-up

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1 sentence, but that would be an example.
 2 Q. How does an adversary's ability to
 3 contest U.S. forces in space impact whether a
 4 rifleman uses semi-automatic or automatic fire in
 5 combat?
 6 MR. BRADY: Objection. Incomplete
 7 hypothetical. Vague.
 8 THE WITNESS: I would have to struggle and
 9 figure out a way that is used for satellites, or
 10 sensors may need to decide which greater fire to
 11 use. I can't think of one.
 12 BY MR. WELLS:
 13 Q. You wrote in your report that the only
 14 reason U.S. forces have employed semi-automatic
 15 rifle fire during the last 60 years of combat is
 16 due to our fighting non-peer enemies over this
 17 duration. Low-intensity combat in Iraq,
 18 Afghanistan, criminal behavior in Panama or police
 19 action in Vietnam. Was that your opinion?
 20 A. Yes, sir.
 21 Q. What was the basis for this opinion?
 22 A. Numerically outnumbering all of our
 23 opponents on all of those engagements. Not meeting
 24 all of the other assets of cyber and space. And

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1 very little maritime since World War II.
 2 So we had not fought anybody
 3 that equaled us in mass. We had in 60 or 70 years
 4 now, benefited from having overwhelming mass at the
 5 point of contact against untrained -- as a matter
 6 of fact, they didn't even throw on uniforms.
 7 We haven't fought anybody in
 8 uniforms or formations since the Korea War.
 9 Q. So is it your testimony that the last
 10 time the United States faced a non-peer enemy in
 11 combat was in the Korean War?
 12 MR. BRADY: Objection. Misstates testimony.
 13 BY MR. WELLS:
 14 Q. I'm sorry. Peer enemies?
 15 A. Yes. I would -- Korean would be
 16 questionable. Certainly World War II. Japan and
 17 Germany equalled power capabilities across all
 18 domains and with mass. And exceeded us in several
 19 locations with boats and tanks, but in World War II
 20 for certain. Korea, maybe. That would take some
 21 research.
 22 Q. Did you do any research on that Korean
 23 War to determine whether that was a conflict with a
 24 peer enemy?

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1 A. I know they equaled us on ground and
 2 surpassed us. I did not continue to research to
 3 see if they had capable space, cyber or air.
 4 Q. And you say "equal," you are referring
 5 to numerical equality. Is that right?
 6 A. In some occasions, no. We really had
 7 the ability to match at the point of attack to
 8 equal or outnumber us in capability. I say
 9 outnumber, but to exceed our capability. Meaning
 10 they would localize air superiority by suppressing
 11 our air. Localize Naval superiority by suppressing
 12 our naval.
 13 In that case in Korea, they did
 14 have multi-machine gunners, tanks, to overwhelm our
 15 forces. That made them appear in a localized
 16 individual parts.
 17 Q. Are you able to identify any publication
 18 that specifically states that the only reason that
 19 U.S. forces have employed semi-automatic rifle fire
 20 during the last 60 years of combat is due to our
 21 fighting non-peer enemies over this duration?
 22 A. No. I've never searched for it, and I
 23 certainly won't find it in the next thirty seconds.
 24 Q. So there are no U.S. Army publications

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1 that make this assertion?
 2 A. Not to that deliberate nature, no.
 3 Q. And you are not aware of any U.S. Marine
 4 publications that make this assertion?
 5 A. I am aware that the 2nd Marine Division
 6 Gunner is conducting educational peer instruction
 7 to revitalize the idea of automatic fires as
 8 mentally the lessons people have taken away from
 9 these engagements or that we haven't used them,
 10 therefore, more likely not need them.
 11 These remind me of the potential
 12 for Iran, Russia and China, and the value of those
 13 powers. So that education is ongoing right now at
 14 the 2nd division by Gunner Ron Hathaway.
 15 I don't know that he has
 16 publications at this point, and he's got -- again,
 17 what we are concerned with is 70 years of a
 18 low-intensity enemy, leading us to the wrong
 19 conclusions.
 20 Q. So is it fair to say that this
 21 statement -- that the only reason U.S. forces have
 22 employed semi-automatic rifles fired during the
 23 last 60 years of combat is due to our fighting
 24 non-peer enemies over this duration? Is that your

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1 personal opinion?
 2 A. Yes, sir, it is.
 3 Q. Are there other experts that you can
 4 point to who share that opinion and have stated so
 5 in writing?
 6 A. Ron Hathaway has stated so in his
 7 educational terms of instruction out of 2nd Marine
 8 Division, but I haven't screened everything that
 9 the active force has been talking about in the last
 10 15 years.
 11 Q. And is that writing from Mr. Hathaway
 12 something you consider in formulating your opinion
 13 in this case?
 14 A. Not at all. It was corroboration. My
 15 opinion has already been formed based on the
 16 experience I had in the corps, and understanding we
 17 could be fighting Russia. That is really what
 18 drove my behaviors and understanding of our
 19 capabilities and preparations in my early years of
 20 service. And it was a hard switch for me to switch
 21 over to this low-intensity combat.
 22 Q. And is that publication that you
 23 reference from Mr. Hathaway, is that publication
 24 you have access to?

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1 A. I could have. I don't have access to it
 2 right now. He explained this to me in a
 3 conversation that he has been doing these
 4 educational points.
 5 That would be accessible if you
 6 want to look through it.
 7 Q. Did you review that publication in any
 8 way in conjunction with your work in this case?
 9 A. No. I just had a conversation with
 10 Gunner Hathaway.
 11 Q. When did that conversation happen?
 12 A. Maybe the first week of May.
 13 Q. What prompted you to have that
 14 conversation?
 15 A. We were talking, already, about Marine
 16 Gunner Association and asked him what had he been
 17 doing.
 18 He told me that a high
 19 preponderance of Marine gunners had been selected
 20 from the scout sniper background. Single-rifle,
 21 single-shot mentality. And he was having a hard
 22 time with the upcoming gunners recognizing the
 23 value of fires; therefore, he had created this
 24 period of instruction to talk about it again, and

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1 start a resurgence of understanding why that is
 2 valuable and why not.
 3 Q. Why did he want to create a resurgence
 4 of that understanding?
 5 MR. BRADY: Objection. Calls for speculation.
 6 Vague.
 7 THE WITNESS: Specifically because the snipers
 8 were trying to go away from -- the former snipers
 9 who are now Marine gunners were so focused on
 10 well-aimed shots -- and his educational discussion
 11 was recognizing that we seldom see who we shoot at.
 12 Recognizing that we seldom see who we shoot at.
 13 And we shoot at areas. We shoot at specifically
 14 that bunker, that door, this window. We would do
 15 that to pin somebody down.
 16 He is concerned that we would
 17 lose our volume because we know that what creates
 18 suppression is sufficient, accurate rounds.
 19 So sufficient is dependent upon
 20 the situation. We can't tell you how many rounds
 21 are sufficient. We don't know if they are accurate
 22 until after the fight when we destroy the enemy
 23 because we don't see the enemy. We see the bodies
 24 afterwards.

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1 BY MR. WELLS:
 2 Q. In the conversation with Mr. Hathaway --
 3 he is currently in the Marine Corps. Is that
 4 correct?
 5 A. Yes, sir.
 6 Q. And his concern is that the folks being
 7 selected as gunners now are -- there is an over
 8 representation of snipers?
 9 A. No. The over-representation of snipers
 10 desiring slower, more accurate shots. And his
 11 concern was they misunderstand the enemy behavior
 12 of not standing out there waiting to get shot.
 13 Q. Who makes the selection of Marine
 14 gunners?
 15 A. Commissioned officers that are onboard,
 16 and they select from applicants that are submitted
 17 to them.
 18 Q. And those same commissioned officers,
 19 they are focused on concepts like combatting peer
 20 threats?
 21 A. They are.
 22 Q. What is low-intensity combat?
 23 A. It was what we experienced in
 24 Afghanistan and Iraq, a non-peer threat that has no

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1 equal capabilities across all domains of war.
 2 They could very easily be coined as criminal
 3 behavior. They don't often mass forces. They are
 4 not often state supported. We don't bring all
 5 weapons to bear.
 6 Q. -- do you -- you were in combat in
 7 Fallujah. Is that right?
 8 A. Yes.
 9 Q. Was that low-intensity combat?
 10 A. It actually was even though it is
 11 dangerous to the person entering the room. It is
 12 still low intensity combat.
 13 They did not have tanks. They
 14 did not have air capability. They did not have
 15 space capabilities. They might have had cyber.
 16 They did not have space capabilities.
 17 So all of those categories, it
 18 breaks down to low-intensity of no mass formations,
 19 no overly trained force. No react forces or
 20 reinforcements.
 21 Q. Did you ever communicate to your fellow
 22 in Marines in Fallujah what they were experiencing
 23 was low-intensity combat?
 24 A. No. I never needed to.

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1 Q. Were the enemy forces that the U.S.
 2 military facing in Vietnam well trained?
 3 MR. BRADY: Objection. Calls for speculation.
 4 THE WITNESS: Not to my knowledge. No.
 5 BY MR. WELLS:
 6 Q. Were they well armed?
 7 MR. BRADY: Objection. Calls for speculation.
 8 Vague.
 9 THE WITNESS: Not equal to us.
 10 BY MR. WELLS:
 11 Q. Are you familiar with the Tet offensive?
 12 A. I am.
 13 Q. What is the Tet offensive?
 14 A. 1968, offensive Israeli masked personnel
 15 for the last ditch effort to push United forces
 16 out. They caught us off guard that we were not
 17 prepared for.
 18 That was a localized massing of
 19 capabilities for a very short duration that was
 20 finally beat back.
 21 Q. Was that low-intensity combat?
 22 A. Not to the person on front line, but,
 23 yes, to the service as a whole. To the nation,
 24 yes.

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1 Q. So the Tet offensive was low-intensity
 2 combat for the United States as a whole?
 3 MR. BRADY: Objection. Misstates testimony.
 4 Vague.
 5 BY MR. WELLS:
 6 A. History would perceive that to be
 7 low-intensity conflict.
 8 Q. The fall of Saigon, did the U.S.
 9 military in Vietnam outnumber our opponents at the
 10 point of contact during the fall of Saigon in 1975?
 11 A. Not to my knowledge. We were in a full
 12 retrograde at that point. And I think we were
 13 diminishing in size and capability by the hour.
 14 Q. Was that the fall of Saigon
 15 low-intensity combat?
 16 A. It was.
 17 Q. All right. You state in your expert
 18 report that against a peer threat, which all U.S.
 19 forces prepare for every day, fully automatic fire
 20 is critical. It is rehearsed repeatedly.
 21 That is your opinion?
 22 A. It is my opinion.
 23 Q. And I think you discussed the word --
 24 the phrase "peer threat," is something that is a

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1 more recent term.
 2 When you joined the Marine Corps
 3 during the 1980s from -- so 1982 to 1989, did the
 4 United States face a peer threat at any point
 5 during that time period?
 6 MR. BRADY: Objection. Misstates testimony.
 7 Argumentative. Vague.
 8 THE WITNESS: I don't recall any. Grenada,
 9 Panama, no. No peer threat.
 10 BY MR. WELLS:
 11 Q. Well, not just combat against a peer
 12 threat. Was there peer threat with The United
 13 States military between 1982 and 1989 was preparing
 14 to face?
 15 A. Absolutely. Russia, Soviet Union,
 16 U.S.S.R.
 17 Q. And your training at that time as a
 18 Marine was focused on contesting that potential
 19 peer threat. Is that right?
 20 A. That is correct.
 21 Q. And I believe you said that when you
 22 first joined the Marines, you had an M16-A1 and
 23 that was replaced by an M16-A2; is that correct?
 24 A. Yes.

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1 Q. And when did that replacement take
 2 place?
 3 A. I would be guessing a year,
 4 approximately within a year or two. So 1983 or
 5 '84. Even if they would authorize a replacement,
 6 it could take up to two to five years depending how
 7 fast they could field them for a full change to
 8 happen.
 9 So when you read some history
 10 studies of M14 authorized in 1957, it may not have
 11 been finished fielding until 1963. And it got
 12 cancelled in the fielding in the process.
 13 So it takes time to issue the
 14 weapons, train to those weapons, train the armors,
 15 the maintainers, and then the individual shooters,
 16 how to use them before we relinquished the old one.
 17 Q. You received your M16-A2 as a
 18 replacement for the M16-A1 at some point prior to
 19 1989, correct?
 20 A. Right.
 21 Q. And that M16-A2 had burst fire
 22 capability, but not full automatic fire capability;
 23 is that correct?
 24 A. Correct.

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1 Q. And you were trained on that M16-A2 to
 2 potentially contest Russia at that time, in the
 3 U.S.S.R?
 4 A. About five years.
 5 Q. And your training during the 1980s, did
 6 you rehearse repeatedly to prepare for the
 7 potential of conflict with the U.S.S.R?
 8 MR. BRADY: Objection. Vague.
 9 THE WITNESS: We did.
 10 BY MR. WELLS:
 11 Q. You state elsewhere in your expert
 12 report that the U.S. forces do not prepare for
 13 future fights against non-peer threats. Therefore,
 14 will always be ready to use fully automatic fire
 15 against determined peer-level threats in all
 16 environments. Is that your opinion?
 17 A. Well, we -- it is my opinion. But the
 18 fact is we had to redo low-intensity conflict
 19 training courses in stride fighting.
 20 So we went into Iraq ready to
 21 fight a high-intensity fight. There was all this
 22 concern we would lose 40 percent of the force, and
 23 that is not what we found. We realized we needed
 24 to scale down. So we built training programs in

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1 Twentynine Palms to help adjust ourselves from high
 2 intensity to low intensity. Try and not create
 3 more damage than we were doing.
 4 So we did switch behaviors. We
 5 had trained on one level of warfare, and that
 6 didn't manifest, and then we had to train the force
 7 while fighting for a different level of warfare.
 8 And I helped create those
 9 training programs at Twentynine Palms.
 10 Q. And what were those training programs,
 11 specifically, again?
 12 A. We called them lane training. Each lane
 13 had a specific capability, but one lane would be
 14 how to identify IDs and defeat them. Another lane
 15 would be how to render safe foreign weapons in
 16 order to get them out of the battlefield.
 17 We would have a lane on -- you
 18 know, response to contact, both near and far
 19 ambushes. That changed and emerged into one
 20 response. Just ambushed. So our ambushes, we used
 21 to train people to assault towards the objective
 22 and we ended up getting too many casualties using
 23 lasers.
 24 So we eliminated that behavior

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1 that was in our manuals, and we just wanted to take
 2 cover, and figure out a way out of kill zones with
 3 high-intensity fires. Sensitive site exploitation.
 4 How to gather evidence was developed in those time
 5 frames.
 6 Q. So is it fair to say that based on the
 7 differences in the type of combat that the U.S.
 8 military was facing in Iraq and Afghanistan,
 9 changes to tactics and doctrine were instituted?
 10 MR. BRADY: Objection. Vague.
 11 THE WITNESS: Yes, sir.
 12 BY MR. WELLS:
 13 Q. And changes in training to how riflemen
 14 were trained to use their rifles were all sent. Is
 15 that right?
 16 A. Limited occasion --
 17 MR. BRADY: Objection.
 18 THE WITNESS: It was really more about adding
 19 thermal sights. Adding intensified sights for
 20 sensors. Using the IED jammers. So there is other
 21 equipment that was causing a lot of the change.
 22 Our tactical behavior at the point of the fight
 23 didn't change very much.
 24 It was just the equipment that

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1 we used changed.
 2 BY MR. WELLS:
 3 Q. Okay. You mentioned that the Marine
 4 Corps transitioned to M27. What is an M27?
 5 A. It is a rifle with select fire
 6 capability. It looks very much like the M16. It
 7 has an adjustable buttstock with free-floating
 8 handrail. That free-floating handrail, it
 9 increases accuracy.
 10 It has a metallurgy that lasts
 11 30 thousand rounds instead of the 5,000 rounds of
 12 the M4. At the time it had enhanced accuracy, but
 13 it has been shot out now. They had them too long.
 14 It had fire of semi -- safe,
 15 semi and auto. It is a billet role that -- that
 16 rifle, initially, would replace the M249 light
 17 machine gun. Now it is in the hands of every
 18 rifleman in the Marine Corps.
 19 Q. What does an automatic rifleman carry in
 20 the Marine Corps at this point?
 21 A. The M24.
 22 Q. So --
 23 A. So does the rifleman, the team leader,
 24 grenadier.

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1 Q. What caliber is an M27?
 2 A. 5.56.
 3 Q. Is that the same caliber as the M4 and
 4 the M16 before it?
 5 A. Yes, sir.
 6 Q. Is it the same caliber that you can get
 7 in a semi-automatic only AR-15 in civilian setting?
 8 MR. BRADY: Objection. Incomplete
 9 hypothetical. Vague.
 10 THE WITNESS: There are two different layers
 11 of AR-15 for civilians and it is kind of a time
 12 stamp. Let's say 1990, and I don't know the date.
 13 Civilian rifle used to be built towards a SAAMI
 14 pressure, S-A-M-M-I. I have no idea what that
 15 means. 65,000-pounds-per-square-inch capability.
 16 NATO was built towards NATO
 17 pressures of 75,000 pounds per square inch.
 18 Civilians finally caught on that military-grade
 19 ammunition was available on the resale market and
 20 changed their designs to meet NATO's specs, not
 21 SAAMI, but it is possible to run into older SAAMI
 22 rifles that may not handle the pressure of NATO
 23 bullets that you can buy on the resale market.
 24 Q. Is it fair to say that nowadays civilian

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1 AR-15's are manufactured frequently to be able to
 2 handle the pressure of NATO caliber bullets?
 3 MR. BRADY: Objection. Incomplete
 4 hypothetical. Calls for speculation.
 5 THE WITNESS: Although I haven't pulled every
 6 rifle ever being made, I would say, yes, the
 7 predominance of them would handle NATO specs.
 8 BY MR. WELLS:
 9 Q. I know you don't know what the acronym
 10 "SAAMI" means, but generally speaking, what is
 11 SAAMI?
 12 A. I think it is "Small Arms Ammunition" --
 13 I don't know the M and the I. I don't know if that
 14 is maintenance or manufacturer. But it kind of
 15 guided them towards do this at least to make that
 16 system safe.
 17 Q. What is SAAMI, an organization? Is it a
 18 company?
 19 A. I don't recall if that is an
 20 organization or just a title of a document to
 21 control design.
 22 Q. Do you know whether the U.S. Marine
 23 Corps decided to adopt the M27 as the primary
 24 weapon for Marine riflemen?

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1 A. The effort started in 1999 and was
 2 finally adopted in 2011.
 3 Q. So the adoption took place in 2011 after
 4 you left the Marine Corps. Is that correct?
 5 A. That is correct. It was being tested by
 6 1st Battalion, 3rd Marine Battalion from 2009
 7 through 2011. I was in the Marine Corps when it
 8 was sent out for Afghanistan deployment and end
 9 user EVALS. That became a positive report which
 10 led to the Commandant General James to order the
 11 replacement as an automatic rifle only for the
 12 first several years. And then General Robert
 13 Neller ordered it against the entire infantry,
 14 probably about 2015.
 15 Q. I'm directing your attention to Page 9
 16 of your expert report, which has been marked as
 17 Deposition Exhibit Number 1. And in particular,
 18 Footnote 9 -- and I will show you Footnote 9 is
 19 referencing the U.S. Marine Corps M27. Do you see
 20 that?
 21 A. I do.
 22 Q. And the M27's ability to mechanically
 23 fire between 700 and 900 rounds, and the citation
 24 for that is in Footnote 9; is that correct?

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1 A. That is correct.
 2 Q. And it says in "Footnote 9 see Exhibit 4
 3 HKM27 IAR Product Sheet, September 2012, page 3."
 4 Do you see that?
 5 A. I do.
 6 Q. What is that document?
 7 A. That document is a theoretical number
 8 about what could be achieved if you actually had a
 9 magazine that would hold 700 to 900 rounds. It is
 10 giving you precisely the timing of the cycle of
 11 operation from firing one bullet to completion of
 12 that cycle of operation where the bullet is fired.
 13 The bolt is unlocked. The empty casing is
 14 extracted and then ejected. The hammer is cocked.
 15 The bolt goes forward and strips a new round off
 16 the magazine and loads it, and the bolt locks
 17 again.
 18 That cycle of operation -- the
 19 scientific timing of that cycle of operation is the
 20 way they measure it. If you are able to load
 21 enough magazines or actually load those magazines
 22 extremely quickly, you could get between 700 and
 23 900 rounds a minute.
 24 Q. So my question is really just what is

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1 the document, this HKM27 AR spreadsheet?
 2 A. The HK produced that marketing statement
 3 to the force when these were first being filled,
 4 and this is what I happened to have in my folder to
 5 pull from. Today they will have a manual on this.
 6 I don't have that. So when I was referring to
 7 this, this was the original release of the product
 8 sheet that came out when the fielding was underway.
 9 Q. And it is a specific citation to page 3.
 10 So is this a multipage document?
 11 A. Yes.
 12 Q. So I'm going to direct your attention to
 13 what has been marked as Exhibit 4 in your exhibit
 14 -- in your expert report.
 15 Is this the document that was
 16 cited in Footnote 9 that we were just discussing?
 17 A. Yes.
 18 Q. And it is a one-page document. Is that
 19 right?
 20 A. I thought it was more. It must be one
 21 page if there is no follow-up.
 22 Q. So you see Exhibit 4, and then there is
 23 just one page after?
 24 A. I think in the original it had some

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1 photos up front, and then it got into these
 2 details. This looks like a partial of the handout.
 3 Q. Who decided to just provide this single
 4 page here?
 5 A. Probably me. I don't know what I was
 6 referencing and why.
 7 Q. Let me show you something. I'd like to
 8 mark this as Deposition Exhibit 7. Bates-labeled
 9 OAG008507 through OAG008509?
 10 (Deposition Exhibit 7 was marked
 11 for identification.)
 12 BY MR. EBY:
 13 Q. Mr. Eby, it is labeled M27 infantry
 14 automatic rifle 5.56 millimeter by 45, and it is a
 15 three-page document. Do you recognize this
 16 document?
 17 A. That looks more like the flier I was
 18 referring to when we were going to that one-page
 19 reference.
 20 Q. And so this is a three-page document,
 21 correct?
 22 A. Right.
 23 Q. And just looking at page 1, shows a
 24 soldier or Marine firing a weapon that is the cover

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1 page. Page 2, you would agree has more information
 2 about the M27 infantry automatic rifle; is that
 3 right?
 4 A. It does. It shows more than what we
 5 purchased.
 6 Q. You said "what we purchased." Who is
 7 "we"?
 8 A. The Marine Corps. When you see two
 9 different barrels kind of the middle left. We
 10 didn't buy all those. They have options. We
 11 picked one. This is a flier. They offered us
 12 options to choose from.
 13 Q. Yes, but -- so this flier offered the
 14 Marine Corps options to choose from?
 15 A. Not this flier. This indicates what HK
 16 had available. From within this, we made choices
 17 on some of these things -- barrel lengths
 18 specifically, because we picked an 18-inch barrel,
 19 which I think has been moved to a 16-inch barrel
 20 now.
 21 So there were choices available
 22 whether or not we wanted bi-pods and the front
 23 handguard or that sling or some other sling.
 24 So there was still choices to be

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1 made here on the procurement decisions by the
 2 Marine Corps.
 3 Q. Is it fair to say that the large picture
 4 of the M27, although it has some differences from
 5 what was ultimately acquired, that is the M27 that
 6 you were referring to that the Marine Corps
 7 ultimately adopted?
 8 A. That is correct.
 9 Q. And you mentioned the images on the
 10 bottom left?
 11 A. Bottom -- to the near left -- I think
 12 those are all different barrels. That is what they
 13 appear to be. There is a short barrel, medium
 14 barrel. 14-inch barrel. Another 14-inch barrel.
 15 Q. Okay. So at the bottom left we are
 16 looking at three images of three different rifles.
 17 Is that fair to say?
 18 A. Yes. You see three different barrel
 19 lengths. We did not buy the top two.
 20 Q. And we are at OAG 008508. The bottom
 21 left, do you see where it says, "The MR556-A1 is a
 22 semi-automatic variant of the HK416 well-suited as
 23 a law enforcement patrol carbine. The highly
 24 accurate 5.56-millimeter MR557-A1 is commercially

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1 available in most U.S. states." Do you see that?
 2 A. I do.
 3 Q. So is it fair to say that this
 4 particular rifle we are looking at the bottom left.
 5 The HKMR556-A1 is a civilian version of the M27.
 6 MR. BRADY: Objection. Vague. Speculation.
 7 THE WITNESS: It is a replica because it is
 8 not complete with auto. So it would not meet those
 9 high-end capabilities that are critical for
 10 survival.
 11 BY MR. WELLS:
 12 Q. So the difference between the rifle in
 13 the bottom left corner, the HKMR556-A1 compared to
 14 the M27 is the absence of an automatic setting?
 15 MR. BRADY: Objection. Vague. Incomplete
 16 hypothetical.
 17 BY MR. WELLS:
 18 Q. What was your answer?
 19 A. Yes.
 20 Q. Did the reference to this semi-automatic
 21 rifle have anything to do with why page 2 was
 22 excluded from this exhibit attached to your report?
 23 A. You know, I think my report was only
 24 referring to rate of fire. I needed that other

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1 page for rate of fire. I didn't need all this to
 2 refer to.
 3 Q. And I think you mentioned -- is the Army
 4 undergoing transition of infantry?
 5 A. I was told by Gunner Hathaway that the
 6 Army authorizes the product improvement program to
 7 remove the three-round limiter and go back to a
 8 full auto on all future M4s. Taking the existing
 9 M4s and making them into M41s. That is my only
 10 source. I didn't follow up with it.
 11 Q. So do you have any familiarity with the
 12 XM7 rifle?
 13 A. I've never touched it. I've talked to
 14 Marines and one general officer who has. They see
 15 it as impressively accurate, just overly heavy.
 16 They are going to be concerned with portability,
 17 maneuverability, and they are running some end-user
 18 trials right now to see if that is going to be a
 19 hindrance in confined space, jungles where length
 20 and weight matter.
 21 Q. Are you familiar with the SIG SAUER MCX
 22 Spear?
 23 A. I've seen it. I'm not familiar with it.
 24 Q. Let me direct your attention -- well,

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1 let me ask you this. Did you assert in your expert
 2 report that the Marine Corps's transition to the
 3 M27, which has full automatic capability, is a
 4 recognition of the utility of the full automatic
 5 fire capability? Do you recall that?
 6 A. Um-hum. I agree.
 7 Q. And I think at various points in your
 8 report, you discuss different studies that have
 9 been done about the effectiveness of full automatic
 10 fire? Do you recall that?
 11 MR. BRADY: Objection. Vague.
 12 THE WITNESS: That is correct.
 13 BY MR. WELLS:
 14 Q. All right. I'm showing you what has
 15 previously been marked as Deposition 2, which is a
 16 portion of your rebuttal report. And I'm directing
 17 your attention to the last few sentences before the
 18 italic quotes where it says specifically, "Those
 19 studies have indicated that physical -- the
 20 physical and psychological importance of automatic
 21 fires as they relate to the suppression of enemy
 22 positions during high-intensity combat." The
 23 following are quotes from several examples of these
 24 historical studies. Do you see that?

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1 A. I do.
 2 Q. And how did you select the quotes that
 3 follow after that?
 4 A. Searching through there to find out the
 5 outcomes of those studies and the psychological
 6 studies and accuracy studies.
 7 So I was just looking for
 8 corroborating statements on the importance of
 9 automatic fires, both in accuracy on the objective
 10 area and psychological effects to the recipient of
 11 those fires.
 12 Q. And would you say these are the best
 13 studies you've identified?
 14 MR. BRADY: Objection. Vague.
 15 THE WITNESS: These are really the only
 16 studies that I know of. Studies in the military
 17 are multi-million dollars. The only other
 18 experiment that I know of was a Marine Corps
 19 war-fighting laboratory study in 2009 that measured
 20 the M27 against the M249 for -- I'll say the word
 21 "effectiveness," and they had to explain what that
 22 meant. What the rate of fire is. Number of hits.
 23 Number of near misses. Time for engagements. Time
 24 between the weapon running dry and getting back

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1 into the fight. All these were metrics, day and
 2 night. And the M27 surpassed M16-A4 and the M249.
 3 I've seen no studies
 4 because they cost multi-millions of dollars to
 5 build to refute these, and they are still being
 6 quoted, a Dr. Axe. He has a Ph.D. -- that was
 7 working for the deputy commandant for capability
 8 development and was quoting these studies in 2009
 9 to ensure near misses were counted in that study.
 10 So they are still valid and
 11 being used across the services.
 12 BY MR. WELLS:
 13 Q. And to be clear, we are talking about
 14 the studies in Footnotes 11 through 17 of your
 15 rebuttal expert report. And I think as you
 16 indicated, the most recent of those studies is from
 17 1966. Is that right?
 18 A. Correct. I think I listed in the Marine
 19 Corps labs external report, or I intended to or
 20 maybe it didn't make the final cut, but it used all
 21 these documents anyway to refer the value of
 22 psychological effects and near misses.
 23 Q. So the studies I'm seeing here are from
 24 1966, 1952, 1957. Those are the studies that you

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1 cited actually in the report. Is that right?

2 A. That is correct, and nothing to date to

3 refute this.

4 Q. Obviously any report written before

5 1966, would not be able to account for conflicts

6 subsequent to 1966. Is that fair to say?

7 MR. BRADY: Objection. Argumentative.

8 Incomplete hypothetical. Calls for speculation.

9 MR. WELLS: Let's just keep it to form, Sean.

10 You can answer if you understand.

11 THE WITNESS: I understand. I'm processing

12 the question. These were limited to studies prior

13 to 1966, which, by the way, was the last time we

14 fought a high-intensity conflict.

15 BY MR. WELLS:

16 Q. In 1966?

17 A. Prior to 1966.

18 Q. Understood. All right.

19 I'm showing you, again, what I

20 can represent to you has been marked as Deposition

21 Exhibit 1. This is a portion of your initial

22 expert report, in particular, page 6.

23 Directing your attention to the

24 paragraph that begins "Against a peer threat."

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1 Going to the last sentence -- or the last two

2 sentences, you wrote, "The U.S. Army will issue the

3 XM7 rifle with select fire settings of safe, semi-

4 and fully semi-automatic to those frontline units

5 that will not receive the M4 PIP product

6 improvement program. These changes are a

7 recognition of the value of fully and automatic

8 fire in preparation for future peer-level

9 conflicts." Do you see that?

10 A. I do.

11 Q. What is the basis for your statement

12 about what the Army is doing with respect to the

13 XM7 rifle?

14 A. General Nathan Lord, the general retired

15 this year and made a similar statement to me about

16 the recognition that our efforts at World War II

17 are much more similar to future potential fight

18 against China, Russia, Iran or North Korea.

19 Therefore, modifications to systems were being made

20 in lieu of that future enemy. Pacing Threat is

21 what joint chiefs call it. Most likely "threat" is

22 what Congress calls it.

23 Q. All right. And the next sentence in

24 your report says, "This has been confirmed by

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1 testing." What does "this" refer to?

2 A. Good question. Let me look at this. I

3 think "this" is the automatic fire, because it

4 leads into this research office reports.

5 Q. And the testing that is referenced is

6 identified in Footnote 8. Would you agree with

7 that?

8 A. I would agree. One of several.

9 Q. Well, the footnote identifies the test

10 from 1952; is that right?

11 A. That is correct.

12 Q. Are there any other tests that you are

13 referring to when you said this has been confirmed

14 by testing?

15 A. Just this one there. It is corroborated

16 by the special-purpose individual weapon test.

17 That is SPIW. The Project SALVO reports on the

18 value of automatic fire.

19 Q. Where are those said?

20 A. They are after this. You alluded to

21 them in Section 11 through 17 earlier.

22 Q. What was the Project SALVO report?

23 A. I don't recall. 1960 or '63 maybe.

24 Q. Were any of those reports written after

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1 1967?

2 A. No. Maybe by a year, if at all.

3 Q. All right. Directing your attention to

4 this paragraph here that is quoting from the 1952

5 operational requirements foreign and infantry

6 hand-weapon study, the italicized writing says,

7 "Recent ORO investigations in Korea have shed some

8 light on this subject by indicating,

9 quantitatively, the comparative importance of aimed

10 and unaimed fire as related to offensive and

11 defensive operations. Generally, aimed fire plays

12 a more important part in defense than unaimed or

13 volume fire, whereas, offensive, the reverse is

14 true."

15 Do you agree with that

16 statement?

17 A. I do agree with it.

18 Q. How is volume fire measured?

19 A. The behavior of the enemy determines if

20 your volume is sufficient.

21 If the enemy is still up

22 shooting, you are not shooting enough. Or you

23 don't have enough people shooting. So it is always

24 about the enemy's behavior that determines whether

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1 you have a sufficient, accurate amount of
 2 suppression.
 3 Q. Do you agree that unaimed fire is
 4 important in offensive operations?
 5 A. Absolutely.
 6 MR. BRADY: Objection. Vague.
 7 BY MR. WELLS:
 8 Q. Did you ever train Marines to use
 9 unaimed fire?
 10 A. I think -- let's clarify. Unaimed at a
 11 human or unaimed at a position? So it is still
 12 aimed fire. It is not just "stick my rifle over my
 13 head and pull the trigger." It is still aimed at a
 14 targeted area. There just isn't a visible movement
 15 there to shoot at.
 16 So, in a sense, that is unaimed,
 17 and it is firing at an area specific to pin down
 18 somebody to prevent them from shooting.
 19 Q. And did you ever train Marines to use
 20 unaimed fire at all?
 21 A. Not unaimed. If I were to define
 22 unaimed, it would be -- I'm not even looking at
 23 sighting systems. I'm just pointing at a direction
 24 and pulling the trigger. That is just a waste of

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1 ammo -- ammunition.
 2 Q. Do you recall when we previously looked
 3 or discussed the statement that the rifleman
 4 provides accurate lethal direct fire for point
 5 targets. Do you recall that discussion?
 6 A. I remember that, yes.
 7 Q. How does this quote, which discusses
 8 unaimed fire square with the rifleman providing
 9 accurate lethal direct fire from point targets?
 10 MR. BRADY: Objection. Vague. Compound.
 11 THE WITNESS: In the report it will talk about
 12 not being able to see the opponents. Therefore,
 13 you are not aiming at an individual. You are
 14 aiming at a specific stated position. Whether that
 15 position is a window, door, bumper, wall. So the
 16 definition of aimed to fire, would be I see my
 17 target and I aim at it. That just doesn't happen
 18 in high-intensity conflict because nobody wants to
 19 get shot.
 20 BY MR. WALLS:
 21 Q. You write in your report, Page 6, that
 22 none of the weapons banned by Illinois are remotely
 23 sufficient to handle the military's requirements
 24 for weapons it uses against peer-level countries.

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1 Do you recall offering that opinion?
 2 A. I do. Particularly explicitly applied
 3 to semi-autos only.
 4 Q. What do you mean?
 5 A. I mean none of them had full auto
 6 capability that would be used in a military force
 7 around the world against peer threats; therefore,
 8 they are not remotely qualified to be a military
 9 service weapon.
 10 Q. What sources were you relying upon that
 11 were, quote, "banned by Illinois"?
 12 A. State the question again, please.
 13 Q. What sources did you look to to
 14 determine what weapons are, quote, "banned by
 15 Illinois"?
 16 A. The law signed by Governor Pritzker,
 17 with the list of weapons on it, I saw no weapons
 18 employed by a military service around the world,
 19 minus the M38 enhanced battle rifle, the 50-caliber
 20 special operations rifles. There were a couple
 21 sniper systems in there that would be employed.
 22 Q. Okay. And you are specifically
 23 referring to, like, for instance, Barrett M107-A1?
 24 MR. BRADY: Objection. Misstates the

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1 testimony.
 2 BY MR. WELLS:
 3 Q. Is that right?
 4 A. Yes. That is exactly it.
 5 Q. The Barrett M107, would that be
 6 sufficient for military needs against a peer
 7 threat?
 8 MR. BRADY: Objection. Vague.
 9 THE WITNESS: Potentially. Yes, it would be.
 10 I think we moved beyond that to semi-automatic
 11 box-fed rifles now instead of bolt actions. We
 12 have no capacity, but if that was what I was left
 13 with, then, yes. It would work.
 14 BY MR. WELLS:
 15 Q. You state at one point here in your
 16 report, "Beyond certain semi-automatic only
 17 50-caliber special application rifles and the M14,
 18 which has been converted to an M39 enhanced
 19 marksman rifle EMR, we are unaware of a single
 20 military in the world, let alone any branch at the
 21 U.S. Military that uses any semi-automatic rifles
 22 for general combat purposes. Is that your opinion?
 23 A. It is, and that was brought up by Mike
 24 Musselman. That was one of those areas he weighed

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1 in on to help compare the list of banned weapons in
 2 Illinois against what we know of around the world
 3 militaries.
 4 I'm not a 143-country expert on
 5 it. Weapons being employed, but on the modern
 6 battlefield, our peers in Europe and many Asian
 7 countries, they have all gone and maintain the
 8 ability of full auto.
 9 Q. What sources did you consult in forming
 10 that opinion?
 11 A. Google.
 12 Q. Google?
 13 A. Yes, sir.
 14 Q. Any other sources?
 15 A. I didn't. That is an area that I ask
 16 Mike Musselman to weigh in on. If he recognizes --
 17 all of these are just years of experience and
 18 spending time in bilateral training to see what
 19 they are using. The fastest source to scan across
 20 140 countries is Google.
 21 Q. Do you know what sources Mr. Musselman
 22 consulted in doing that research?
 23 A. I do not.
 24 Q. What documents from foreign militaries

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1 did you personally review in forming this opinion?
 2 A. None.
 3 Q. Do you know what Mr. Musselman reviewed?
 4 A. I do not.
 5 Q. Do you speak any languages other than
 6 English?
 7 A. I barely speak English.
 8 Q. So did you review any publications from
 9 militaries around the world that were in other
 10 languages?
 11 MR. BRADY: Objection. Asked and answered.
 12 THE WITNESS: The only publication I reviewed
 13 was the Google search or semi-automatic weapons
 14 being employed by, and the answer was no.
 15 BY MR. WELLS:
 16 Q. Do you know whether the Costa Rican
 17 Military uses semi-automatic-only rifles?
 18 MR. BRADY: Objection. Asked and answered.
 19 THE WITNESS: For snipers, yes.
 20 BY MR. WELLS:
 21 Q. Do you know if Costa Rica has military?
 22 A. I don't.
 23 Q. Okay. I'd like to ask you a little bit
 24 more about the M855 rounds. The M855 round was

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1 replaced by the M855-A1. You discussed that in
 2 your report. Is that right?
 3 A. M855-A1 replaced the M855, yes. In both
 4 services now. Initially it was only in the Army.
 5 Now it is the Army and Marine Corps.
 6 Q. Do you have an understanding as to why
 7 that transition took place?
 8 A. I do. Those anecdotal complaints, even
 9 if they weren't valid, were emotionally, important
 10 enough to look into it.
 11 So Army research and development
 12 command conducted evaluations on the bullets -- and
 13 I think they were going to make the replacement.
 14 Even they were going to change the color. They
 15 were going to do something to make you feel better
 16 about what you were taking into war.
 17 But the fact is the reports that
 18 came out on the bullet did show it to be inferior
 19 to M855-A1 through barriers and into the human
 20 body. It moved the -- remember I'd spoke earlier
 21 about M16-A4, M855, failed to behave correctly
 22 after 175 meters, when it got under 2500 feet per
 23 second.
 24 The M855-A1 does not have that

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1 limitation. It works up to about 435 meters, where
 2 the ability to find the target -- the accuracy of
 3 the rifle, the accuracy of the ammunition, kind of
 4 reached the limit on ability to hit the target.
 5 Q. All right. So let me show you your
 6 expert report again in here. So I'm showing you
 7 what has been previously marked as Deposition
 8 Exhibit 1, which is your initial expert report, and
 9 the paragraph you now see on the screen. Is this
 10 what you were describing just now?
 11 A. No. This is what the Marine Corps
 12 effort was doing in those early 2000s that we were
 13 having the same complaints, but we couldn't find
 14 evidence to support it. That the M855 was
 15 insufficient.
 16 The one I was just explaining
 17 was an Army effort following this. They had the
 18 same problems. People complained that I shot the
 19 guy, he didn't fall down. I think my bullet is
 20 bad.
 21 So that forced the Army's hand
 22 to search for a different bullet. The Marine Corps
 23 did start working towards a different bullet that
 24 science -- a special operations science and

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1 technology bullet, but that was overruled by
 2 Congress. We didn't want two services with two
 3 different bullets.
 4 Q. Okay. And so you state here in response
 5 to constant complaints by infantrymen from 2003 to
 6 2005, that the 556 millimeter ammunition, that the
 7 M16 uses was inadequate in terms of penetration
 8 lethality, in terms of performance. The U.S. Army
 9 commenced studies to consider replacing the M855
 10 green tip 62 grain projectile. The findings of
 11 those studies conducted between 2005 to 2010 were
 12 that the M855 bullet underperformed in
 13 incapacitating enemy combatants and should be
 14 replaced. And it was, in fact, replaced as the
 15 U.S. Army explained in a report.
 16 Is that the transition you were
 17 describing earlier between the M855 and the
 18 M855-A1?
 19 MR. BRADY: Objection. Vague. Compound.
 20 THE WITNESS: But yes. That is a good
 21 synopsis of what happened. There were a couple
 22 interim bullets that came in, bought off the shelf,
 23 sent over to get people to feel comfortable about
 24 their ammunition.

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1 BY MR. WELLS:
 2 Q. And the complaints were apparently at
 3 least in 2003 and 2005 that you wrote here, that
 4 the M16, M855, 5.56-millimeter round was inadequate
 5 in terms of penetration, lethality and terminal
 6 performance. Did you write that?
 7 A. I'm searching for it. Oh, I see it. I
 8 clearly wrote it, yes. Those were, again,
 9 accusations ongoing at the time, lack of confidence
 10 in the bullet, and those are the accusations as to
 11 the problem.
 12 Q. What sources did you rely on in making
 13 this assertion?
 14 A. The Marine Corps war-fighting lab was
 15 doing in conjunction with Army, research, and
 16 development command was giving briefs in this 2005
 17 time frame, explaining their initial results on
 18 bullet testing and penetration -- separation.
 19 When I say "separation," the
 20 bullet comes apart and creates better terminal
 21 performance inside the body. That is what that
 22 means.
 23 So we were being told that was
 24 from 2005 to 2010 I was entering these meetings

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1 between Marine Corps systems command and Army
 2 development command as they discussed the problem,
 3 identified a path forward, and there were two
 4 different plans.
 5 The Marine Corps had one bullet.
 6 The Army had a different bullet, M855-A1, and they
 7 sorted themselves out and made it M855-A1.
 8 Q. What does penetration mean in the
 9 sentence?
 10 A. It usually means depth. And it can be
 11 depth through equipment.
 12 Most conversations are around
 13 lethality -- is we need at least 12 inches of
 14 penetration -- and this is not my lingo. These are
 15 things we are told over and over again that are
 16 around a general statement.
 17 I need 12 inches of penetration,
 18 meaning if it is coming through my shoulder and it
 19 is coming through the equipment I'm wearing, it
 20 needs to get into the center of the body.
 21 Well, if it could penetrate 12
 22 inches of ballistic gelatin, it is theoretical that
 23 it gets through all those obstacles in the body.
 24 Lethality is a wild animal

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1 nobody can clearly define, and it has
 2 multi-definitions. And then terminal performance
 3 is the method of lethality, the body stops
 4 functioning.
 5 Q. Did you say the discussion of lethality
 6 in particular was not your lane? Is that right?
 7 A. It is not definable. It is clearly in
 8 my lane because I wanted to kill everybody, but the
 9 measures that was given for how you measure
 10 lethality weren't holding up to the test of time.
 11 So we kept changing how we measured it.
 12 I still wanted lethality. And I
 13 just did it through volume. I will give you a
 14 bunch of this until you stop moving.
 15 Q. So you've used the word "lethality" in
 16 this report, right?
 17 A. I have. And I hate that I keep doing
 18 that because I can't even define the dang thing.
 19 Q. Do you consider these three factors;
 20 penetration, lethality and terminal performance
 21 relevant to how effective a particular weapon is
 22 for combat?
 23 A. In part --
 24 MR. BRADY: Objection. Compound.

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1 BY MR. WELLS:
 2 Q. Is that a "yes"?
 3 A. It is in part, yes. I would include
 4 portability. The ability to maneuver in and out of
 5 firing position. Overall weight, balance, ease at
 6 aim, ease at managing recoil.
 7 Q. What other factors?
 8 A. It is a portable weapon. It is
 9 adjustable to fit me. It is easier to get into and
 10 out-of-fighting positions where I'm trying to take
 11 cover. It is lightweight and well-balanced.
 12 Q. Any other factors?
 13 A. Ease of managing the recoil.
 14 Q. Any others?
 15 A. Probably, but not off the top of my
 16 head. Like, ease of reload. That is another
 17 important factor we could get wrong.
 18 Q. I direct your attention to what is
 19 Exhibit 3 in your rebuttal expert report, which I
 20 can show you.
 21 Here is Exhibit 3, at PDF 97,
 22 cover page starts at page, PDF 97. Scrolling down
 23 to PDF 99. Do you recognize this document?
 24 A. I do. This is one of those briefs the

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1 Army was giving with the Marine Corps war-fighting
 2 lab in conjunction, and I was invited into the
 3 list.
 4 Each of these conversations,
 5 they are developing their information and they are
 6 deciding how they are going to proceed replacing
 7 the M855.
 8 Q. And just looking at what is internally
 9 paginated, Slide 3, labeled "Army requirements for
 10 general purpose ammunition." On the right, do you
 11 see the column that says "Performance measures"?
 12 A. I do.
 13 Q. Do you see the one category "Performance
 14 measures" that says "Protected target/urban
 15 structures"?
 16 A. (No response.)
 17 Q. Do you see that?
 18 A. I'm searching for it. Oh, yes. I do.
 19 Q. And under the "Protected targets urban
 20 structures, next to the right of that, it says,
 21 "Body armor fabrics, body armor array of
 22 battlefield type barriers, trees, walls to items on
 23 the uniform walls and doors."
 24 What is that describing there?

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1 A. The environment we are fighting in,
 2 typically. So urban areas, forest areas. Things
 3 that you might naturally take cover behind,
 4 vehicles, and we wanted -- the Army was saying they
 5 wanted to be able to penetrate those barriers and
 6 still have a bullet that is performing when it hits
 7 the target behind it.
 8 Q. When you say "performing, after it
 9 penetrates," what does that mean?
 10 A. It means it doesn't deviate in
 11 direction. It don't disintegrate itself getting
 12 through the barrier, and it still has the ability
 13 to get inside the lethal area of the human body,
 14 disrupt enough organs to decompress or kill the
 15 target area.
 16 Q. And in that same row of urban structures
 17 on the far right, in the column that is labeled
 18 "Performance measures," do you see it says, "24
 19 layers of Kevlar. 3/8 inch of mild steel and
 20 concrete masonry unit."
 21 Do you have an understanding as
 22 to what that is referring to?
 23 A. It is also the Kevlar that the
 24 protection is worn for both us and China, and

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1 Soviet Union -- a few other countries are wearing
 2 them. Some Iranians are wearing them. The 3/8th
 3 mild steel, I have no idea where they got that
 4 determination, but I'm thinking car. Some car
 5 structure, concrete masonry unit in typical
 6 structures throughout Middle East that people would
 7 take cover behind. We want to be able to penetrate
 8 those.
 9 Q. And when it says "Performance measures,"
 10 what this slide is discussing is the ability of a
 11 general purpose ammunition round fired from an M16
 12 or M4 to penetrate 24 layers of Kevlar, 3/8th inch
 13 of steel or concrete masonry unit and still be
 14 lethal. Is that right?
 15 MR. BRADY: Objection. Compound.
 16 THE WITNESS: That is correct. That is
 17 probably a masonry unit that is not full of cement,
 18 but they had to pick some parameter that they were
 19 going to target, and they picked these.
 20 I'm sure there was research that
 21 led them to why these and not a 15-inch tree, but
 22 these are probably the harder objectives to defeat,
 23 so they got listed.
 24 BY MR. WELLS:

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1 Q. "24 layers of Kevlar." What does that
 2 refer to?
 3 A. Probably my flight jacket -- my flight
 4 jacket that I wore that holds my body armor is more
 5 than likely what they had to test against. And so
 6 they stuck it in there to defeat our armor. And
 7 that is not the first time we've done that. M855
 8 bullet that we picked up in 1983, it was tested
 9 against the steel helmet that we wore in World War
 10 II and Vietnam. It had an inner liner of the
 11 materials and outside steel.
 12 The only criteria for that
 13 bullet measured against were the 600 yards, the
 14 bullet, the M855, could penetrate through both
 15 walls of fiberglass and steel of the steel part of
 16 the helmet. That is what they had available, so
 17 that is what they used.
 18 Q. So why would 24 be able to penetrate 24
 19 layers of Kevlar be relevant as a performance
 20 measure in deciding what general purpose ammunition
 21 to be used?
 22 A. I have no idea.
 23 Q. Do you think it might have to do with
 24 penetrating body Army worn by enemy soldiers?

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1 A. Could be. I was not present for that
 2 decision-making.
 3 Q. You cited this document as a basis for
 4 your expert report; is that right?
 5 A. That is true. But there are decisions
 6 being made in this room for trade space. If I
 7 wanted 34 layers of Kevlar, I probably needed a
 8 bigger bullet, faster bullet.
 9 They had to pick a standard, and
 10 they did. I can quote them, but I wasn't present
 11 in the room for the conversation for why they chose
 12 what they did.
 13 Q. Directing your attention to the
 14 internally marked Slide 4 in the same document,
 15 titled "Comparison of changes." What do you
 16 understand this to be -- what is being described on
 17 this slide as you understand it?
 18 MR. BRADY: Objection. Vague.
 19 THE WITNESS: Well, Territory 6 and
 20 nomenclature of two different projectiles; the M855
 21 and the M855-A1, and it looks to me that they cut
 22 and pasted 3/8th inch model steel from M855 as a
 23 performance metric for the M855-A1. So they just
 24 used what was previously in existence, and that is

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1 probably the steel part of the helmet.
 2 There are a lot of factors that
 3 go into making that decision, though, when they are
 4 narrowing down the scope of what they are building.
 5 Q. So the M855 has one column in the
 6 middle, and there are different attributes listed;
 7 cartridge length, bullet weight, tip ID, and it
 8 goes down through soft target. Do you see that?
 9 A. I do.
 10 Q. Do you agree with the information listed
 11 in the column under M855? Do you think that is
 12 accurate?
 13 MR. BRADY: Objection. Vague. Compound.
 14 THE WITNESS: I do think that is accurate as
 15 far as I can tell.
 16 BY MR. WELLS:
 17 Q. And this is the same M855 round that you
 18 can purchase, right?
 19 A. Correct.
 20 Q. And the M855 round that would work in a
 21 civilian semi-automatic AR-15, would it be able to
 22 penetrate 3/8th inch of mild steel at 160 meters?
 23 MR. BRADY: Objection. Calls for speculation.
 24 THE WITNESS: I don't know. I have not tested

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1 against 3/8ths inch steel at 160 meters.
 2 So me when I see these, like,
 3 rate of fire, like hot barrel procedures, I want to
 4 go test it myself. And even then there are
 5 variables. Am I at sea level? Is it 72 degrees?
 6 Is there no humidity? Because that will affect
 7 velocity.
 8 You add temperature, the bullet
 9 gets faster. You add humidity, the bullet gets
 10 slower. You add altitude, the bullet gets faster.
 11 I don't know the details that went into that, but I
 12 have become very cynical about reading marketing
 13 statements like this. And hesitate to believe that
 14 it will do that.
 15 BY MR. WELLS:
 16 Q. You said marketing statement. This is
 17 an Army publication that you attached to your
 18 rebuttal statement. How is this a marketing
 19 statement?
 20 A. Well, it is advertising to the service
 21 and to the user a -- maybe it is propaganda. A
 22 non-measured, non-reported, no-evidence statement
 23 which can either be identified as propaganda,
 24 hearsay. I have seen no evidence of -- I've seen

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1 the evidence of the velocity, but I have not shot
 2 at 3/8ths inch at 160 meters, and they don't give
 3 me the conditions, meaning temperature, altitude,
 4 sea level, humidity. I don't know what conditions
 5 those were in.

6 Q. So, are you saying the information in
 7 this document is unreliable?

8 MR. BRADY: Objection. Argumentative.

9 THE WITNESS: I'm saying it is probably
 10 reliable once at 160 meters in the conditions that
 11 they were in -- if they actually tested it. And
 12 historically, that has not been the case. And it
 13 is expensive to do those tests, and they are not
 14 always tested.

15 I'll give you an example. The
 16 machine gun hot barrel procedures, 200 rounds per
 17 minute. I have a hot barrel. I need to change
 18 barrel.

19 Gunner Mike Brooks called it
 20 "general dynamics." He had built the machine gun
 21 we were using, and we asked him if we could have
 22 the test for that, and the Marine Corps -- and the
 23 general dynamics told Gunner Brooks that general
 24 dynamics did not perform that test. The Marine

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1 Corps made that number up.
 2 We could never find evidence.
 3 We called capability development and integration
 4 asking for the test report, and it had never been
 5 tested, ever. And it only simply got tied to --
 6 our ammunition comes in a 200-round can. So
 7 somebody writing a publication somewhere, wrote
 8 their opinion that the barrel should be changed
 9 every 200 rounds.

10 Q. Why did you cite this document?

11 A. I don't recall. I would have to go back
 12 and see what I was trying to refer to.

13 Q. Did you rely upon information that you
 14 are cynical about and skeptical of in forming your
 15 opinions?

16 MR. BRADY: Objection. Argumentative. Vague.

17 THE WITNESS: Absolutely. I am telling you
 18 this is a legitimate document that is made in
 19 publications, and I remain cynical on who made the
 20 test and where the valid information comes from.
 21 So maybe it will penetrate 3/8 inches, but I don't
 22 know. I don't intend to shoot. But I'm telling
 23 you I haven't seen the test result, so I'm not
 24 confident it is legitimate.

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1 Q. The information that is listed in
 2 velocity under the M885 3113 feet per second. Do
 3 you think that is a valid number?

4 A. I do. I've gotten similar speeds to
 5 that in my own evaluations using a chronograph.
 6 Those speeds change, though, on barreling, and they
 7 changed on temperature and humidity. I know what
 8 my altitude will be, but I don't know what the
 9 temperature and humidity will do to speeds. It
 10 will vary. I think in a box at 20 rounds, those --
 11 there is a standard deviation of 20-round shots.
 12 That could be up to 50 feet per second across the
 13 20-round fire.

14 Q. You mentioned that you had personally
 15 replicated this velocity. Do you rely on numbers
 16 that you can't personally replicate?

17 A. I question them, and I don't swear that
 18 they are true because I was not present for them.

19 Q. How did you personally replicate the
 20 3113 feet-per-second velocity?

21 A. Using a 16-inch barrel through a
 22 chronograph, I've got similar numbers within 50
 23 feet per second of that across 20 bullets.
 24 As I figure out the velocity

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1 equals trajectory, and that trajectory is important
 2 as the range increases.

3 So in my own Kestral, those
 4 M855-A1 fire rounds came into that area. We
 5 usually round it out down to 3100 feet per second.
 6 So 3075 to 3125 and, it will be in that ballpark.

7 Q. Where did you -- how did you develop
 8 that methodology?

9 A. Of testing? That is a standard behavior
 10 for developing trajectory profiles in a ballistics
 11 applications in using a Kestral wind sensor and
 12 using a -- what I use was a Labrador ballistic
 13 chronograph to get the speed.

14 That behavior is typical for
 15 snipers to understand their velocity average to
 16 build out a target core.

17 Q. When did you perform this testing?

18 A. I've been performing this testing for
 19 about three years. So the most recent one,
 20 probably August of last year. Because I had the
 21 M855-A1 and the M855 at my house as Trijicon was
 22 concerned that the trajectory profiles were
 23 different. So before we built and offered a new
 24 reticle, Trijicon asked me to test the bullets. I

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1 did so, and it turns out there is a difference
 2 between the trajectories with M855-A1 as it gets
 3 further away from the target.
 4 So it gets more stable in
 5 distance, therefore, it has a custom ballistic
 6 curve, which would need a custom bullet --
 7 ballistic drop compensated reticle design.
 8 Q. When you personally conducted this
 9 testing, did anyone else help you?
 10 A. Gunner Chris Jones joined me. He is a
 11 retired Marine gunner with time on his hands, and
 12 he was interested -- because the Army posted M855
 13 and the M855-A1 ballistically matched. And they
 14 are correct to a certain point.
 15 At 300 meters, they are within
 16 inches of each other being ballistically matched.
 17 Beyond that, the M855-A1 stays a little farther.
 18 Doesn't fall as fast. You start getting a
 19 deviation of trajectory hole and ballistic drop.
 20 So we tested through all of that
 21 using 300 rounds of ammunition that we bought
 22 online that was available on the market and shot it
 23 through our civilian guns to find out if these
 24 trajectories matched. We identified the deviation

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1 recognizing special radical design requirements
 2 from Trijicon.
 3 Q. I'm sorry. Were you also testing
 4 M855-A1 rounds? Is that right?
 5 A. Yes. Both of these.
 6 Q. And those M855-A1 rounds, you are able
 7 to purchase online?
 8 A. Yes.
 9 Q. And were you able to replicate the right
 10 column, the data from the right column with respect
 11 to the M855-A1 rounds?
 12 MR. BRADY: Objection. Vague, compound.
 13 THE WITNESS: I didn't try to replicate
 14 column.
 15 The only thing I was trying to
 16 replicate was the speed and trajectory drop.
 17 BY MR. WELLS:
 18 Q. What speed were you able to measure for
 19 the M855-A1 that you purchased online?
 20 A. I don't recall. I'd have to look up the
 21 data to see how far -- because it was -- M855-A1
 22 was 25 to 40 feet per second faster, per bullet on
 23 average. But it stayed in the same general
 24 trajectory.

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1 They are not very accurate
 2 bullets. I mean we use terms like minutes of
 3 angle. So a minute of angle is dumbed down to be
 4 one inch of a hundred meters standard, constantly.
 5 And that angle of deviation stays true out to
 6 further distances.
 7 We shot to 600 meters, and the
 8 bullets were really closer to three minutes an
 9 angle, staying at 3-inch group at 100 meters, and
 10 18-inch groups at 600 meters, which that is not
 11 sniper quality by any means. It is what we can
 12 expect from a general purpose bullet.
 13 Q. What civilian rifles did you use to
 14 conduct this testing?
 15 MR. BRADY: Objection. Vague.
 16 THE WITNESS: I don't recall anyway. I mean I
 17 -- as a matter of fact, Gunner Chris Jones brought
 18 his own rifle made by Geissele, but I don't know
 19 the model. Barrel length -- and barrel length
 20 would have mattered. I think he brought in an
 21 16-inch barrel rifle, which would have met the M27
 22 capability of the Marine Corps, but not the M4 or
 23 the M4-A1 because they are a shorter barrel.
 24 Q. Did you write down the conditions under

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1 which you conducted this testing anywhere?
 2 A. I did.
 3 Q. You did?
 4 A. I did.
 5 Q. And where is that written up?
 6 A. I submitted a report to Trijicon and it
 7 is probably on my hard drive somewhere. I
 8 originally wrote them on the target sheets on
 9 pencil and paper and had to transcribe them on an
 10 Excel sheet to try to capture data.
 11 Q. Did you have an understanding of whether
 12 or not it is legal to purchase M855-A1 rounds in
 13 the United States?
 14 MR. BRADY: Objection. Calls for a legal
 15 conclusion.
 16 THE WITNESS: It was open-market buy.
 17 Literally looked it up on Google. They were
 18 selling them somewhere in Ohio, and we ordered 200
 19 or 300.
 20 MR. WELLS: All right. We've been going for
 21 about an hour and 20 minutes. Do you need a break?
 22 It is 2:36. Why don't we come back
 23 at 2:45.
 24 (Recess.)

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1 MR. WELLS: We are back on the record at 2:46.
 2 BY MR. WELLS:
 3 Q. Mr. Eby, just remind you. You are still
 4 under oath.
 5 Did you speak to anyone during
 6 the break?
 7 A. I did not.
 8 Q. Prior to the break, we were discussing
 9 some testing that you performed on M855 rounds, and
 10 M855-A1 rounds. Do you recall that discussion?
 11 A. Yes, sir.
 12 Q. When you were conducting that testing,
 13 the rifles that you were using to conduct that
 14 testing, were they AR-15-type rifles?
 15 MR. BRADY: Objection. Vague.
 16 THE WITNESS: Yes.
 17 BY MR. WELLS:
 18 Q. And were they civilian, meaning
 19 semi-automatic only 15-type rifles?
 20 A. Yes.
 21 Q. But you don't specifically recall, as
 22 you sit here today, which make and model AR-15-type
 23 rifles they were. Is that correct?
 24 A. That is correct, but I probably wrote it

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1 down on my notes.
 2 That would give me barrel
 3 length, which would be important for comparison
 4 contrasting with other barrel lengths.
 5 Q. And based on that testing using those
 6 particular rifles, you were able to replicate with
 7 an M855 cartridge a velocity of 3113 feet per
 8 second. Is that right?
 9 A. Yes, roughly.
 10 Q. And you were able to replicate a similar
 11 velocity with the M855-A1 round?
 12 A. Correct.
 13 Q. All right. Mr. Eby, you wrote in your
 14 report that pistols in the military are used for
 15 same purpose they are in civilian life. You agree
 16 with that statement?
 17 A. Self-defense, yes.
 18 Q. And the purpose that pistols -- for
 19 which pistols are used in the military and civilian
 20 life are self-defense. Is that right?
 21 A. Yes.
 22 Q. Do you agree that rifles serve a
 23 different purpose in the military than pistols?
 24 MR. BRADY: Objection. Vague.

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1 THE WITNESS: Yes.
 2 BY MR. WELLS:
 3 Q. Do you agree that rifles perform
 4 tactical tasks in the military that pistols do not
 5 perform?
 6 A. Yes.
 7 MR. BRADY: Objection. Vague.
 8 BY MR. WELLS:
 9 Q. Do you agree that rifles perform tasks
 10 that pistols cannot perform?
 11 MR. BRADY: Objection. Vague.
 12 THE WITNESS: Yes.
 13 BY MR. WELLS:
 14 Q. And the rifles we are discussing, when
 15 we are talking about military rifles that a
 16 rifleman would possess, we are talking about M4,
 17 M16 and M27 that we previously discussed. Is that
 18 right?
 19 MR. BRADY: Objection. Vague. Compound.
 20 THE WITNESS: Yes.
 21 BY MR. WELLS:
 22 Q. What is a tactical task?
 23 A. Close, destroy, seize, block, deny. So
 24 these come about as key phrases and mission

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1 assignment directing a unit or element that belong
 2 to this tactical -- it could be block this avenue
 3 or seize that building or destroy that position.
 4 So there is actually documents
 5 that guide the development of those statements of
 6 tasks, which type of words to use in that
 7 development of the task assignment.
 8 Q. And you wrote in your expert report that
 9 no general purpose force in the U.S. Army or Marine
 10 Corps has a tactical task against an enemy that
 11 requires a pistol as a solution? Do you agree with
 12 that?
 13 A. I do.
 14 Q. You described pistols as a personal
 15 protection weapon. What does that mean?
 16 A. The individuals assigned pistols will
 17 have a different role to perform. It doesn't
 18 necessarily involve attacking the enemy. A
 19 colonel, for instance, his role is not to jump out
 20 and start closing with the enemy. His role is to
 21 coordinate all of the forces into the fight.
 22 So he won't have necessarily --
 23 he won't be assigned a rifle as his table of
 24 equipment assigned. He will get assigned a pistol,

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1 because his real tools are his radios and his M4s,
 2 and machine gun. He has a machine gun.
 3 So he would probably get a
 4 pistol as a self-defense weapon of last resort --
 5 somebody is about to overrun his position.
 6 This deliberate fielding of
 7 equipment kind of fell apart during -- well, you
 8 have to know nobody felt comfortable only being
 9 armed with a pistol.
 10 So we had to source spare rifles
 11 and issue them out, because the plan for the Marine
 12 Corps did not include rifles for the machine gunner
 13 or rifles for the colonel.
 14 So I had to find 600 spare
 15 rifles to issue out to personnel that needed them,
 16 and then assure that they were zeroed, had optics
 17 on them, slings, and that they were trained on
 18 them. And that happened upon arrival into Iraq.
 19 Q. Did you do that for Colonel Tucker?
 20 A. I did.
 21 Q. You mentioned that rifles were used to
 22 close with the enemy in a way pistols are not used.
 23 What does that mean, "close with the enemy"?
 24 A. "Get close to the enemy."

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1 So we have a phrase, we use
 2 close with and destroy. The purpose of the
 3 infantry is to locate, close with and destroy the
 4 enemy by fire and by close combat.
 5 So that is the definition. I am
 6 going to locate him. Get close to him and destroy
 7 him. Now that is doctrine. Doctrine's best
 8 practice.
 9 It may not be what we do, which
 10 I know I'm coming across as cynical on some of the
 11 stuff we read, but it doesn't stand the test of
 12 time, like that urban entry from the top down.
 13 That didn't work, but it has been in our doctrine
 14 for 80 years.
 15 So we have to measure these
 16 things against real world behavior and modify and
 17 historically, in my time in service, I would
 18 stumble across too many things that were written as
 19 "validated" that had never been tested.
 20 Q. You wrote in your expert report that
 21 pistols lack sufficient velocity to ensure bullet
 22 penetration, and expansion are required to stop an
 23 attacker in a military context. Do you agree with
 24 that statement?

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1 A. I do. Reliability. That stands to be
 2 true.
 3 Q. Why is sufficient velocity important for
 4 military firearms?
 5 A. Velocity can lead towards penetration of
 6 barriers. Penetration of the equipment they are
 7 wearing, and penetration of the human body with
 8 sufficient depth to create incapacitation. Pistols
 9 are low velocity already. A third of the speed,
 10 which lead to penetration. And a low performing
 11 and low expanding. So because they are so slow,
 12 they don't necessarily expand well.
 13 There are bullets that are
 14 designed to do that. They are expensive like \$2.00
 15 a bullet, but aren't the normally used bullet
 16 because of the cost.
 17 And in the military, we have a
 18 dumb chunk of lead surrounded by a jacket that is
 19 not designed -- it would be what we call "plinking
 20 bullets." Something to shoot at a target, just to
 21 get skills, but not for shooting humans.
 22 Q. So you discussed velocity and
 23 penetration. What does expansion mean in this
 24 context?

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1 A. Assuming a bullet will mushroom and
 2 create more tissue damage as it is penetrating.
 3 Will separate into large chunks. Not just
 4 disintegrate into nothing to get multiple track
 5 wounds and increase the amount of trauma to the
 6 body.
 7 Hopefully hit something large
 8 and create a lot of tissue damage to incapacitate
 9 the opponent.
 10 Q. Do you agree that pistols lack velocity
 11 to hit assailants that are "far away"?
 12 MR. BRADY: Objection. Vague.
 13 THE WITNESS: Define far away.
 14 BY MR. WELLS:
 15 Q. Greater than 25 meters.
 16 A. I can hit targets at a 100, but when I
 17 hit them at 100, with a pistol, low volume,
 18 low-spend bullet, I don't expect incapacitation.
 19
 20 Q. What is the maximum range which you
 21 would expect incapacitation from a 9-millimeter
 22 pistol round, for instance?
 23 MR. BRADY: Objection. Vague.
 24 THE WITNESS: Which bullet?

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1 BY MR. WELLS:
 2 Q. Well, pick a bullet that you use in a
 3 9-millimeter handgun.
 4 A. I don't know. I've not shot anyone with
 5 a pistol.
 6 I have confidence that I can hit
 7 them and expect individual incapacitation at 25
 8 meters or less.
 9 Q. So you would feel confident in a
 10 9-millimeter round in terms of incapacitation, up
 11 to 25 meters? Is that fair to say?
 12 MR. BRADY: Objection. Vague.
 13 THE WITNESS: It is fair to say. I usually
 14 consider so -- I mean there is a good couple
 15 studies out. I don't know where they came from,
 16 but 12 rounds seems to be the minimum that leads to
 17 incapacitation. And these -- when they are broken
 18 down -- there is a very good article. It talks
 19 about four rounds are likely to miss simply because
 20 you are a nervous wreck, and your body alarm
 21 response is going on. Or you're going to hit the
 22 wrong part of the body, not to incapacitate, and
 23 finally four might get into the right location and
 24 perform well. So the argument would be minimum to

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1 twelve, or argument presented. Now I don't have
 2 evidence one way the or other.
 3 Q. Now, speaking of an M4 or an M16 firing
 4 an M855, at what range would you feel confident
 5 that that round would have incapacitation ability?
 6 MR. BRADY: Objection. Vague. Compound.
 7 THE WITNESS: I've been presented by the Army
 8 research and development command that an M4 series,
 9 that distance is 75 meters or less.
 10 We can hit them out to 300.
 11 That is both with the Army test and 500 yards for
 12 the Marine Corps, but the bullet performance is so
 13 inadequate, we don't expect incapacitation.
 14 However an M16 series, that distance slows to 175
 15 meters. That is based on velocity over 2500 feet
 16 per second, and then performance of the M855
 17 bullet.
 18 Q. Do you agree that pistols lack
 19 sufficient velocity to stop an assailant wearing
 20 body armor?
 21 MR. BRADY: Objection. Vague.
 22 THE WITNESS: I do believe that. There is
 23 easily available lightweight classes of body armor
 24 that would stop pistol projectile and that have no

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1 means of stopping a rifle.
 2 BY MR. WELLS:
 3 Q. Do you have an understanding as to at
 4 what range in the civilian setting self-defense
 5 encounters take place within?
 6 MR. BRADY: Objection. Vague. Calls for
 7 speculation.
 8 THE WITNESS: I would be speculating, but, you
 9 know, really the information is in police reports.
 10 The majority of those are within 7 yards. So they
 11 are pretty close proximity, and the way the rules
 12 are written for self-defense, you have to have
 13 capability and intent and that usually gets them
 14 very close before they commit. About three yards.
 15 BY MR. WELLS:
 16 Q. Within seven yards -- within seven
 17 yards, would a 9 millimeter handgun have an
 18 incapacitation ability?
 19 MR. BRADY: Objection. Vague.
 20 THE WITNESS: Provided the shot was accurate,
 21 yes. Most likely. Again, they can pick a
 22 full-known jacket bullet. And one designed for
 23 shooting paper. So with appropriate expanding
 24 bullets, then yes.

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1 BY MR. WELLS:
 2 Q. Appropriate expanding bullets, what type
 3 of bullets are you referring to?
 4 A. Well, the 147 grain Speer gold dot with
 5 a polymer filling. The Hornady HTX bullet -- or
 6 some of these, they have a polymer fill to them.
 7 The research is done by the FBI that we are all
 8 leaning on, about bullet comparisons, and they gave
 9 a good list on those reports about bullet
 10 performance, expansion, accuracy.
 11 So anybody seriously interested
 12 in it, can look up those reports and find out
 13 recommendations on the civilian market crossover
 14 bullet.
 15 Q. What are the titles of those reports?
 16 A. I don't recall.
 17 Q. As best -- I mean generally, if you
 18 could just describe --
 19 A. So FBI -- this would be a Buford Boone
 20 question because he did the studies, and I would
 21 call Buford. I would call him and ask, "What
 22 bullet, sir? The best bullet, sir."
 23 Buford led the FBI going from 45
 24 to 9 mil to 10 mil, and back to 9 mil. And all of

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1 the drama that happens with all that.
 2 I just read the reports, and I
 3 don't remember the titles. It would be along the
 4 handgun stopping power or bullet performance
 5 reports.
 6 Q. How do you know Buford Boone?
 7 A. When I was at Quantico, he was the lead
 8 ballisticsian at the FBI Academy, and my staff would
 9 get briefs from him. He would come over and talk
 10 and "Here is what we think we know." "Here is
 11 testing we are going to do." And eventually the
 12 feedback, he would let us know changes to common
 13 thought on fact.
 14 Q. When is the last time you spoke to
 15 Mr. Boone?
 16 A. Probably a year ago. He had to educate
 17 me on how important the crown of a rifle barrel is
 18 for accuracy. Apparently he did a study in 2013,
 19 and I heard about it last December. I was mad.
 20 Things I have been quoting for years, he proved to
 21 be false.
 22 Q. Would you agree that in combat, you
 23 rarely see the enemies you are firing at?
 24 MR. BRADY: Objection. Vague.

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1 THE WITNESS: I do agree.
 2 BY MR. WELLS:
 3 Q. Is that a difference between combat and
 4 a civilian self-defense environment?
 5 MR. BRADY: Objection. Objection. Vague.
 6 Calls for speculation.
 7 THE WITNESS: I have not had a civilian
 8 confrontation to know. I have suspicions that
 9 would believe that the opponent would be more
 10 visible, but it would be really up close.
 11 BY MR. WELLS:
 12 Q. You mentioned before certain rules that
 13 govern -- or you just mentioned rules describing
 14 proximity, capability and intent. What were you
 15 referring to.
 16 A. Justification for self-defense.
 17 Justification for hostile action. There is more --
 18 these are just conversations: How do you know
 19 you're in danger? How do you know he is a danger
 20 -- or she? How do you know they are capable of --
 21 then you get into these layers. And this is just
 22 conversations on -- disparity. Disparity of size,
 23 disparity of skill, disparity of age. Disparity of
 24 strength. So these are all

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1 factors, weighing in on just how to use force.
 2 Q. Where do those factors come from?
 3 A. Conversations. Precedent that came up
 4 in legal actions after an incident. That is why
 5 they are not consistent because you can get
 6 variations of that across legal precedent.
 7 Q. You understand, though, that in the
 8 civilian environment, any use of a firearm has to
 9 be legally justified, right?
 10 MR. BRADY: Objection. Calls for a legal
 11 conclusion.
 12 MR. WELLS: You can answer.
 13 THE WITNESS: Yes, I understand that.
 14 BY MR. WELLS:
 15 Q. Right. And so when you are talking
 16 about proximity, capability and intent and some of
 17 the training that applies for self-defense
 18 scenarios, those are proven concepts -- legal
 19 concepts for someone who is thinking about using a
 20 firearm for self-defense to understand, correct?
 21 MR. BRADY: Objection. Vague. Compound.
 22 Calls for a legal conclusion.
 23 THE WITNESS: Yes. It is critical to be aware
 24 of the consequences after the fact. That you may

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1 win the fight and lose the -- your long-time access
 2 to freedom.
 3 So we have these conversations
 4 philosophically, morally. We have these
 5 conversations in basic training. And to be fair --
 6 I teach a lot of women. The first thing I tell
 7 them is their greatest self-defense tool is to wear
 8 tennis shoes. Run away from the enemy.
 9 Q. What is the U.S. Military pistol that is
 10 issued to officers?
 11 A. Currently the M17 built by SIG Sauer --
 12 it has three different magazines in it. So the
 13 service can order whichever they want. 21 is
 14 standard. 17 or 15 rounds are available.
 15 Q. Is the SIG Sauer M17 that is available
 16 or that is provided to the members of the military,
 17 the same as SIG Sauer that is available to the
 18 general public?
 19 A. It is retitled. It is called the M320,
 20 but it is the same -- I don't know if there is any
 21 design changes, optics or how the internal safety
 22 works, but they are replicas of each other in
 23 similar appearance.
 24 Q. Do they have the same performance

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1 capabilities?

2 A. Same velocity.

3 MR. BRADY: Objection.

4 THE WITNESS: I would think, yes.

5 BY MR. WELLS:

6 Q. So same bullet, same velocity. That is

7 the relevant consideration?

8 A. Well, I said that too fast. They can

9 fire the same bullet. They won't choose the

10 military bullet. They will take a better bullet

11 and then have a better performance on the target

12 than service pistol with a ball of ammo.

13 Q. You mentioned the military issues M17s

14 with either a 21 round magazine or 17 round

15 magazine. Is that right?

16 A. They have the option when they are

17 making the contract to pick one of those.

18 Q. Are you aware that the SIG Sauer and M17

19 has an extended 30-round magazine option?

20 A. I was not aware.

21 Q. And you mentioned that the M17 has a

22 15-round magazine option; is that right?

23 A. It does. Let me clarify.

24 The Army uses a larger slide in

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1 18. I may have this backwards. One of the

2 services ordered a shorter compact pistol, M17, and

3 they are the one that bought the longer pistol. So

4 they had two; M17 and M18.

5 They both had replicas on the

6 civilian market. Looked the very same, and you can

7 put whatever ammo you feel necessary.

8 Q. You wrote in your report that virtually

9 all boxed magazines for M16 and M4 rifles in the

10 military use 30-round magazines. Why is the

11 standard rifle magazine in the military larger than

12 the standard pistol magazine?

13 A. The rifle is the standard combat arm.

14 Pistol is a self-defense tool, carried for

15 convenience and as a last-ditch effort. The

16 30-round magazine is only a 30-round magazine

17 because after 20 years of testing, you can't get

18 one that will hold more. Our

19 preference would be to eliminate that reload time,

20 which is very difficult and slow, especially with

21 the cumbersome gear you wear, and the bad positions

22 we get into.

23 So it is never a comfortable,

24 clear firing line where you have ease of access to

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1 the firing magazine, but all testing on higher

2 capacity magazines are designed as underarm drums,

3 60-round magazine and none of those would work,

4 okay?

5 Q. So if reliability were not a concern

6 from your perspective, is there any limit for what

7 you would hope for in a magazine capacity for an

8 M16 or an M4?

9 MR. BRADY: Objection. Vague.

10 THE WITNESS: Yes. The limit would be based

11 on some form of experimental test such as how

12 quickly can I get into and out of these firing

13 positions across multiple target engagement and

14 multiple firing positions and the weight of the

15 ammo didn't cause a change on the engagement speed.

16 So I run a baseline. Here is my

17 30-round magazine. I run through that baseline

18 test. Here is my speed and accuracy, and then

19 start stepping up this ammo until I get a

20 degradation, then I would be able to determine the

21 answer to that.

22 BY MR. WELLS:

23 Q. You sometimes carry a GLOCK G42 as your

24 concealed carry weapon, correct?

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1 A. 542, 43X, 19. I switch it up depending

2 on how I'm dressing.

3 Q. What do you mean?

4 A. Some weapons are smaller in design and

5 easier to carry. At all times you kind of have to

6 dress down, right? Tucking in your shirt doesn't

7 help conceal a weapon. And people get nervous when

8 they see weapons, so it is better to conceal it.

9 It is better not to telegraph it to people you are

10 carrying it. So you are trying to not show it as

11 a good civil action to those around me and as a

12 means not to draw attention to myself.

13 Q. So, the type of clothing that you are

14 selecting affects, in your mind, what type of

15 pistol you might carry when you are engaging in

16 concealed to carry. Is that right?

17 A. Yes, sir.

18 Q. And the GLOCK G42, what is the standard

19 magazine capacity on that?

20 A. The standard is six rounds, plus one in

21 the chamber. There is an after-market magazine

22 available that will put nine rounds in the magazine

23 made by Shield Arms, and then one in the chamber.

24 And it is still just inadequate to get to that

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1 12-round, kind of, best guess, volume you need to
 2 win these fights.
 3 Q. When you engage in concealed carry with
 4 a GLOCK G42, what magazine capacity does that GLOCK
 5 G42 have?
 6 A. I quit wearing it. I now carry GLOCK
 7 43X with 15-round magazine, and one in the chamber.
 8 Q. Was there a period of time when you
 9 carried the GLOCK G42?
 10 A. There was, and then GLOCK built a better
 11 pistol, so I replaced it. The G42 sits in the
 12 drawer somewhere.
 13 Q. Mr. Eby, I'm going to show you a
 14 document that I would like to mark as Deposition
 15 Exhibit 8.
 16 (Exhibit 8 was marked for
 17 identification.)
 18 BY MR. WELLS:
 19 It is called "The GLOCK Slimline
 20 Advantage." Do you see that?
 21 A. I do.
 22 Q. Who wrote this article?
 23 A. I did.
 24 Q. What is this article about?

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1 A. GLOCK asked me to write something, and
 2 then they directed me what to write on. So they
 3 wanted to market these GLOCK Slimlines.
 4 So to meet that requirement, I
 5 wrote this article. So they kind of controlled the
 6 message ahead of time. They had you select from --
 7 do you want to talk about A or talk about B, and
 8 then you build it out from there.
 9 Q. Did you get paid by GLOCK?
 10 A. I did get paid by GLOCK. They offered
 11 to send anything I needed. I didn't need it.
 12 Those are not my pistol photos. They put in their
 13 stock photos.
 14 Q. Do you agree with what you wrote here?
 15 A. I do. I had to reread it again.
 16 Q. Okay. Just directing your attention
 17 here -- directing your attention to this paragraph
 18 here that says "In previous years," do you see that
 19 in the middle of the right column?
 20 A. I do.
 21 Q. And you wrote, "In previous years I
 22 limited myself to the red dot adorned G19 and had
 23 great difficulty wearing it without looking sloppy
 24 wearing an untucked oversized shirt. When GLOCK

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1 released the G42, I bought several, just as I did
 2 with the G43. When carrying the G42 and G43, I
 3 always carried two spare magazines to make up for
 4 their reduced ammunition capacity but felt
 5 comfortable knowing I had a gun on me with
 6 sufficient ammunition to readily address an
 7 attack." Did you write that?
 8 A. I did.
 9 Q. And you agree with that?
 10 A. Not now. I kind of have come off the
 11 two spare magazines because I found a
 12 higher-capacity magazine that held nine plus one,
 13 and then -- in a lot of these articles, there was
 14 research that said the majority of civilian
 15 gunfights never get to the second magazine. So it
 16 kind of shook my stance a bit that I don't need all
 17 of that ammunition. The majority of the test is a
 18 little earlier. So I would probably change that
 19 now if I had a limited capacity of 6 round, I would
 20 carry a spare mag. If I had capacity of 15, that
 21 is probably sufficient. And all of the evidence
 22 indicates.
 23 Q. Just looking here, at the next
 24 paragraph, it says "When GLOCK released the G43X

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1 MOS, I immediately bought two, and outfitted each
 2 of them with a red dot sight. I carried mine in an
 3 appendix holster where my G19 normally sits, and my
 4 wife carries hers in a purse designed for quick
 5 access. The new 10-round magazine capacity seems
 6 sufficient to carry without spare magazines and is
 7 much easier to conceal in warmer weather.
 8 As soon as the weather permits,
 9 I will move back to my G19, but I do not feel
 10 shortchanged in the least, carrying the G43X."
 11 Do you agree with that
 12 statement?
 13 A. I do.
 14 Q. And the G43X MOS that you are
 15 referencing in there, that was a 10-round magazine?
 16 A. Stock is 10 rounds. I found a Shield
 17 Arms magazine that holds 15.
 18 Q. And is that what you carry now; 15-round
 19 magazine?
 20 A. It is.
 21 Q. Let me direct you back to your expert
 22 report. Okay? I'm directing you back to what has
 23 been previously marked as Deposition Exhibit 1,
 24 which is your initial expert report, page 9.

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1 Directing your attention to the
 2 top of the page underneath "rate of fire." It
 3 says, "It is our understanding that the Seventh
 4 Circuit Court Appeals indicated in its opinion for
 5 this case that the, quote, "rate of fire" of the
 6 semi-automatic rifles, handguns and shotguns, that
 7 Illinois has deemed," quote "assault weapons,"
 8 closed quote, "could be relevant to the legal
 9 analysis whether they are different in kind from
 10 the M16 fully automatic rifle." Do you see that?
 11 A. I do.
 12 Q. What is your understanding as to what
 13 the Seventh Circuit has said about the relevance of
 14 rate of fire to this lawsuit?
 15 MR. BRADY: Objection. Calls for a legal
 16 conclusion. Vague.
 17 THE WITNESS: As opposed to what it says? It
 18 is debatable about whether or not the AR-15 is
 19 equal to military-grade weapon, so I disagree with
 20 it.
 21 BY MR. WELLS:
 22 Q. What were you asked about in this
 23 litigation in terms of rate of fire?
 24 A. Is it validated? Is it legitimate? It

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1 can be. The sustained rate certainly has control
 2 of that. The cyclic rate is physically impossible
 3 to achieve but scientifically true.
 4 So it is based on just measuring
 5 one cycle of operation and multiplying that --
 6 dividing that into 60 seconds, but we haven't found
 7 anybody that can reload that fast and carry enough
 8 ammunition to do it.
 9 So cyclic rate is not a term we
 10 tend to use very often because it is unachievable.
 11 We do use these other rates where we will give
 12 time/seconds, like fire one round every three
 13 seconds.
 14 The commander will decide, based
 15 on his evaluation of the mission, how much time he
 16 needs to expose his force to close it in. Then he
 17 determines how much ammunition he needs to have
 18 available or how much he can afford to lose and
 19 still get to the objective, pull a limited advance,
 20 and still deny a counterattack.
 21 Q. Do you agree that rate of fire is a
 22 concept -- that term is used in the Marine Corps?
 23 A. Yes. We use the term, "rate of fire" in
 24 some form of command in the assignment portion of

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1 a fire command.
 2 Q. And do you have an understanding as to
 3 whether that is also true in the Army?
 4 MR. BRADY: Objection. Vague. Calls for
 5 speculation.
 6 THE WITNESS: I would speculate they use the
 7 same. We stole their publicist. We have their
 8 terms, so we use the term "rate of fire" because of
 9 them.
 10 BY MR. WELLS:
 11 Q. And I think you discussed this a little
 12 bit, but I may have missed some of it. Explain to
 13 me what is the difference is between cyclic rate,
 14 and rate of fire.
 15 A. Cyclic is a sub-performance -- so rate
 16 of fire has multiple levels, right? One shot.
 17 Sustained rate, 12 to 15 rounds a minute. Rapid
 18 sustained rate up to 45 rounds per minute. That is
 19 actually a very new term for me. I didn't know the
 20 Army stuck it in their post.
 21 And then, cyclically, it is just
 22 a scientific wonderland of what you could do if the
 23 world were perfect and you had a bunch of full
 24 magazines and are able to carry them.

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1 Q. Which concept is more useful in your
 2 perspective -- from your perspective, in training
 3 Marines? Is it cyclic or rate of fire?
 4 MR. BRADY: Objection. Compound.
 5 THE WITNESS: Again, I think I lost you.
 6 Cyclic rate is a form of rate of fire. It is not
 7 different. It is just one of the rates of fire;
 8 slow, medium, fast. Cyclic is the fastest. Does
 9 that make sense?
 10 BY MR. WELLS:
 11 Q. I think so, but is it fair to say that
 12 the point you are making is that cyclic rate is
 13 essentially a theoretical concept because it is
 14 based on conditions that don't really exist in the
 15 real world?
 16 A. Yes, sir. What happens is you would
 17 have to have 30 full magazines available. Remember
 18 I said we could only load, like, 28 rounds where
 19 the magazine fails to lock, and the magazine would
 20 also -- you would have to have sufficient rounds
 21 available and able to carry them, realistically.
 22 Not just lay them on table in front of you. How
 23 could you get them and get them reloaded?
 24 A good shooter is a second and a

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1 half. Most shooters are in this 3-to-10-second
 2 magazine change. So now you will have to use a
 3 robot to do the reloads. Not a human. Because of
 4 the fragilities of human skills. So you just can't
 5 get the conditions set to truly test if that is
 6 true.

7 Q. Earlier we looked at an exhibit attached
 8 to your report discussing the M27 infantry
 9 automatic rifle, and it had 700-to-900-round cyclic
 10 rate listed. Do you recall that?

11 A. I do.

12 Q. What is the typical combat load in a
 13 Marine carrying an M27?

14 MR. BRADY: Objection. Vague.

15 THE WITNESS: It is -- we do a METT-K
 16 analysis. So what is my mission? What is the
 17 enemy's conditions? What is the weather? What is
 18 available; time, space, logistics?

19 So without a mission being
 20 assigned, and I'm just standing around on guard
 21 duty, I typically will have one magazine in the
 22 rifle and 6 on my body.

23 Once I get a mission assigned,
 24 there is no standard there is no chain. It has to

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1 have that METT-T analysis to determine how much
 2 ammo, how much time? What danger areas do we have
 3 to cross, and how long do we think it will take to
 4 do that? So we will build out the solution for
 5 each mission.

6 Q. Would you expect the Marine -- an
 7 individual Marine equipped with an M27 ever to
 8 carry 700 to 900 rounds on their person?

9 MR. BRADY: Objection. Vague.

10 THE WITNESS: Not at all. The most you could
 11 probably carry is 350 rounds, and it is usually 7
 12 magazines fully loaded and another 210 available on
 13 a butt pack somewhere to reload with.

14 Now the automatic rifle -- the
 15 guy that is in that role, he will probably be
 16 carrying 14 fully loaded magazines. And that
 17 rifle, when we bought it, we wanted 100-round drum,
 18 but we could not get it to work. We did not want a
 19 belt feed because they are unreliable during
 20 assaults. They tend to get disrupted and not feed
 21 properly, so we went back to the box for 30 rounds
 22 because that is the only reliable high-level
 23 magazine we could find. Highest capacity we could
 24 find.

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1 Q. Is it fair to say that actually firing
 2 at the cyclic rate of 700 to 900 rounds with an M27
 3 would burn through a Marine's ammunition in 30
 4 seconds?

5 MR. BRADY: Objection. Vague. Incomplete
 6 hypothetical.

7 THE WITNESS: I don't think that is fair to
 8 say. I don't think anybody could reload that fast.
 9 No. I don't think that is fair to say.

10 I don't think anybody could
 11 reload that fast in under 30 -- certainly not in 30
 12 seconds. Even if you were just wasting ammo, and
 13 not trying to manage the recoil and keep the shots
 14 in a specific area, which forces you to slow down.

15 BY MR. WELLS:

16 Q. I want to show you what we previously
 17 looked at. It was marked as Deposition Exhibit 3,
 18 which was the 2008 publication, "Field Manual
 19 3-22.9." Do you recall looking at this document
 20 earlier?

21 A. I do. For years.

22 Q. You said you looked at these for years?

23 A. Yes, I've seen these. These are what we
 24 quote in order to get meritorious promotions. This

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1 data that just appears, where you are supposed to
 2 hit the "I believe" button and verify.

3 Q. Do you believe -- so I'm showing you
 4 what has been marked as page 21, which has Bates
 5 Number of OAG003216, and it is a chart labeled
 6 "Characteristics of M16/M4 series weapons." Do you
 7 see that?

8 A. I do.

9 Q. Do you have any reason to dispute the
 10 information that is in this chart?

11 MR. BRADY: Objection.

12 THE WITNESS: I do. At the very bottom where
 13 it talks about maximum effective range, you can
 14 find zero study to get us that information. This
 15 turned out to be "graduated range" was the term
 16 before 1960. And since then, the terms moved from
 17 "graduated range," how far the sights slide, to
 18 "effective range," implying that they are equally
 19 capable and all fine. So that is incorrect. And
 20 cyclically, I've never been able to test.

21 Q. Other than those two particular
 22 categories, maximum effective range and cyclic
 23 rate, do you dispute anything else we see in this
 24 chart, on OAG003216?

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1 MR. BRADY: Objection. Misstates testimony.
 2 Vague. Compound.
 3 THE WITNESS: These look achievable under
 4 maximum effective rate of fire. I don't know that
 5 I would dispute any of these right now.
 6 BY MR. WELLS:
 7 Q. All right. In your expert report, you
 8 note that there is a second question of a
 9 practicable rate of fire to maintain accuracy. Do
 10 you recall that from your expert report?
 11 A. Not immediately. That is shooter based.
 12 That is a good training problem to have. Auto
 13 increases, an effective rate of fire on something
 14 measurable.
 15 Q. Do you agree that whatever rate of fire
 16 is selected, it is important for -- to maintain
 17 accuracy?
 18 MR. BRADY: Objection. Vague.
 19 THE WITNESS: You would have to define what
 20 accuracy is because to me, accuracy is the area in
 21 which the enemy potentially could be hiding in that
 22 I have been ordered to shoot towards, and those
 23 studies I quote, there is benefit in just shooting
 24 around the area, not knowing exactly where they are

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1 hiding and increasing the chance for a hit as well
 2 as increasing the psychological suppression of the
 3 end.
 4 So, accurate enough -- good
 5 enough not precision shots. I don't want to keep
 6 shooting the same leaf.
 7 Q. And what you just described, though,
 8 that is a military setting you are referring to; is
 9 that right?
 10 MR. BRADY: Objection. Vague.
 11 BY MR. WELLS:
 12 Q. Was that a yes?
 13 A. Yes.
 14 Q. I put back up on the screen your report,
 15 page 10. Directing your attention to the top there
 16 it says "What's more, there is the separate
 17 question of a practical rate of fire to maintain
 18 accuracy." Do you see that statement?
 19 A. I do.
 20 Q. And you wrote that?
 21 A. I did.
 22 Q. And do you agree that it is important to
 23 assess whether, in the rate of fire, it is
 24 important someone is maintaining accuracy?

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1 MR. BRADY: Objection. Vague.
 2 THE WITNESS: I do. A level of accuracy is
 3 determined by the enemy.
 4 BY MR. WELLS:
 5 Q. And in this paragraph, would you agree
 6 that you describe how a range increases, the rate
 7 of fire should decrease to maintain accuracy; is
 8 that right?
 9 A. Yes.
 10 Q. And that is something that the military
 11 trains?
 12 A. Yes. We have this phrase that we use.
 13 "Stability increases." As stability increases, you
 14 can increase range with equal accuracy. Meaning
 15 I'm standing. I could shoot at a certain level of
 16 accuracy.
 17 If I wanted to go further with
 18 the same level of accuracy, I could increase
 19 stability, like a supported kneeling against the
 20 wall. And then to get even further accuracy, I
 21 could go to a squatting; two elbows on two knees.
 22 So as stability increases, equal
 23 level of accuracy increases with range.
 24 Q. So directing your attention to the last

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1 sentence in this paragraph where it says, "So the
 2 practical rate of fire for M16 is also much greater
 3 than the practical rate of firearm for a
 4 semi-automatic firearm in a self-defense situation
 5 where there is a particular target or target
 6 causing a threat." What do you mean here?
 7 A. Well, I mean I have automatic fire, so I
 8 can triple the amount of rounds I put out.
 9 Q. Does that mean the M16 is a superior
 10 weapon for a self-defense situation?
 11 MR. BRADY: Objection. Vague.
 12 THE WITNESS: For the military it is.
 13 BY MR. WELLS:
 14 Q. What about in a civilian setting?
 15 MR. BRADY: Objection. Vague.
 16 THE WITNESS: It would equal the same
 17 capability. So let's follow through that thought.
 18 I'm in my home. My most likely target is 7 yards
 19 away. The most efficient way to increase the hit
 20 potential against that target is with automatic
 21 fire. Having trained to do so -- because that is
 22 not easy. You have to manage recoil.
 23 We have a significant training
 24 effort to manage that recoil both in semi-auto

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1 methods and in auto. I would say that a pistol
 2 caliber carbine that doesn't overpenetrate is
 3 easier on recoil and is smaller in size, that
 4 automatic fire would be the fastest way to end that
 5 self-defense problem. But you can't just get there
 6 by buying and sitting, you have to train for it.
 7 Q. Okay. I'm going to direct your
 8 attention to the next two sentences here on Page
 9 9 -- of your -- or I'm sorry, your expert report
 10 where you write, "In sum, there really is no way of
 11 reliably determining a, quote, "rate of fire,"
 12 closed quote for semi-automatic firearms in light
 13 of these variables.
 14 "One thing is for certain,
 15 however, the rate of semi-automatic fire is
 16 significantly less than that of automatic fire."
 17 Do you agree with those
 18 statements?
 19 A. Yes.
 20 Q. So in your opinion, there is really no
 21 way of reliably determining a rate of fire for a
 22 semi-automatic firearm?
 23 A. The previous slides indicate some of the
 24 variables. The shooter has to be trained to manage

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1 recoil. Now he can shoot faster, but it is not
 2 effective. He is not having any effect with his
 3 bullets. He's probably shooting the ceiling.
 4 So the thought here is I have
 5 got to understand how to manage my recoil. Have a
 6 weapon system that fits me. And then train to
 7 develop a more efficient rate of fire that has an
 8 effect against the opponent.
 9 Q. So in the second sentence in this
 10 paragraph, when you say, "One thing is for certain.
 11 The rate of semi-automatic fire is significantly
 12 less than that of automatic fire." What rate of
 13 semi-automatic fire are you using to make that
 14 comparison in this sentence?
 15 A. Sustained and rapid. Because of the
 16 volume I could put out otherwise, is faster. If I
 17 can manage the recoil, then any semi -- any
 18 additional action of pulling the trigger. The
 19 additional action of pulling the trigger delays the
 20 rate of volume of bullets that are going downward.
 21 Q. And you said sustained and then rapid
 22 semi-automatic rapid fire. So that is that
 23 15-rounds per minute and 45-rounds per minute
 24 figure that we discussed earlier. Is that right?

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1 MR. BRADY: Objection. Vague. Misstates the
 2 testimony.
 3 THE WITNESS: That is correct. And that would
 4 be situational, depending which one of these I
 5 would choose. Now, if I'm a highly trained
 6 shooter, short-range target, an automatic fire is
 7 going to benefit me, especially in a room clearing.
 8 Possible target inside will come after me,
 9 automatic fire would benefit me from that shooter.
 10 And depending on shooter capability, 3-25 will do
 11 it. Once he gets further than that, you are more
 12 effective to reduce the target if you slow down and
 13 aim.
 14 Q. What numerical value are you using in
 15 the second sentence to make the comparison for
 16 automatic fire?
 17 A. I think I was using automatic burst,
 18 just pulling the trigger and getting more bangs out
 19 of that trigger. So semi-automatic, I get one
 20 shot. With burst, I get three. With an auto, I
 21 get whatever time frame I hold the trigger back.
 22 Whether it is 1 round or 30. So it is a simple math
 23 of one trigger pull equals more.
 24 Q. So before you gave a 45-round figure for

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1 a rapid semi-automatic fire, and you are saying
 2 that the rate of fire -- and that rate of fire is
 3 significantly less than that of automatic fire.
 4 What is the numerical rate per minute, rounds per
 5 minute for automatic fire you're using for your
 6 benchmark there?
 7 MR. BRADY: Objection. Vague. Compound.
 8 THE WITNESS: I've never tested it. I just
 9 know I get more shots out per trigger pull.
 10 BY MR. WELLS:
 11 Q. All right. I'm going to direct your
 12 attention to the bottom of your expert report, Page
 13 10. Do you see where it says "sustained rate of
 14 fire?
 15 A. I do.
 16 Q. What does that mean?
 17 A. The ability to shoot for long duration
 18 without overheating my rifle is what that tends to
 19 mean.
 20 That usually stays 10 to 15
 21 rounds per minute. That is about the duration of
 22 my entire combat load, which is usually seven
 23 magazines of 28 rounds.
 24 Q. You write here that "Using our

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1 experience as trainers, were we to estimate a
 2 starting expectation for untrained shooters to
 3 achieve a rate of fire with relative accuracy, 50
 4 percent hits on human-size target. Under no stress
 5 of life-threatening events. Shooting primarily,
 6 firing from the standing position, firing
 7 semi-automatic fire with some reasonable degree of
 8 accuracy, we would start with these distances,
 9 rates and time frames, keeping careful notes for
 10 future refinement."
 11 Did you write that?
 12 A. I did.
 13 Q. And below that then you included a chart
 14 with three columns. The left column labeled
 15 "distance" and right column labeled "time". Is
 16 that right?
 17 A. That's right. I have no experiment to
 18 justify these. These are my opinions on paper.
 19 Q. And coming up with this opinion, you are
 20 assuming an untrained shooter. Is that right?
 21 A. Yes. I'm assuming an untrained shooter
 22 because that really delays their reload time
 23 significantly.
 24 Q. What weapon were you assuming in

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1 developing an assessment?
 2 A. You know what? I just picked any AR in
 3 my brain. But any -- an M4 suffices. It is
 4 actually harder than an M16-A4 with a big buttstock
 5 and long barrel is fatiguing. So you start seeing
 6 degradation of accuracy here and accuracy is a
 7 component of conditions.
 8 Q. Accuracy being a component of the
 9 conditions, meaning that --
 10 A. I'm sorry. I said 50 percent hits on
 11 human-size target. That is the accuracy component
 12 to the conditions. Instead of just shooting to
 13 send rounds somewhere forward, there is going to be
 14 a metric here that slows down the shooter because
 15 now they need to achieve 50 percent hits.
 16 Without that metric in there,
 17 they just pull the trigger and shoot somewhere
 18 else. We don't know if that was of any other
 19 value. So by giving him some conditions, he is
 20 standing. He has to have 50 percent hits on
 21 human-size targets. When we say "human-size
 22 targets," we have a training target that is 20
 23 inches wide and 40 inches tall. It is called an
 24 "echo silhouette." That is what we use in all

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1 training engagements developing initial skills,
 2 then the targets get harder after that; hiding,
 3 smaller, obscure.
 4 Q. And the "rate of fire" column then, for
 5 instance, 7 to 10 yards in that row, you assume a
 6 rate of fire of 35 to 50 rounds per minute in a
 7 60-second time period. Is that right?
 8 A. Correct.
 9 Q. And with that 50 percent accuracy
 10 assumption, you would expect between 17 and a half
 11 to 25 of those rounds to actually hit a human-size
 12 target. Is that right?
 13 A. Correct.
 14 Q. And that is within a 7-to-10-yard
 15 distance?
 16 A. Correct.
 17 Q. Am I right that the rapid semi-automatic
 18 rate that we looked at and the marksmanship
 19 publication from the military is 45 rounds per
 20 minute. Is that right?
 21 A. Yes.
 22 Q. Do you agree with that, as a rapid
 23 semi-automatic achievable rate for a Marine or a
 24 soldier?

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1 MR. BRADY: Objection. Vague. Compound.
 2 THE WITNESS: It's too vague. I need a
 3 condition statement. I need to know where you
 4 learned. How far is the target? What is my hit
 5 rate percentage? Because these are all going to
 6 change that rate of fire.
 7 If he is shooting 45 rounds a
 8 minute and hits one target at 30 yards, that is
 9 ineffective. That is a horrible rate-of-fire
 10 decision.
 11 So without having the full
 12 statement of what equipment am I wearing? What
 13 position am I shooting from? Supported or not
 14 supported? What is the distance of the target?
 15 And what is the standard I need to achieve upon
 16 completion? None of those are in those theoretical
 17 rates of fire to have a conversation. It makes
 18 them theoretical still.
 19 So these other conditions change
 20 that because when a novice, an untrained shooter,
 21 shoots and he doesn't manage recoil well, it might
 22 be 3 to 5 seconds before they get their sights back
 23 to the target. They are not going to meet that
 24 rate of target because now I have an accuracy

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1 component they have to get to.
 2 Q. How did you select the distances in the
 3 left-hand column?
 4 A. I selected a start point and asked Mike
 5 what he thought of those. It was Mike Musselman.
 6 He modified it somewhat because we had lower
 7 expectations of capability. I probably had doubled
 8 that range. He had -- and he said I don't think
 9 so, and then we got into a discussion on how long
 10 does it take a novice to reload. We ended up with
 11 this 5 to 10 -- this is just based on our own
 12 experience, training people to shoot, in general,
 13 has now been exciting to see capabilities develop
 14 very quickly.
 15 It is a low capabilities, low
 16 speeds. Maybe they are nervous. And this is about
 17 somebody shooting, which all of that goes away when
 18 you are trying to survive as well as shoot.
 19 Q. So is it fair to say that these
 20 estimates -- well, in developing estimates like
 21 this, it is hard to do because there are some
 22 variables that you would need to assume or
 23 consider?
 24 MR. BRADY: Objection. Vague. Compound.

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1 THE WITNESS: I think you could have that --
 2 you could get 50 variations of this chart depending
 3 on every person you talk to.
 4 So without running an experiment
 5 and controlling what is the level of knowledge of
 6 the shooter, what is the size of the target and
 7 what position they are going to shoot from; what
 8 equipment will they use. Are you familiar with it?
 9 Even the untrained shooter needs some level of
 10 training, or they will never get it reloaded. They
 11 will never achieve anything past the first 28
 12 bullets.
 13 Q. Would real-world incidents where you
 14 know some of those variables be more useful in
 15 developing an estimate for rate of fire?
 16 MR. BRADY: Objection. Vague. Compound.
 17 THE WITNESS: It would help me set up a
 18 controlled -- I mean even if there is just two
 19 people, random knowledge in perpetuity, and put
 20 them through it and see what they come up with.
 21 BY MR. WELLS:
 22 Q. Did you consider the rate of fire that
 23 has been documented in mass shootings in the United
 24 States in developing your estimates?

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1 MR. BRADY: Objection. Vague.
 2 THE WITNESS: I know the volume of fire in
 3 some of them, but, no, I did not prepare that.
 4 BY MR. WELLS:
 5 Q. Why not?
 6 A. I didn't take the time to look for them.
 7 This was based on me training some people on my
 8 range, and why I thought they were capable of
 9 doing, based on years of shooting with them --
 10 either my range shooter or a range in Virginia when
 11 I was living there -- and where I thought their
 12 capabilities were. Now, this is a human-sized
 13 target. I don't normally give them that size. I
 14 normally give them, like, a pipe load. When I'm
 15 doing this, that's the lethal area. I want to
 16 narrow down the scope of misses.
 17 Q. All right. I'm going to direct your
 18 attention now to page 11 of your expert report, and
 19 there is a section called "Self-Defense."
 20 Do you see that?
 21 A. I do.
 22 Q. And you begin that section by saying,
 23 "Based on our training and experience, it is our
 24 opinion that the training and experience that you

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1 are referencing is training and experience you
 2 obtained in the military, plus those two civilian
 3 trainings that we discussed before." Is that
 4 right?
 5 A. That is right.
 6 Q. And is it fair to say that the purpose
 7 of your military training was to prepare for combat
 8 against peer threats?
 9 MR. BRADY: Objection. Vague.
 10 THE WITNESS: Predominantly I had to switch
 11 gears for back to low intensity, but, yes,
 12 predominantly our focus was on the worst case
 13 scenario, peer threat.
 14 BY MR. WELLS:
 15 Q. And would you agree that not all the
 16 training you received in the military was relevant
 17 to civilian self-defense scenarios?
 18 MR. BRADY: Objection. Vague.
 19 THE WITNESS: I doubt these explosions were of
 20 much value or use mortar, so, yes.
 21 BY MR. WELLS:
 22 Q. Right. So the training on rocket
 23 launchers would not be relevant for civilian
 24 self-defense?

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1 A. Correct.

2 Q. And training on anti-tank weapons would

3 not be relevant for civilian self-defense?

4 A. Correct.

5 Q. What about training on a 50-caliber

6 sniper rifle? Would that be relevant for civilian

7 self-defense?

8 MR. BRADY: Objection. Vague.

9 THE WITNESS: It would not be my choice as a

10 self-defense weapon.

11 BY MR. WELLS:

12 Q. Would training that you received on

13 grenade launchers in the military be relevant for

14 self-defense?

15 MR. BRADY: Objection. Vague. Calls for

16 speculation.

17 THE WITNESS: Not likely.

18 BY MR. WELLS:

19 Q. All right. Directing your attention to

20 paragraph A here, on page 11 of your expert report,

21 you wrote, "The AR platform rifle has been the most

22 significant design in weaponry for common use among

23 the public over the last 60 years."

24 How would you define "AR

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1 platform rifle"?

2 A. An adjustable buttstock with a buffering

3 system and the shortest barrel as I can possibly

4 get it and the lightest weight overall. Probably a

5 red dot sight is quick and easy to keep both eyes

6 open on the target and present the box magazine.

7 Q. You wrote that the AR-15 platform rifle

8 has been the most significant design in weaponry

9 for common use among the public over the last 60

10 years. What were you basing that opinion on?

11 A. Well, I have two daughters, and I

12 started them shooting AR platforms when they were 8

13 years old. There was no way even in consideration

14 that I was going to introduce them that would knock

15 them over or break a bone to introduce them to an

16 M590 pump shotgun that would, again, break a bone

17 and knock them over, but the AR design -- it was a

18 .22 caliber sub-caliber as well as hundreds and

19 hundreds of those civilians and Marines that I have

20 worked through on these platforms. This platform

21 is the most adjustable to fit their body size, has

22 the recoil buffering system to not make them

23 flinch, buck or jerk. Three bad marksmanship

24 behaviors. That allows them to have the strength

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1 to point at the target -- even the young girls.

2 They are not going to point at it for an hour but

3 to be competitive with it. No other semi-auto or

4 slug or pump shotgun and no pistols -- pistols are

5 extremely hard for people to manage. They can't

6 point them at the target at a very short distance.

7 It is easier to miss with a pistol than a rifle

8 design that points naturally at the target.

9 So I base that on my years of

10 training people how to utilize all these; hunting

11 scopes, rifles -- sniper rifles, pistols, shotguns.

12 I've shot competitions with

13 them, and in all of those it always comes back to

14 simple design that fits the shooter, that is

15 well-balanced, doesn't knock them over. Doesn't

16 create marksmanship flaws, and it is easy to aim

17 with.

18 Now, they get in trouble

19 managing their recoil, and they get in trouble

20 reloading.

21 Q. Who gets in trouble?

22 A. The shooters that I've been training

23 with. On these novice shooters, they have a little

24 bit of trouble trying to reload the thing when it

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1 runs dry, and then -- even with this buffer, they

2 still have trouble keeping the sights down on the

3 target without a training program. How to manage a

4 body behind the weapon system to prevent get a

5 plain backbone instead of popping upwards.

6 Q. Are you referring to the AR-15 platform?

7 A. I am. And in every other design that

8 does not have a buffering system is 100 times

9 worse; shot guns, hunter rifles to get that second

10 shot in is so far worse than the AR design.

11 So when it comes down to

12 incapacitate and volume seems to be the best

13 incapacitate tool that we have right now, that

14 metrics that nobody can define. It turns down the

15 volume and destroys the most tissue. The AR is

16 designed to do that.

17 To get it faster while they are

18 trying to kill me. That is the civilian context.

19 In the civilian world -- I will say this: If

20 somebody breaks into my door, I'm the first

21 responder. The second guy that shows up, whatever

22 timeline he is, he is the second responder, and he

23 shows up with an automatic rifle. And the third

24 responder, the SWAT force shows up even later than

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1 that second guy, and he shows up with an automatic
 2 weapon.
 3 If it is good enough for them,
 4 why would it not be good enough for me when I'm
 5 fighting first?
 6 Q. Was the original AR-15 designed by
 7 Eugene Stoner, which was select fire with an
 8 automatic fire setting, designed for common use
 9 among the public?
 10 MR. BRADY: Objection. Vague. Calls for
 11 speculation.
 12 THE WITNESS: That is speculative. I do know
 13 he designed it hoping to target a military,
 14 contract and he got turned down, so he started
 15 building it out for civilians. The military wasn't
 16 interested in it. They wanted to stick with 308s
 17 and bigger bullets and they weren't interested --
 18 he did build the AR-10 at the same time. They
 19 weren't interested in it.
 20 So in order to fund his
 21 lifestyle he offered it to this market, but to be
 22 fair, he was earmarking this target and just didn't
 23 make it initially.
 24 Q. In the first sentence of paragraph A

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1 here, you use the word "common use among the
 2 public" -- the phrase "common use among the public."
 3 Where did you -- how did you
 4 reach that conclusion that this particular weapon
 5 system is common use among the public?
 6 A. Supreme Court Elena Kagan just recently
 7 said -- she rephrased it. I've heard it over and
 8 over again. You know, 28 million in common use is
 9 the last number I read, but I just listened to the
 10 Supreme Court Justice say the very same thing on
 11 the bump stock of these commonly used weapons.
 12 So I think it is an inherent
 13 conversation.
 14 Q. Other than the sources that you just
 15 described, did you rely on anything else in
 16 offering this opinion about common use among the
 17 public?
 18 A. Residual reading over many years has led
 19 me to understand that the AR-15 platform is the
 20 most commonly used weapon amongst all designs.
 21 I don't have evidentiary points, but
 22 I can try to drag them up. Whether that is through
 23 NRA, NSSF or Gun Owners of America, this is a very
 24 common spoken phrase of common use weapons.

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1 Q. And when you use "common use" here in
 2 this particular sentence, you were relying on a
 3 statement in the Supreme Court opinion on
 4 discussing buttocks; is that right?
 5 MR. BRADY: Objection. Misstates the
 6 testimony.
 7 THE WITNESS: No, sir. Her statement came out
 8 after the fact. I relied upon my readings over
 9 many years, over conversations around even lawsuits
 10 about can you ban these weapons. And in those
 11 lawsuits were phrases from the courts of "this is a
 12 common use weapon."
 13 BY MR. WELLS:
 14 Q. Do you have a personal opinion as to
 15 whether or not AR-15 platform rifles should be
 16 banned for civilian use?
 17 A. I would not ban them. Yes, I do have a
 18 personal opinion.
 19 Q. You mentioned earlier, and you mentioned
 20 in paragraph A here, the importance of the limited
 21 recoil of the 5.56-by-45-millimeter cartridge when
 22 fired from an AR-15 platform rifle.
 23 Did you also mention that when
 24 you started your children out firing AR-15 platform

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1 rifles, you did so with .22 rimfire ammunition; is
 2 that right?
 3 A. Yes, sir. I had an insert to an AR-15.
 4 I pulled both out and put in changed the charging
 5 handle and then they could learn how to hold the
 6 weapon, how to aim the weapons. How to manage the
 7 recoil without a heavier bullet than they were
 8 prepared for. So they probably didn't shoot until
 9 11 or 12 years old.
 10 Q. So is it your understanding that
 11 556-by-45-millimeter calibers is more common in the
 12 AR-15 platform than .22 rimfire?
 13 MR. BRADY: Objection. Vague.
 14 THE WITNESS: Absolutely more common. I don't
 15 know that the .22 rimfire sub-caliber device is
 16 sold that well.
 17 I know it has been available. I
 18 don't know -- because you lose distance. So most
 19 people want to maintain the weapon as it is
 20 designed to be able to experiment and develop
 21 skills with it, so. The .22 has very limited use.
 22 The .22 rimfire. It is very, very limited use and
 23 only in training.
 24 BY MR. WELLS:

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1 Q. So in making your recommendation about
 2 civilian self-defense weapon, you recommend the
 3 556-45-millimeter over the .22, but you would agree
 4 that the 556-45-millimeter cartridge has greater
 5 recoil, right?
 6 MR. BRADY: Objection. Compound.
 7 THE WITNESS: Yes, it does.
 8 BY MR. WELLS:
 9 Q. So why did you make that recommendation?
 10 A. It has, like, 10 times more power. The
 11 recommendation of using 5.56 mm because it is the
 12 centerfire bullet. The rim rifle bullet is
 13 completely unreliable. They don't always fire.
 14 The way they are designed, it may not engage. They
 15 are very prone to not feeding and chambering
 16 properly.
 17 So the only military I have ever
 18 heard of using is the Israeli Mossad, who is
 19 conducting assassinations with .22 ram fire. No
 20 one else outside of some occasional training
 21 programs or marksmanship development programs,
 22 nobody else is using .22 rimfire.
 23 The smallest center fire bullets
 24 that are predominantly in use are the 556-by-45 or

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1 the civilian equivalent of .223 Remington.
 2 Q. So is it fair to say there is a trade
 3 off that you're accounting for. While you may
 4 increase the recoil, you get more power with the
 5 556-by-45-millimeter cartridge compared to a .22
 6 rimfire, and you are willing to accept that
 7 trade-off; is that right?
 8 A. In development of skills, I'm willing to
 9 accept that trade off. So I'm not willing to
 10 recommend that a .22 for self-defense bullet by any
 11 means. I would recommend it is silly. Don't do it
 12 at all.
 13 And 556, is so common that it is
 14 less expensive than alternatives, at 22-250 or
 15 .243. Those bullets can cost \$3.00 each. This is
 16 40 cents. So now you get volume of time on gun and
 17 learn skills.
 18 Q. Right, but I'm asking specifically about
 19 the trade-off and the self-defense scenarios. So
 20 you mentioned the benefits of lower recoil, but
 21 actually the 5.56 x 45-millimeter cartridges, you
 22 acknowledge, has higher recoil than a .22 rimfire,
 23 but you, nonetheless, recommend a 556-45-millimeter
 24 cartridge for use in self-defense in the home

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1 despite that comparative recoil because the 556 545
 2 millimeter cartridge is more powerful. Is that
 3 fair to say?
 4 A. It is. And the likely lethality of the
 5 .22 bullets should not be something you bet your
 6 life on. I wouldn't put those in the same
 7 comparison.
 8 The 556 should be compared to
 9 something like the 6.8 or 7.62, and this is the
 10 mildest of all the recoiling, high-volume type of
 11 platforms. So a .22 would never come into this
 12 conversation. Even into the conversation of
 13 self-defense. It would be a poor choice and a high
 14 risk to do that.
 15 Q. You would agree that in addition to the
 16 556-by-45-millimeter cartridge, there are AR-15
 17 platform rifles available in semi automatic that
 18 fire 6.5 Grendel ammunition?
 19 A. There are.
 20 Q. And there are also AR-15 is that fire
 21 300 blackout ammunition?
 22 A. There are, yes.
 23 Q. And there are AR-15 semi-automatic
 24 rifles that fire 7.62-by-39-millimeter ammunition?

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1 A. Yes.
 2 Q. Would all of those have higher recoil
 3 than a 556-by-45-millimeter cartridge?
 4 A. 300 Blackout M would be approximate. It
 5 is just more expensive, lower volume because they
 6 don't sell as many of them, so it costs more per
 7 shot fired at training.
 8 All of the others have higher
 9 recoil results that you mentioned, and more so than
 10 that, probably there is 6.5 Creedmoor semi-autos.
 11 They had a remake. Another poor choice.
 12 Semi-autos.
 13 Q. And the 300 Legend?
 14 A. I'm not familiar with that.
 15 Q. How about 450 Bushmaster?
 16 A. I've seen that. It shoots like a small
 17 school bus going down range. I would not recommend
 18 it. I remember when Trijicon was testing some of
 19 those out, and kind of a fad, came and went.
 20 Q. Is it fair to say that there are
 21 particular cartridges for the AR-15 that are larger
 22 caliber that would have significantly higher recoil
 23 than a 556-45-millimeter cartridge?
 24 MR. BRADY: Objection. Compound.

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1 THE WITNESS: Yes, you could go with a longer
 2 projectile like a 77 grain to get -- I don't know
 3 without special equipment you would notice the
 4 recoil change. It is just shooting farther and
 5 better. But I think the recoil on the shooter
 6 without special equipment would be the same.
 7 Q. But --
 8 A. I am sorry. We could even mitigate that
 9 with a good muzzle break, which pulls the weapon
 10 slightly forward as the bullet is leaving, and it
 11 reduces the recoil even further.
 12 Q. I'm a little confused, then. If you are
 13 firing 6.5 Grendel round out of an AR-15, are you
 14 going to feel more recoil than your standard
 15 5.56-5.45 millimeter cartridge?
 16 A. I would opionate, yes, you will, but I
 17 don't have any experience.
 18 Q. All right. The firearm that you
 19 recommend for home defense would be 11.5 inch -- I
 20 assume that means barrel, AR platform short barrel
 21 rifle with a suppressor, loaded with a 30 round
 22 magazine, a 1,000-lumen flashlight on the side rail
 23 and an adjustable bump stock to allow the weapon to
 24 fit the clothing worn at the time it is needed?

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1 A. After you pay your two tax stamps, yes.
 2 Q. Why do you say "after you pay your two
 3 tax stamps"?
 4 A. Both of those are NFA items. The
 5 11-and-a-half-inch barrel is an NFA item, and the
 6 suppressor is an NFA item. So both of those have
 7 to be stamped.
 8 It is potential -- the work
 9 around if you don't want to have any type of optic
 10 on it, you use a pistol brace and achieve that
 11 shorter barrel, but you have a lousy buttstock at
 12 the end of the day. You can meet the stock well,
 13 and it doesn't repeat the shots well. So you
 14 introduce a new problem trying to take this little
 15 weird shortcut with the arm brace.
 16 Q. And you say "NFA," is that National
 17 Firearms Act; is that right?
 18 A. Yes, sir.
 19 Q. Do you know whether suppressors are
 20 legal in Illinois?
 21 MR. BRADY: Objection. Calls for a legal
 22 conclusion.
 23 THE WITNESS: I do not know.
 24 BY MR. WELLS:

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1 Q. Why is the 1,000 lumen flashlight
 2 necessary?
 3 MR. BRADY: Objection. Misstates the
 4 testimony.
 5 THE WITNESS: It is kind of the market
 6 standard right now. This is more cost-effective.
 7 It is shocking to the eye. When you blind somebody
 8 with that light and it stuns them a bit, they give
 9 you more time for your response. It lets you
 10 clearly see what you are up against, whether or not
 11 they are armed, enabled or whether or not they are
 12 just lost, drunk or on drugs.
 13 So that flashlight takes a lot
 14 of the assumptions out, and it works as a tool in
 15 your favor to buy time.
 16 BY MR. WELLS:
 17 Q. Are there scenarios in the military
 18 where you are using an M4 or M16 when you wouldn't
 19 want a flashlight mounted on your weapon because
 20 you would want to conceal your location?
 21 MR. BRADY: Objection. Compound.
 22 THE WITNESS: We have flashlights on all of
 23 our weapons in one means or another, and we have
 24 good detailed conversations of when to use them.

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1 So if I'm in a long hallway of
 2 the school and I'm having to look underneath the
 3 staircase, I may not be able to see under there, so
 4 I will hit it with a white light to see; however,
 5 if I don't have a good external security force, I
 6 would not turn the light on because that would
 7 indicate to somebody on the outside shooting in
 8 where I'm at, and they would draw fire.
 9 So there are tactical
 10 considerations. There is good and bad for both.
 11 It is just another tool available for us when the
 12 time is needed.
 13 BY MR. WELLS:
 14 Q. Directing your attention to paragraph C
 15 on page 11 of your rebuttal report here. Paragraph
 16 C discusses the features that are specifically
 17 referenced in the Illinois statute. You know that
 18 those features Illinois -- on rifles that Illinois
 19 restricts; EG pistol grips, barrel shrouds,
 20 adjustable removable stocks and flash crushes do
 21 not serve any unique military purpose.
 22 What do you mean by "unique
 23 military purpose"?
 24 MR. BRADY: Objection. Mr. Wells, I just want

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1 to point out, I believe you said "rebuttal report."
 2 I'm not sure this is the rebuttal report.
 3 MR. WELLS: I'm sorry. The initial report.
 4 THE WITNESS: It is not unique to the civilian
 5 as they are to the military. So it is not unique,
 6 so you can have a comfortable grip, so you can
 7 sustain a longer duration of holding the weapon.
 8 It is not unique to have a
 9 barrel shroud that prevents your hand from getting
 10 hot if you did fire off 15, 20 rounds and the
 11 barrel started getting hot.
 12 Adjustable, removal stocks are
 13 critical to adjusting the weapon to fit the
 14 shooter's stature, whether it 6'6 or 5'1, so the --
 15 and we have seen zero evidence that a pistol grip
 16 versus a historic, slight curved buttstock enhances
 17 or detracts from accuracy or speed of engagement or
 18 mobility.
 19 It just tends to fit the natural
 20 lay of the hand with the thumb pointing upwards
 21 without any odd rotations. So it is comfortable
 22 longer, perhaps. But I don't gain or lose anything
 23 with a pistol grip. Compared to a mini-14, does
 24 not have a pistol grip.

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1 Barrel shrouds could be
 2 important for all of us. Barrels get hot. I don't
 3 know about removable buttstocks or why you would
 4 want to remove it at all but adjustable, absolutely
 5 made to fit the shooter.
 6 Q. And you mentioned barrel shrouds, and I
 7 think you mentioned that a barrel shroud is
 8 important when you are discharging, for instance 15
 9 or more rounds and the barrel gets hot. At what
 10 point in your experience, when you are discharging
 11 rounds from an AR-15, does the barrel start to get
 12 hot?
 13 MR. BRADY: Objection. Vague. Misstates the
 14 testimony.
 15 THE WITNESS: It also varies on the
 16 temperature outside. So, you know, December with
 17 20 degrees, I probably have double the time before
 18 July, 105 degrees, the barrel gets hot.
 19 In the military we wear gloves.
 20 So that retards the felt heat. Our new weapon
 21 systems have free-floating rails where we don't
 22 pull the barrel out of alignment because of some
 23 tension or stigmatic pressure. So there is
 24 different reasons for using those. So barrel

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1 shroud I use as a definition for a free-floating
 2 handguard rail, and the original M4s -- I'm sorry.
 3 The M16A2s have a -- M16A4 had a full rail, and we
 4 put these rubber manta rail covers on those to
 5 reflect heat away from our hands.
 6 Q. Do you agree that a pistol grip serves
 7 the same purpose on the military M4/M16 as it does
 8 on a civilian AR-15?
 9 MR. BRADY: Objection. Vague.
 10 THE WITNESS: If the same purpose is to have a
 11 comfortable handgrip and to pull the weapon
 12 slightly backwards, then yes.
 13 BY MR. WELLS:
 14 Q. Do you agree that the barrel shroud
 15 serves the same purpose on a military M4/M16, as it
 16 does on a civilian AR-15?
 17 MR. BRADY: Objection. Vague.
 18 THE WITNESS: It does. It just keeps my hand
 19 from getting hot.
 20 BY MR. WELLS:
 21 Q. Do you agree that a vertical foregrip
 22 serves the same purpose on a military M4/M16, as it
 23 does on a civilian AR-15?
 24 MR. BRADY: Objection. Vague.

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1 THE WITNESS: We've moved away from those
 2 vertical foregrips in the military. Civilians
 3 haven't yet. It tends to cause the weapon to be
 4 pulled downward on the shot, and it slows down the
 5 second and third follow on shots. That was also
 6 kind of a fad.
 7 My hand gripping the forward end
 8 and pulling backwards suffices.
 9 Q. Do you agree that it serves the same
 10 purpose vertical foregrip in the military as the
 11 phrase context?
 12 MR. BRADY: Objection. Vague.
 13 MR. WELLS: I'm using purpose in the same way
 14 in which you used it in your report when you used
 15 the phrase "unique military purpose".
 16 THE WITNESS: And I just said we moved away
 17 from them because they were hindering marksmanship.
 18 So the initial intent was to have a repeatable
 19 place to put your hand and pull backwards on the
 20 buttstock.
 21 There was negative consequence
 22 in doing so that pulled down on the barrel gun that
 23 shot and then created a marksmanship flaw.
 24 So the solution to that was to

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1 not use it as a place to grip the full hand, but to
 2 use it as a backstop to put my hand on the forend
 3 or the barrel, in this case, and pull backwards
 4 against that vertical grip as a means to get steady
 5 pressure backwards, stabilizing the shot.
 6 So it is an enhancement to
 7 accuracy. In that sense, yes. It is just as
 8 useful to enhance accuracy to a civilian than it
 9 might be useful to a military person.
 10 BY MR. WELLS:
 11 Q. Do you agree that a flash suppressor
 12 serves the same purpose on a military M4/M16 as it
 13 does on a civilian AR-15?
 14 MR. BRADY: Objection. Vague.
 15 THE WITNESS: I do. I don't like them. The
 16 flash suppressor is supposed to protect me, the
 17 shooter, from losing low-light vision from the
 18 flash of the muzzle but it served no purpose on
 19 managing recoil. I would prefer to see a muzzle
 20 brake that helped pull some recoil off of the
 21 shooter.
 22 They both have the same purpose
 23 -- is to prevent me from having night blindness
 24 from the flash of the unburnt powder escaping the

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1 barrel.
 2 Q. Does it have any role in avoiding being
 3 detected by the enemy?
 4 MR. BRADY: Objection. Vague.
 5 THE WITNESS: No. That flash is pretty good.
 6 We are not managing all of the powder burn, so the
 7 flash is still there. So flash suppressor is for
 8 the shooter, not for the enemy. Prevent the
 9 shooter from losing night vision -- night
 10 blindness.
 11 BY MR. WELLS:
 12 Q. I'm directing your attention to Exhibit
 13 4 to your rebuttal report, which, again, is TC 3229
 14 Bates-stamped May 13th, 2016, particularly page 46.
 15 The top of the page says "vertical foregrip." Do
 16 you see that?
 17 A. I do. I don't agree with it.
 18 Q. What specifically don't you agree with?
 19 A. In testing these on multiple targets --
 20 engaging this during the combat marksmanship
 21 development program, we tried to do this, and it
 22 forced us to overtravel. So when I shoot the first
 23 target, transition to the second and third targets,
 24 it forced us to over travel.

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1 The better position was just a
 2 hand on the foregrip in front of that vertical grip
 3 with a thumb pointing at the target.
 4 So the technique that was
 5 developed was shoot the first target, head and eyes
 6 towards the second target, and the thumb will
 7 immediately point the weapon at the target.
 8 The vertical foregrip does not
 9 support that behavior and slowed down engagements,
 10 increased misses. We stopped using it as it was
 11 designed. We didn't ask for it. It is called "the
 12 special operations modification kit." It just came
 13 with it. So everybody thought you were going to be
 14 -- you know, the next Navy SEAL if you used it. We
 15 stuck it on there. We tested it with a hindrance.
 16 BY MR. WELLS:
 17 Q. You disagree with the statement that
 18 vertical foregrips assist in transitioning from
 19 target to target in close-quarter battle combat?
 20 A. I do.
 21 Q. In making your recommendation about a
 22 weapon for self-defense, would you recommend
 23 against having a vertical foregrip?
 24 A. I would.

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1 Q. Do you agree that the same rules of
 2 physics in shooting fundamentals apply whether the
 3 person is using the firearm as in the military or
 4 not?
 5 MR. BRADY: Objection. Vague.
 6 THE WITNESS: Yes.
 7 BY MR. WELLS:
 8 Q. And those same rules of physics would
 9 apply to a 5.56, 545-millimeter-round fired from an
 10 M14 or M16 as to 5.56, 545-millimeter round fired
 11 from a civilian AR-15, correct?
 12 MR. BRADY: Objection. Vague. Compound.
 13 THE WITNESS: No, they are not. The physics
 14 of the M14 is going to show significant increase
 15 recoil impulse at heavier platform, longer
 16 platform, so pointing at target to target is going
 17 to be slower. Holding it up for any duration of
 18 time is going to be more difficult. And managing
 19 recoil to get the sight to follow on shots is going
 20 to be slower. So, no. I don't agree with that.
 21 BY MR. WELLS:
 22 Q. But in performing testing at your home
 23 on the M855 and M855A1 cartridges, you used
 24 civilian AR-15, correct?

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1 A. I did. Maybe I misunderstood the
 2 question because I thought you were talking about
 3 M14.
 4 Q. No. No. No. I'm sorry. I was asking
 5 about M4/M16.
 6 A. Oh. No. I'm sorry. I heard M14. No
 7 buffer system.
 8 So M14/M16, the trade space now
 9 is length and weight. The M4 is shorter. Your
 10 shorter barrel. That weight comes closer to my
 11 body. It is easier to manager. Easier to point
 12 faster. So let's start over and ask that question
 13 again.
 14 Q. Yes. I think it got confused. I think
 15 you may have heard me say M14. I'm not talking
 16 about the M14. I'm asking the basic question about
 17 a 556-by-45 millimeter NATO round that is shot from
 18 an M4 rifle, M4. The same rules of physics will
 19 apply to that 556 NATO round if it is shot from a
 20 civilian AR-15, correct?
 21 MR. BRADY: Objection. Vague.
 22 THE WITNESS: Yes. I think if you match up
 23 the systems, you know, the military just prescribed
 24 what we put on there. The civilian one might be

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1 lower impulse if we put on a muzzle brake. But the
 2 military will have a flashlight.
 3 Q. Okay. Give me just -- it is 4:11. Why
 4 don't we take a five-minute break real quick. I
 5 think I'm done. I just want to double-check here.
 6 So let's be back at 4:15.
 7 (Recess.)
 8 MR. WELLS: The clock struck 4:15, and we've
 9 been going for a long time. So I want to get you
 10 done here, Mr. Eby.
 11 BY MR. WELLS:
 12 Q. Before we wrap up, I do want to express
 13 my appreciation for your participation today. I
 14 think it's been a very helpful conversation to
 15 understand your testimony.
 16 In looking back on the testimony
 17 that you've given today, are there any answers or
 18 anything you wish to amend?
 19 MR. BRADY: Objection. Vague. Compound.
 20 THE WITNESS: No.
 21 MR. WELLS: I don't have any further questions
 22 at this time.
 23 THE WITNESS: May I ask you a question?
 24 MR. BRADY: No.

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1 MR. WELLS: Once we go off the record, I'd be
 2 happy to chat with you. Do you have anything?
 3 MR. BRADY: No, sir.
 4 MR. WELLS: Would you like to reserve
 5 signature? Sean said he would like to reserve
 6 signature.
 7 MR. BRADY: It is my understanding that Miss
 8 Duffy needs to get some clarification from the
 9 witness before there is a draft of the transcript.
 10 Pending that and his review, yes, reserved.
 11 MR. WELLS: So at this point, again, we are
 12 concluded and we can go off the record.
 13 FURTHER DEPONENT SAITH NAUGHT
 14 (Proceedings concluded at 4:30
 15 p.m.)
 16
 17
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1 IN THE UNITED STATES DISTRICT COURT
 2 FOR THE SOUTHERN DISTRICT OF ILLINOIS
 3 CALEB BARNETT, et al.,)
 4) No. 3:23-cv-209-SPM
 5 Plaintiffs,)
 6 Vs.) No. 3:23-cv-141-SPM
 7) No. 3:23-cv-192-SPM
 8) No. 3:23-cv-192-SPM
 9 KWAME RAOUL, et al.,)
 10)
 11 Defendants,)
 12)
 13)
 14)
 15 FEDERAL FIREARMS)
 16 LICENSEES OF ILLINOIS)
 17 , et al.)
 18 Plaintiffs,)
 19 vs.)
 20)
 21)
 22 JAY ROBERT "JB" PRITZKER,)
 23 Et al.)
 24 Defendants.)

I, JEFFREY EBY, state that I have
 read the foregoing transcript of the testimony
 given by me at my deposition on the 18th day of
 July, 2024, and that said transcript constitutes a
 true and correct record of the testimony given by
 me at said deposition except as I have so indicated
 on the errata sheet provided herein.

 JEFFREY EBY

No corrections (Please initial) _____
 Number of errata sheets submitted _____ (pages.)
 SUBSCRIBED AND SWORN to _____
 Before me this _____ day
 Of _____, 20____.

 NOTARY PUBLIC

1 STATE OF ILLINOIS)
2) SS:

3 COUNTY OF COOK)

4 I, Deborah A. Duffy, CSR, RPR, do hereby
5 certify that JEFFREY EBY was duly sworn by me to
6 testify the whole truth, and that the foregoing
7 deposition was recorded stenographically by me and
8 was reduced to computerized transcript under my
9 direction, and that the said deposition constitutes
10 a true record of the testimony given by said
11 witness.

12 I further certify that the reading and
13 signing of the deposition was not waived, and that
14 the deposition was submitted to SEAN BRADY,
15 plaintiff's counsel, for signature. Pursuant to
16 Rule 30(e) of the Federal Rules of Procedure, if
17 deponent does not appear or read and sign the
18 deposition within 30 days, the deposition may be
19 used as fully as though signed, and this
20 certificate will then evidence such failure to
21 appear as the reason for signature not being
22 obtained.

23 I further certify that I am not a relative or
24 employee or attorney or counsel of any of the
parties, or a relative or employee of such attorney
or counsel, or financially interested directly or
indirectly in this action.

IN WITNESS WHEREOF, I have hereunto set my
hand this 9th day of August, A.D. 2024.

Deborah A. Duffy

Deborah A. Duffy, CSR, RPR
Illinois CSR License 084-002516

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate.

The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

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