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11 IN THE UNITED STATES DISTRICT COURT  
12 FOR THE EASTERN DISTRICT OF CALIFORNIA

13 IVAN PENA, et al.,  
14 Plaintiffs,  
15 v.  
16 STEPHEN LINDLEY,  
17 Defendant.

**CASE NO: 2:09-CV-01185-KJM-CKD**  
**DECLARATION OF LAWRENCE G. KEANE**

**DECLARATION OF LAWRENCE G KEANE**

- 1  
2 1. My name is Lawrence G. Keane. I am over 18 years of age and if called to testify I can  
3 and will competently provide information concerning the following.
- 4 2. I am Secretary and General Counsel to the Sporting Arms and Ammunition  
5 Manufacturers' Institute ("SAAMI"). I am also the chairman of the SAAMI Legislative  
6 and Legal Affairs Committee.
- 7 3. Formed in 1926 at the request of the Federal government, SAAMI is a Connecticut based,  
8 not-for-profit, tax exempt 501(c)(6) association of the nation's leading manufacturers of  
9 firearms, ammunition, propellants and components. SAAMI routinely publishes  
10 voluntary industry standards and technical data related to firearms and ammunition to  
11 promote safe firearm practices. The American National Standards Institute ("ANSI") has  
12 accredited SAAMI as a standards development organization ("SDO") for the firearm  
13 industry's test methods, definitive proof loads, and ammunition performance standards.  
14 SAAMI is the nation's leading authority with respect to firearms and ammunition  
15 technical matters.
- 16 4. I am also Senior Vice President, Assistant Secretary, and General Counsel to the National  
17 Shooting Sports Foundation ("NSSF"). NSSF is the trade association for America's  
18 firearms, ammunition, hunting and recreational shooting sports industry. NSSF is a  
19 Connecticut based 501(c)(6) tax exempt, nonprofit corporation. NSSF's mission is to  
20 promote, protect and preserve hunting and the shooting sports. Founded in 1961, NSSF's  
21 membership includes more than 10,000 federally licensed firearms and ammunition  
22 manufacturers, distributors and retailers, companies that manufacture, distribute and sell  
23 shooting and hunting related goods and services, public and private shooting ranges, and  
24 sportsmen's organizations, individual hunters and recreational target shooters. Many  
25 NSSF members reside in the State of California. NSSF's members sell the firearms and  
26 ammunition used by the United States military and by federal, state and local law  
27 enforcement personnel, including California law enforcement agencies, to protect the  
28 national security of the United States and to keep American communities safe. NSSF's  
members sell semi-automatic pistols, and other firearms, ammunition and related  
products to hunters, sportsmen and gun owners throughout the United States, including  
California residents, who use those firearms for self-protection and other lawful purposes.  
NSSF members provide the lawful commerce in firearms and ammunition that makes the  
exercise of Second Amendment rights possible. The provisions of California law at issue  
in this case have a direct and material effect on the lawful commerce in firearms.
5. Through my association with both SAAMI and NSSF I am familiar with federal and state  
laws, including California's Unsafe Handgun Act ("UHA"), its history, requirements, and  
its effect on firearm manufacturers, dealers, distributors, and the general public. Through  
my association with SAAMI and NSSF I am familiar both with the California  
Department of Justice's interpretations of the UHA and how it implements and enforces

1 those interpretations.

- 2
- 3 6. The UHA requires handguns to be tested and to be equipped with certain mechanical
- 4 features before they can be lawfully sold to the California public by licensed firearms
- 5 dealers.<sup>1</sup> Once a handgun passes the required tests and is equipped with the required
- 6 mechanical features it can be placed on the “Roster of Handguns Certified for Sale”
- 7 (“Roster”).<sup>2</sup> Generally, if a handgun does not appear on the Roster, it cannot be sold to
- 8 the general public by a licensed firearms dealer in California.<sup>3</sup>
- 9
- 10
- 11 7. When the UHA’s Roster requirement was first enacted, handguns needed to pass the
- 12 testing set forth in then-California Penal Code sections 12127 and 12128 (2001) (i.e.,
- 13 drop testing and test firing) and to be equipped with certain mechanical features.<sup>4</sup> Senate
- 14 Bill 15 (Polanco)(1999). This became a requirement on Jan 1, 2001.
- 15
- 16 8. In 2003, Senate Bill 489 (Scott) passed requiring that, as of January 1, 2006, before any
- 17 centerfire semiautomatic pistol could be added to the Roster, it must have either a
- 18 “chamber load indicator” that indicates a cartridge is in the firing chamber or a
- 19 “magazine disconnect mechanism” that prevents the pistol from operating to strike the
- 20 primer of ammunition in the firing chamber when a detachable magazine is not inserted
- 21 in the pistol.<sup>5</sup> The bill also required, commencing January 1, 2007, all centerfire
- 22 semiautomatic pistols to have both of these features before they could be added to the
- 23 Roster. This bill also required, as of January 1, 2006, rimfire semiautomatic pistols to
- 24 have a magazine disconnect mechanism, if the pistol possessed a detachable magazine.

17 <sup>1</sup> California Penal Code § 31900, et seq. All references to code sections are to the 2014

18 California Penal Code unless otherwise indicated.

19 <sup>2</sup> The website for the Roster may be viewed at <http://certguns.doj.ca.gov> (Last visited

20 June 29, 2014).

21 <sup>3</sup> There are limited exceptions to the UHA’s requirement, most notably for sales to

22 members of law enforcement and military. Cal. Pen. § 32000(b)(4). Additionally, used handguns

23 that are not on the Roster, may be transferred between private parties, pawned, and between

24 immediate family members and spouses. Cal. Pen. § 32110(a), (b), and (f).

25 <sup>4</sup> In 2010, California adopted Senate Bill 1080 (2010), which reorganized the numbering

26 and content of certain statutes in the Penal Code concerning the regulation of firearms without

27 changing them substantively. Currently, these statutes can be found in Cal. Penal Code Pt. 6,

28 Control of Deadly Weapons For revolvers: The handgun had to have a safety device that, either

automatically in the case of a double-action firing mechanism, or by manual operation in the case

of a single-action firing mechanism, causes the hammer to retract to a point where the firing pin

does not rest upon the primer of the cartridge. For pistols: The handgun must have a positive

manually operated safety device, as determined by standards relating to imported guns

promulgated by the federal Bureau of Alcohol, Tobacco, Firearms, and Explosives. Cal. Penal

Code § 31900.

<sup>5</sup> Cal. Penal Code § 31910 (originally found in subsections (a) & (b) of Cal. Penal Code

§ 12126).

**Microstamping**

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- 2
- 3 9. Since 2010, California law has required that in order for a new model semiautomatic
- 4 pistol to be placed on the Roster for sale in California it must be "designed and equipped
- 5 with a microscopic array of characters that identify the make, model, and serial number
- 6 of the pistol, etched or otherwise imprinted in two or more places on the interior surface
- 7 or internal working parts of the pistol, and that are transferred by imprinting on each
- 8 cartridge case when the firearm is fired, provided that the Department of Justice certifies
- 9 that the technology used to create the imprint is available to more than one manufacturer
- 10 unencumbered by any patent restrictions." Penal Code Section 31910(b)(7)(A).<sup>6</sup>
- 11
- 12 10. This "microstamping" requirement, however, did not go in to effect on January 1, 2010
- 13 because the California Department of Justice had not certified, as required by the law,
- 14 that "the technology used to create the imprint is available to more than one manufacturer
- 15 unencumbered by any patent restrictions."
- 16
- 17 12. On May 17, 2013, the California Department of Justice certified that microstamping
- 18 technology was unencumbered by any patent restrictions. See attached Exhibit A.
- 19
- 20 13. The Attorney General's certification triggered the requirement that any new
- 21 semiautomatic pistol model be designed and equipped with microstamping technology as
- 22 a prerequisite for it to be accepted for testing to be added to the Roster.
- 23

**"Similar Handgun" Exemption**

- 24 14. Every year a firearm manufacturer must renew each handgun's place on the Roster by
- 25 paying an annual fee. Cal. Pen. § 32015(b)(2). In addition to the fee, DOJ requires each
- 26 manufacturer to certify under penalty of perjury that each firearm was not modified in
- 27 any way from the firearm that was tested or listed as "similar" and that the information
- 28 concerning the firearm (the make, model, caliber, barrel length, material(s)) is correct. If
- the handgun is modified or the information is incorrect the manufacturer must specify the
- modification or correct the information. (See attached Exhibit B, "Department of Justice
- Handgun Roster Listing Fee Renewal Request.") DOJ may retest up to 5% of the
- handguns on the Roster and remove them should they fail retesting. Cal. Pen. § 32030.
15. Firearms already on the Roster before the implementation of each new additional
- "mechanical requirement" (i.e., chamber load indicator, magazine disconnect, and
- microstamping) were "grandfathered"<sup>7</sup> and do not need the additional mechanical

<sup>6</sup> The "microstamping" requirement was originally codified in section 12126. However, pursuant to Senate Bill 1080 (2010) section 12126 was repealed and reenacted without substantive change as section 31910.

<sup>7</sup> See sections 12126(b)(4)-(6) (2004) and 31910(b)-(7) (2014), stating those pistols

1 features, provided their place on the Roster was maintained by payment of the required  
2 annual fees and execution of certifications.<sup>8</sup>

3  
4 16. The only handguns the UHA allows to be added to the Roster without them being  
5 equipped with its “mechanical requirements” (chamber load indicator, magazine  
6 disconnect mechanism, and microstamping) are those that are virtually identical to a  
7 handgun already on the Roster, except for certain limited cosmetic differences. Cal. Pen.  
8 § 32030.

9  
10 17. More specifically, Section 32030 states that a handgun does not need to be tested in order  
11 to be put on the Roster if “another firearm made by the same manufacturer is already  
12 listed [on the Roster] and the unlisted firearm differs from the listed firearm only in one  
13 or more of the following features:

14 (1) Finish, including, but not limited to, bluing, chrome-plating, oiling, or  
15 engraving.

16 (2) The material from which the grips are made.

17 (3) The shape or texture of the grips, so long as the difference in grip shape or  
18 texture does not in any way alter the dimensions, material, linkage, or  
19 functioning of the magazine well, the barrel, the chamber, or any of the  
20 components of the firing mechanism of the firearm.

21 (4) Any other purely cosmetic feature that does not in any way alter the  
22 dimensions, material, linkage, or functioning of the magazine well, the

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23 “already listed on the roster pursuant to Section 12131 [or Section 32015, as section 12131 was  
24 renumbered],...” are not considered “unsafe handguns” without possessing the “mechanical  
25 requirements” after the date each requirement became effective. (As awkward as the double  
26 negative sounds, that is exactly how it is phrased in the Penal Code).

27 <sup>8</sup> See section 32015(b)(2). “If the manufacturer/importer or other responsible person fails  
28 to comply with these renewal requirements [referring to the annual renewal], the handgun model  
listing shall expire by operation of law at midnight on the date of expiration of the listing and the  
model will be removed from the Roster.” 11 CCR § 4071(d). In order to be placed back on the  
Roster a handgun would need to pass the testing requirements and possess the mechanical  
features that the UHA currently requires for eligibility on the Roster. Cal. Pen. §§ 31910, 32010,  
and 32015. Put more simply, those handguns would no longer be “grandfathered” and would be  
deemed immediately and permanently “unsafe” for failure to pay the state a fee, but if the fee  
was paid they would be deemed “not unsafe.”

1 barrel, the chamber, or any of the components of the firing mechanism of  
2 the firearm.”<sup>9</sup>

3 18. In firearm industry parlance this is known as the "similar handgun" exemption.  
4 Manufacturers who wish to add a “similar handgun” to the Roster shall “provide to the  
5 [California] Department of Justice all of the following:

6 (1) The model designation of the listed firearm.

7 (2) The model designation of each firearm that the manufacturer seeks to have  
8 listed under this section.

9 (3) A statement, under oath, that each unlisted firearm for which listing is  
10 sought differs from the listed firearm only in one or more of the ways  
11 identified in subdivision (a) and is in all other respects identical to the  
12 listed firearm.”<sup>10</sup>

13 **Handguns Currently on the Roster**

14 19. The scope of the “similar handgun” exemption is very narrow. As explained above,  
15 manufacturers must provide an annual certification to the California DOJ for handguns  
16 on the Roster detailing any changes to a listed handgun. In my capacity with SAAMI and  
17 NSSF, I have learned that it is the California DOJ’s position that handguns currently on  
18 the Roster will be considered “new models” if they have the slightest modification  
19 (beyond mere cosmetics), no matter how minor. Accordingly, in order for them to  
20 remain on the Roster they must be retested for compliance with all of the UHA’s  
21 respective requirements, which now include microstamping, chamber load indicator and  
22 magazine disconnect. So, for example, if a manufacturer of a semiautomatic handgun  
23 model that has been on the Roster since 2004 outsources a single, minor component part  
24 for the pistol from a different vendor who uses a different manufacturing process, e.g.  
25 metal injection molding (MIM) versus forging, to make the part, DOJ considers that  
26 handgun to be a “new model.” Another example, a manufacturer figures out a  
27 metallurgical way to make a component part stronger, more durable and reliable with less  
28 metal and consequently the part’s dimensions change. DOJ would deem that handgun a  
“new model.” In both examples in order to be eligible for the Roster the semiautomatic  
pistol would have to be equipped with microstamping, as well as a magazine disconnect  
mechanism and a chamber load indicator.

20. As a result, since May 16, 2013, unless a manufacturer keeps frozen the precise design  
and manufacturing process of its pistols on the Roster and has not altered any aspect of it  
beyond mere cosmetics, a semi-automatic pistol is ineligible to be sold in California

<sup>9</sup> § 32030(a)

<sup>10</sup> § 32030(b)

1 without being equipped with microstamping.<sup>11</sup> This creates a dilemma because it is a  
2 natural part of the manufacturing process of any product to make minor improvements  
3 and enhancements to a product and the manufacturing process to increase efficiencies,  
4 reduce cost, and to improve durability, safety and reliability---handguns are no exception--  
5 --but handgun manufacturers cannot to do so because it is impossible for them to meet  
6 the UHA's then applicable microstamping requirements.

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21. To date, I am not aware of a single handgun manufacturer worldwide that has produced a  
13 functioning, commercially available semiautomatic pistol designed and equipped with "a  
14 microscopic array of characters that identify the make, model, and serial number of the  
15 pistol" etched or otherwise imprinted in two or more places on the interior surface or  
16 internal working parts of the pistol, and that are transferred by imprinting on "each  
17 cartridge case when the firearm is fired." I am unaware of any handgun manufacturer  
18 who has attempted, or is even considering trying, to design and equip a semiautomatic  
19 pistol incorporating this technology. NSSF and SAAMI handgun manufacturers have  
20 informed me and stated publicly that they cannot comply with California's  
21 microstamping requirements and have no plans to attempt to do so. The reason is simple,  
22 microstamping does not work.
- 23  
24
22. Independent, peer-reviewed studies, including ones by the inventor of microstamping,  
25 Todd Lizotte, have confirmed that firearm microstamping is unproven and unreliable to  
26 perform in the manner that the UHA requires. It is incapable of consistently and reliably  
27 imprinting a complete and fully legible "microscopic array of characters that identify the  
28 make, model, and serial number of the pistol" on "each cartridge case when the firearm is  
fired." It certainly cannot produce the required markings at two locations on the cartridge  
case, as required by the law. In fact, firearms microstamping technology does not leave  
any mark at all on the cartridge casing, rather the incomplete and illegible markings are  
left on the primer, which is a separate part of a cartridge of ammunition.<sup>12</sup>
23. A study by Prof. George G. Krivosta titled "NanoTag Markings from Another  
Perspective," published in the Winter 2006 edition of the Journal of the Association of  
Firearms and Toolmarks Examiners (Volume 38, Number 1), found that "the weapon  
producing the highest percentage of readable impressions was incapable of firing three  
shots in a row." This is problematic because in order to be eligible for listing on the  
Roster, the UHA requires that each of three identical pistols "[f]ires the first 20 rounds  
without a malfunction that is not due to ammunition that fails to detonate." § 31905(c)(1).

<sup>11</sup> This same issue presented itself earlier when successive additional mechanical requirements were added to law, i.e. magazine disconnect mechanism and chamber load indicator. The difference now is that, as explained herein, it is simply impossible for a manufacturer to comply with the UHA's microstamping requirement.

<sup>12</sup> See SAAMI Glossary of Terms <http://www.saami.org/glossary/> (last visited on July 7, 2014) defining a "cartridge" a "single round of ammunition consisting of the case, primer and propellant with or without one or more projectiles..." and defining separately the components including "cartridge case" and "primer."

1 Prof. Krivosta's study concluded that "[c]ertainly this research has shown that  
2 implementing this technology will be much more complicated than burning a serial  
3 number on a few parts and dropping them into firearms being manufactured," and urged  
4 further research. See attached Exhibit C.

4 24. In a study published in 2008 by U.C. Davis titled "What Micro Serialized Firing Pins Can  
5 Add to Firearm Identification in Forensic Science: How Viable Are Micro-Marked Firing  
6 Pin Impressions as Evidence?," the authors David Howitt, Ph.D., Frederic A. Tulleners  
7 and Michael T. Beddow of the Forensic Science Graduate Group at the University of  
8 California at Davis explained that their testing showed that "[t]he legibility and quality of  
9 the micro-stamped characters . . . varied among the set of firearms tested" and that  
10 different firing pins varied in how they retained the microstamp imprint after use. The  
11 U.C. Davis study concludes that "because its forensic potential has yet to be fully  
12 assessed, a mandate for the implementation of this technology in all new semi-automatic  
13 handguns sold in the State of California is counter-indicated." See attached Exhibit D.

11 25. A 2008 study published by the National Research Council ("NRC") titled "Ballistic  
12 Imaging, National Academies' Committee to Assess the Feasibility, Accuracy and Technical  
13 Capability of a National Ballistics Database," found that:

14 for such a technology to be implemented successfully, in-depth  
15 investigations on several topics are needed. These topics include the  
16 reliability and durability of the marks in a variety of firing conditions,  
17 their susceptibility to tampering and countermeasures, whether it would be  
18 best to place them on guns or ammunition or both, and the cost  
19 considerations and feasibility of adding a microstamping process to  
20 established manufacturing processes.

19 As the NRC committee's report explains, Todd Lizotte made a presentation on this  
20 technology to the committee prior to the publication of that committee's report ("Todd  
21 Lizotte of Hitachi Via Electronics attended a committee meeting and generously spent  
22 time discussing the microstamping of firing pins and other firearm parts at his facility in  
23 Londonderry, New Hampshire." at R14).

23 26. In light of the important questions raised in the various studies about microstamping's  
24 unreliability and infeasibility, SAAMI and NSSF have both consistently called for a  
25 comprehensive federal study to address those questions before microstamping should be  
26 mandated. Their legitimate concerns have been vindicated by the very inventor of  
27 firearm microstamping technology, Todd Lizotte, when he conceded in his article,  
28 "Clarity of Microstamped Identifiers as a Function of Primer Hardness and Type of  
Firearm Action" that "it is apparent that legitimate questions exist related both to the  
technical aspects, production costs, and database management associated with  
microstamping that should be addressed before wide scale implementation is legislatively  
mandated." This article appeared in the Spring 2012 edition of the AFTE Journal



1 (Volume 44 Number 2), approximately a year and a half *after* Penal Code section 31910,  
2 subdivision (b)(7)(A) (the microstamping requirement) was enacted. See attached  
3 Exhibit E.

4 27. This means that Mr. Lizotte did not believe his invention was ready to be commercially  
5 mandated at the time the microstamping requirement became effective in May of 2013  
6 with California Department of Justice's certification. And, Mr. Lizotte has since stated in  
7 a subsequent study in the Winter 2013 edition of the AFTE Journal (Volume 45, Number  
8 D), titled "Gear Code Extraction from Microstamped Cartridges," that "complete  
9 recognition is still not possible in all cases." See attached Exhibit F. But the UHA  
10 requires that each of three handguns of the same model seeking to be added to the Roster  
11 not only produces complete and fully legible microstamp markings on the first two  
12 casings they fire, but also that each produces such markings on two additional casing  
13 after each has been fired over 600 times, and that the markings are double checked for  
14 accuracy. California Code of Regulations, Title 11 § 4060(h). In other words, the UHA  
15 requires that there be complete recognition in all cases during testing; a feat the  
16 independent studies demonstrate and the inventor Mr. Lizotte now admits is not possible.

17 28. The Department of Justice's certification in May of 2013 was merely that Mr. Lizotte's  
18 microstamping technology "is available to more than one manufacturer unencumbered by  
19 any patent restrictions." This certification was not a determination or assessment by  
20 California DOJ that the technology actually works in the manner the statute requires.  
21 Many things that cannot actually be done have been patented. Nor is it a certification that  
22 the technology can reliably produce California's desired effect, provide law enforcement  
23 with an additional tool to solve crimes.<sup>13</sup> I am unaware of a single study by any  
24 criminologist suggesting that microstamping would be an effective law enforcement tool.

25 29. The Krivosta and U.C. Davis studies demonstrate that the shallow<sup>14</sup> microscopic  
26 markings micro-laser engraved or etched on to the tip of a firing pin can be easily  
27 removed from the firing pin in mere seconds using something as common and simple as  
28 an emery board or sandpaper. In other words, those seeking to perform criminal acts  
with a handgun could easily prevent their handguns from leaving an identifying mark on  
casings. *See also* Dorothy Kenney, *Firearm Microstamp Technology: Failing Daubert  
and Federal Rules of Evidence 702*, 38 Rutgers Computer & Tech L.J. 199(2012).

30. The firing pin is the most commonly damaged, e.g. chipped, and replaced part of a  
firearm. After-market replacement parts are widely available, including firearm pins. A  
microstamped firing pin can be removed and replaced, either as a common repair or for  
the purpose of evading the "technology," very quickly, easily and inexpensively.

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<sup>13</sup> See Assem. Floor Analysis, Assem. Bill No. 1471, as amended July 11, 2007 p. 3.

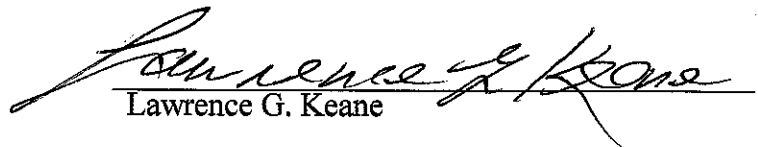
<sup>14</sup> The markings are only 25 microns in depth, or about half the diameter of a human hair.

1 31. In sum, the UHA now requires new semi-automatic pistol models or existing models with  
2 minor improvements to be designed and equipped with a microstamping technology that  
3 independent research conclusively proves, and the inventor himself concedes, does not  
4 work as mandated. Because the microstamping requirement cannot be complied with, it  
5 is currently preventing scores of manufacturers, distributors and retailers from selling  
6 many semi-automatic pistol models in the State of California that are widely available in  
7 more or less every other state of the Union, because any such sales would subject them to  
8 criminal prosecution under California Penal Code section 32000, subdivision (a). It also  
9 denies to California consumers innovations for durability, safety and reliability of  
10 handgun models. They can only purchase those handguns on the Roster. But  
11 manufacturing is not a stagnant process for any industry, including firearms  
12 manufacturing. Manufacturers must, and will, make normal enhancements and  
13 improvements to the design and manufacturing process of their pistols. What will, and  
14 already is happening over time is that California residents will not be able to purchase the  
15 newest, most durable, reliable and safer handguns on the market that are available to  
16 consumers outside of California. This is not a theoretical problem. Major manufacturers  
17 of some of the most popular and reliable handguns in the country, like Sturm-Ruger &  
18 Co. and Smith & Wesson, have already announced they will not be able to continue to  
19 sell many of their handgun models in California because of the microstamping  
20 requirement. (Declarations from both manufacturers to that effect have previously been  
21 supplied to this Court). Companies have actually stopped doing business in California  
22 because of that requirement, not because they wished to cease operations there.

13 32. Over time more and more manufacturers will inevitably do the same, which means fewer  
14 and fewer pistol models being available to consumers in California, as federal law makes  
15 it illegal to purchase a handgun across state lines. 18 U.S.C. §§ 922(a)(3), 922(b)(3). So  
16 California residents have no other source of handguns. Many groups explained to the  
17 legislature and then Governor Schwarzenegger in 2007 when Assembly Bill No. 1471  
18 (Feuer) was being considered, that the microstamping requirement would constitute a de  
19 facto ban on handguns in California and they were correct.

17 I declare under the penalty of perjury under the law of the State of California that  
18 the foregoing is true and correct.

19 Executed this 7<sup>th</sup> day, of July 2014, at Newtown, Connecticut.

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21   
22 Lawrence G. Keane

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