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9 *in his official capacity*¹

10 IN THE UNITED STATES DISTRICT COURT
11 FOR THE CENTRAL DISTRICT OF CALIFORNIA
12 WESTERN DIVISION
13

14
15 **STEVEN RUPP; STEVEN**
DEMBER; CHERYL JOHNSON;
16 **MICHAEL JONES;**
CHRISTOPHER SEIFERT;
17 **ALFONSO VALENCIA; TROY**
WILLIS; and CALIFORNIA RIFLE
18 **& PISTOL ASSOCIATION,**
INCORPORATED,

19 Plaintiffs,

20 v.

21
22 **ROB BONTA, in his official capacity**
as Attorney General of the State of
23 **California; and DOES 1-10,**

24 Defendants.
25

8:17-cv-00746-JLS-JDE

**SUPPLEMENTAL SUR-
REBUTTAL EXPERT REPORT
AND DECLARATION OF
COLONEL (RET.) CRAIG
TUCKER**

Courtroom: 8A
Judge: The Honorable Josephine
L. Staton

Action Filed: April 24, 2017

26
27 ¹ Rob Bonta has succeeded former Attorney General Xavier Becerra as the
Attorney General of the State of California. Pursuant to Federal Rule of Civil
28 Procedure 25(d), Attorney General Bonta, in his official capacity, is substituted as
the defendant in this case.

1 **SUPPLEMENTAL SUR-REBUTTAL EXPERT REPORT AND**
2 **DECLARATION OF COLONEL (RET.) CRAIG TUCKER**

3 I, Colonel (Ret.) Craig Tucker, declare under penalty of perjury that the
4 following is true and correct:

5 1. I have been asked by the Office of the Attorney General of the
6 California Department of Justice to prepare a sur-rebuttal expert report and
7 declaration responding to the February 3, 2023 Rebuttal Report of J. Buford Boone
8 III and in further support of my opinion that firearms covered by California Penal
9 Code § 30515 are designed and best suited for military use. This supplemental sur-
10 rebuttal expert report and declaration (“Report”) is based on my own personal
11 knowledge and experience, and, if I am called as a witness, I could and would
12 testify competently to the truth of the matters discussed in it.

13 2. Despite Mr. Boone’s assertion to the contrary, the entirety of my
14 declaration extensively explained, based on my experience, how the features
15 identified in California Penal Code § 30515(a) enhance the lethality of both
16 semiautomatic and automatic rifles, and why they are most appropriate for combat
17 applications when used in conjunction with those types of weapons systems.

18 3. The Armalite-15 (AR-15) and its derivatives from other manufacturers
19 are described as the “civilian version” of the M4/M16 military series. Generally, the
20 only difference between the two is that the M4/M16 can fire on automatic and the
21 AR-15 cannot. That means that the M4/M16 will continue firing rounds with a
22 single pull of the trigger until the trigger is released, the ammunition magazine is
23 emptied, or the weapon malfunctions. But all the other elements that make the
24 M4/M16 an assault weapon are present in the AR-15: 8 cycles of functioning (i.e.
25 feeding, chambering, locking, firing, unlocking, extracting, ejection, and cocking),
26 barrel rifling, rates of fire when fired semi-automatically, round caliber, internal,
27 external, and terminal ballistics, attachments, sights, rails—all are the same in the
28 civilian version and the military version.

1 4. The M16/M4 is a lightweight, 5.56 mm, air-cooled, gas-operated,
2 magazine-fed assault rifle, with a rotating bolt. The M16/M4 is a weapon of war
3 specifically designed to kill as many people as possible as quickly as possible. The
4 entire weapon is designed for efficient killing in rifle combat.

5 5. So is the AR-15. Same design. Same weapons purpose. Simply
6 labeling the civilian version of an M16 as a “sporting rifle” or a “hunting rifle” does
7 not change the true nature of the weapon of war, including its purpose and
8 capabilities. The AR-15 and M16/M4 are both designed to kill efficiently and
9 effectively and serve no legitimate use for personal self-defense.

10 6. In my opinion, a baseline requirement for claiming expertise on the
11 AR-15/M4 is to have employed the weapon, and employed it properly, consistent
12 with training and doctrine, during offensive and defensive rifle combat. In other
13 words, to have employed the weapon for its intended purpose. Assault rifle
14 “expertise” does not exist absent that experience. I have known many combat
15 heroes who could be considered assault rifle experts. Any individual claiming that
16 same expertise based on a lifelong “interest in firearms,” technical knowledge of
17 .223/5.56 ballistics, or some shooting trophies is not an expert on the suitability of
18 assault weapons for combat and dishonors those who are. Mr. J. Buford Boone III
19 had the opportunity to gain the appropriate level of expertise and experience while
20 fighting alongside heroes I served with. Yet he chose to not serve.

21 7. Despite Mr. Boone’s enumeration of the many different types of 5.56
22 and .223 projectiles, the fact remains that the AR-15 and M4/M16 fire similar
23 .223/5.56 rounds. The spiraling on the barrel is designed to cause the projectile to
24 yaw in flight after leaving the barrel. The “yaw” is designed to present the long axis
25 of the projectile upon impact with flesh. This ensures that the maximum mass and
26 energy is imparted from the projectile to the victim. Mr. Boone and I agree on this
27 point.

28

1 8. And while Mr. Boone may have general ballistics experience, it does
2 not appear that Mr. Boone has ever witnessed a .223/5.56 projectile strike a living
3 being, from a weapon whose distinguishing quality as a weapon of war is its ability
4 to inflict a maximum amount of damage to a human being. Mr. Boone mocks my
5 comments on .223/5.56 projectiles being capable of causing decapitation, or
6 wounds so large that they separate the upper body from the lower body. But I have
7 seen the results of that terminal velocity on a human being. The round strikes flesh
8 with maximum energy and mass, cavitates through the body, tumbling on a fairly
9 direct line until it contacts bone, at which point the bullet fragments tear out organs,
10 blood vessels, viscera, etc.

11 9. One example of such damage occurred during a particular fight during
12 the Second Battle of Fallujah. One of the Marines under my command was on a
13 third story roof, keeping overwatch, with the rest of my team in an adjacent alley
14 huddled over maps. Suddenly, there was an AK-47 burst of fire from the rear. The
15 Marine yelled a warning, exposing himself on the roof, and with his offhand, aimed
16 his M4 and killed the aggressor before the aggressor got a second shot off. The
17 projectile struck the aggressor in the shoulder, and exited through his groin, as
18 intestines, blood, and pieces of liver flowed out the exit wound.

19 10. Even setting aside the effects of .223/5.56 rounds (and similar AK-47
20 and -74 rounds) on adult male bodies, Mr. Boone forgets, or ignores, that adult
21 males are not the only victims of yawing, tumbling, rounds fired from an assault
22 weapon. I have seen the bodies of young children torn in half on the streets of Al
23 Rutbah. And it does not take much reading between the lines to understand the
24 effect of 5.56 rounds on first graders, or fourth graders.

25 11. Given that Mr. Boone did not serve in the military, his declaration
26 reflects his unfamiliarity with combat, military operations, military nomenclature,
27 and military training. I will address these each in turn:
28

1 12. Pistol grips and folding stocks: Pistol grips are not designed for safety.
2 Safety is not even a secondary consideration. In fact, Mr. Boone agrees with my
3 assessment that pistol grips on automatic weapons increase control in rapid-fire
4 scenarios, and therefore increase killing efficiency. This makes sense, since
5 automatic weapons are designed for efficient and effective killing by the military
6 and for use by law enforcement personnel, all of whom are taught proper weapons
7 handling and employment and are subject to rules of engagement and strictly
8 defined tactical controls.

9 13. Mr. Boone misunderstands my assessment of the danger of folding
10 stocks. While making sure a folding stock is properly locked is a pretty simple
11 process when you are sitting in a chair on a rifle range, that action is much more
12 complicated in combat or self-defense. Mr. Boone has never climbed out of a
13 burning vehicle into machine gun fire and in the adrenaline of the moment failed to
14 lock the folding stock on his M4. Mr. Boone does appear to concede that not all
15 folding stocks are stable, and I have personally witnessed as much during combat.

16 14. Changing magazines: I have 25 years of experience as an infantry
17 officer in the Marine Corps, including 14 months of continuous combat command,
18 after which I was responsible for training and certifying Marine infantry battalions
19 for combat. I know what I am talking about when I state that changing magazines is
20 the most important individual skill taught to Marines.

21 15. Rates of fire: Mr. Boone was apparently confused by my use of tactical
22 terms to describe the tactical function of automatic weapons.

23 16. There are two tactical and one physical rates of fire associated with an
24 automatic weapon. The rates provided below are the firing rates for automatic
25 weapons fired in semi-automatic mode
26
27
28

1 *Tactical rates of fire:*

2 17. Sustained rate of fire: 12-14 rounds per minute, when fired semi-
3 automatically. A ‘sustained’ rate of fire is the rate one can fire an automatic weapon
4 for a long period of time without undue wear and tear on the weapon.

5 18. Maximum rate of fire: 45 rounds per minute, when fired semi-
6 automatically. The “maximum” rate of fire is used for short range and short-term
7 engagements, for short periods of time.

8 19. Tactical rates of fire: depends on the type of fire-rate used in fire
9 commands—i.e. soldiers are ordered to fire at a sustained or maximum rate
10 depending on the tactical situation.

11 *Physical rates of fire:*

12 20. Physical rates of fire refer to the “cyclic rate,” or maximum rate at
13 which the firearm can go through a full cycle of operation. The cyclic rate is 700-
14 970 rounds per minute.

15 21. In my previous declaration I used the maximum rate of fire (45 rpm) to
16 illustrate the inanity of using an assault weapon as a self-defense weapon. I stand by
17 that conclusion.

18 22. The sustained and maximum rates of fire for the AR-15 mirror the M4
19 at 12-14 rounds-per-minute and 45 rounds-per-minute, respectively, when fired
20 semi-automatically.

21 23. Mr. Boone’s assessment that any weapon can have the same rate of
22 fire as an assault weapon fails to account for the other attributes of AR-platform
23 rifles and automatic M4s that make them particularly dangerous. In any event, Mr.
24 Boone’s assessment is inaccurate. As an example, a Ruger revolver has an
25 approximate cyclic rate of 20 rounds per minute and the Colt Model 70 has an
26 approximate cyclic rate of 50 rounds per minute, compared to the cyclic rate of
27 automatic weapons of 700-970 rounds per minute.

1 24. Forward pistol grip: Mr. Boone agrees with me that pistol grips are
2 used for ergonomics and control. As the purpose of the automatic weapon is to kill
3 efficiently, ergonomics and control increase that killing efficiency. For purposes of
4 clarification, I used “short barrel” to refer to the length of the M4 barrel compared
5 to the M16 barrel. I stand by my comments in that regard.

6 25. Flash suppressors: Regarding night vision: it takes 20-40 minutes to
7 gain night vision and 2-20 minutes to regain night vision if it is interrupted by any
8 light source, including muzzle flash with or without a flash suppressor. In other
9 words, the recovery time is not impacted by whether or not an assault weapon has a
10 flash suppressor; the amount of flash generated by firing an assault weapon—even
11 with a flash suppressor—impacts the shooter’s vision in a similar way. So the type
12 of “night vision recovery” that Mr. Boone describes is not an issue if there is no
13 flash suppressor on the weapon. This is yet another reason AR-15s are poor self-
14 defense weapons. As I stated in my declaration, flash suppressors mitigate muzzle
15 flash impact on night vision goggles used in combat. Mr. Boone does not dispute
16 that. The impact of full muzzle flash is compounded when a soldier is wearing night
17 vision goggles because those goggles are designed to magnify contrasting light. The
18 flash suppressor blunts that, to some extent. But without such goggles (such as
19 non-combat self-defense), this purpose of the flash suppressor is negated.

20 26. Use for sport: Assault weapons serve no legitimate hunting purpose
21 because the terminal ballistics of the projectile ruin the meat. And in my opinion, it
22 is not appropriate to use weapons of war just for sport.

23 27. Defensive use: Mr. Boone is incorrect in stating that all legal law
24 enforcement use of firearms is defensive in nature. Special Weapons and Tactics
25 Teams (SWAT) are specifically designed for offensive operations and are thus
26 armed with assault weapons for offensive operations, but pistols for self-defense.

27 28. In fact, I cannot bring to mind a single law enforcement agency,
28 military organization, or para-military organization that employ assault weapons as

1 the primary firearm for self-defense purposes. To my knowledge, all of those
2 organizations use pistols for self-defense and close combat—proof of how those
3 organizations view the viability of assault weapons as the self-defense weapon of
4 choice.

5 29. Mr. Boone is correct that if my regiment were attacked with long range
6 rifle fire, I would respond with every weapon system at my disposal except the M4.
7 (The M16 is much more effective in defensive combat than the M4.) But that is in
8 the military context. It does not make assault weapons necessary for self-defense.
9 The reality is that, in the defensive context, assault weapons (especially with more
10 than 10 rounds) are unnecessary. It rarely takes more than a couple of rounds to
11 incapacitate an intruder. Any fantasy of fighting machine gun battles in your living
12 room is exactly that: a fantasy. Self-defense gun battles, should they come to pass,
13 are generally fought with combatants in close proximity, with few if any shots
14 fired.

15 30. Mr. Boone describes what he calls “Close Quarters Combat,” or CQB.
16 Neither of these are terms recognized by the Department of Defense or any of the
17 military services. Close Quarters Battle (CQB) was a training technique employed
18 by special operations forces engaged in direct action or precision raids. The .45
19 caliber pistol was the weapon of choice for those units, not the M4 or M16. CQB
20 describes a training method, not a tactical method. Mr. Boone claims that “[o]ver
21 the past 20 years, there has been news coverage of U.S. Marines engaged in or on
22 their way to potentially engage in CQB” that “were armed with M4 or M16 style
23 carbines/rifles and/or squad automatic weapons.”

24 31. What Mr. Boone likely observed on his TV or in the press was
25 Marines, Soldiers, Sailors, and Airmen engaged in offensive rifle combat in an
26 urban environment—heroic young men and women earning the right to be called
27 expert riflemen. Again, Mr. Boone’s observations have nothing to do with self-
28 defense.

