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No. 12-1475

UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT

**FILED**  
**Aug 09, 2013**  
DEBORAH S. HUNT, Clerk

RODNEY PALATKA and JOANIE )  
PALATKA )  
 )  
Plaintiffs-Appellants, )  
 )  
v. )  
 )  
SAVAGE ARMS, INC., and )  
SAVAGE ARMS COMPANY, )  
 )  
Defendant-Appellee. )

ON APPEAL FROM THE UNITED  
STATES DISTRICT COURT FOR THE  
WESTERN DISTRICT OF MICHIGAN

Before: COLE and DONALD, Circuit Judges; RUSSELL, Senior District Judge.\*

RUSSELL, Senior District Judge. Rodney and Joanie Palatka (“Palatkas” or “Plaintiffs”) bring this action to recover for personal injuries Rodney sustained when a muzzleloading rifle manufactured by Savage Arms, Inc., and the Savage Arms Company (“Savage Arms” or “Defendant”) exploded during use. Relying on Michigan products liability law, the Plaintiffs alleged that the barrel failed because of design and manufacturing defects. They offered expert opinions in support of their claims.

Subsequent to a *Daubert* hearing, the district court excluded the Plaintiffs’ causation experts. Without experts, the district court determined that the Plaintiffs could not put forth an alternative design and were unable to show through direct or circumstantial evidence that the alleged manufacturing defect proximately caused Rodney’s injuries. Because the Plaintiffs lacked such

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\* The Honorable Thomas B. Russell, United States Senior District Judge for the Western District of Kentucky, sitting by designation.

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evidence, the district court granted summary judgment *sua sponte* to the Defendant. The Plaintiffs' now appeal the exclusion of their experts, the exclusion of allegedly similar incidents, and the district court's grant of summary judgment. Upon review, we affirm in part, reverse in part, and remand to the district court for further proceedings.

### **I. FACTUAL BACKGROUND**

Savage Arms manufactures a variety of firearms, including the Savage 10ML-II ("10ML-II"). The 10ML-II is available in two models, one with a traditional "blued" barrel and the other with a barrel made from 416R stainless steel.<sup>1</sup> The firearm at issue in this case is the stainless steel version of the gun. The 10ML-II is a muzzleloading rifle, meaning that it does not fire the self-contained, pre-loaded cartridges used in modern firearms. Instead, both the projectile and the expelling charge are manually loaded into the firearm through the open end of the barrel prior to firing.

Most modern muzzleloaders use black gunpowder to generate the force necessary to expel the projectiles at high velocities. Black powder has at least three perceived drawbacks, however. Upon firing, it produces less expelling force than modern gunpowder, creates large plumes of smoke that can obstruct the user's vision, and deposits soot in the barrel, requiring frequent cleaning. Unlike black-powder muzzleloaders, the 10ML-II is designed to use modern, "smokeless" gunpowder, which does not suffer from the drawbacks of black powder.

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<sup>1</sup> "416R" is the particular alloy of stainless steel used to manufacture the 10ML-II's barrel. 416R is one of many stainless steel alloys.

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Eldon Hofacker purchased a new 10ML-II from a federally licensed firearms dealer in 2002. In 2009, Rodney borrowed the gun from Hofacker for deer hunting. To ensure its accuracy, Rodney “sighted-in” the gun on November 14, 2009. During this process, the barrel of the muzzleloader exploded, severing two fingers from Rodney’s left hand, injuring the remaining portion of that hand, and severely damaging his right thumb. At the time of the accident, Rodney’s wife, Joanie, was pregnant with twins. She alleges that the stress and trauma surrounding this incident caused her to miscarry and lose both children.

As a result of their injuries, the Palatkas filed suit on June 30, 2010. They pursued recovery under five distinct theories: design defect, manufacturing defect, failure to warn, breach of express warranty, and breach of implied warranty. Joanie also filed a claim for loss of consortium. The Defendant denied all liability, claiming that Rodney’s injuries likely resulted from user error. In particular, the Defendant believed that the firearm may have exploded because it was under a “double-load,” meaning that Rodney fired the gun after accidentally loading it with two charges and two projectiles.

## **II. PROCEDURAL HISTORY**

Prior to granting summary judgment, the district court excluded two categories of evidence: allegedly similar incidents involving other 10ML-II rifles and the Plaintiffs’ causation experts, Dr. Clark Radcliffe and Dr. Martin Crimp. The Palatkas appeal these exclusions. They argue that the district court’s ultimate decision to grant summary judgment was in error because this evidence, had it been admitted, established genuine issues of material fact.

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The district court held two final pretrial conferences in this case. Following the first, held on March 16, 2012, the court issued a written opinion granting and denying certain motions *in limine*. Of particular importance on appeal, the court granted the Defendant's motion to exclude allegedly similar incidents involving other 10ML-II rifles. The court also amended the trial date and scheduled a second final pretrial conference to address other pretrial issues, including the pending motions to exclude the Plaintiffs' causation experts.

Dr. Radcliffe and Dr. Crimp were disclosed with several other experts on April 13, 2011. Most of the Plaintiffs' experts were either voluntarily withdrawn or excluded because their reports were not timely provided as required by Federal Rule of Civil Procedure 26(a)(2)(B). Accordingly, Dr. Radcliffe and Dr. Crimp were the Plaintiffs' only remaining causation experts at the time of the second conference.<sup>2</sup>

Dr. Radcliffe and Dr. Crimp's opinions were the subject of a *Daubert* hearing held in conjunction with the second final pretrial conference on April 10, 2012. Two days after the hearing, the district court issued a written opinion excluding Dr. Radcliffe and Dr. Crimp. Therein, the court also granted summary judgment *sua sponte* to Savage Arms pursuant to Federal Rule of Civil Procedure 56(f). Although the Defendant had not moved for summary judgment, the court concluded that "[w]ithout competent expert testimony addressing the pivotal causation and design issues in this case, a jury cannot reasonably discharge its duties in assessing liability[.]"

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J. Ivan Dickson was also disclosed as the Plaintiffs' expert for causation but was subsequently withdrawn as an expert.

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### III. MICHIGAN PRODUCTS LIABILITY LAW

The Plaintiffs appeal exclusion of their causation experts and the subsequent grant of summary judgment on their design and manufacturing defect claims. They brought claims under Michigan's products liability law. A brief review of that law will aid review on appeal.

#### A. Design Defect

The Plaintiffs allege that Rodney's injuries were caused by a design defect in the 10ML-II. The elements of a design defect claim have been codified in Michigan law. *See* Mich. Comp. Laws § 600.2946(2). To prevail on a design defect claim in that state, a plaintiff must prove that "(1) the product was not reasonably safe when it left the control of the manufacturer; and (2) a 'feasible alternative production practice was available that would have prevented the harm without significantly impairing the usefulness or desirability of the product to the users.'" *Croskey v. BMW of N. Am.*, 532 F.3d 511, 516 (6th Cir. 2008) (citing Mich. Comp. Laws § 600.2946(2)); *Gregory v. Cincinnati Inc.*, 538 N.W.2d 325, 329 (Mich. 1995)). The second prong of this test requires a "risk-utility" analysis. It "invites the trier of fact to consider the alternatives and risks faced by the manufacturer in designing the product and to determine whether in light of certain factors 'the manufacturer exercised reasonable care in making the design choices it made.'" *Croskey*, 532 F.3d at 516 (quoting *Prentis v. Yale Mfg. Co.*, 365 N.W.2d 176 (Mich. 1984)). The Sixth Circuit has held that a plaintiff meets this test by showing:

- (1) that the severity of the injury was foreseeable by the manufacturer;
- (2) that the likelihood of occurrence of her injury was foreseeable by the manufacturer at the time of distribution of the product;
- (3) that there was a reasonable alternative design available;
- (4) that the available alternative design was practicable;
- (5) that the available and practicable reasonable alternative design would have reduced the foreseeable risk of harm posed by the defendant's product; and
- (6) that omission of

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the available and practicable reasonable alternative design rendered defendant's product not reasonably safe.

*Hollister v. Dayton Hudson Corp.*, 201 F.3d 731, 738 (6th Cir. 2000). A plaintiff commonly shows that the defendant's product suffered from a design defect under the "risk-utility" factors "through a 'battle of the experts,' with both parties introducing expert testimony concerning the efficacy and practicability of using a certain design versus an alternative design." *Croskey*, 532 F.3d at 516. The plaintiff may also show that the defendant "knew or should have known about the risk [of injury] by introducing evidence of similar incidents involving the [same product]." *Id.*

## **B. Manufacturing Defect**

The Plaintiffs also claim that Rodney's injuries were proximately caused by a manufacturing defect unique to the 10ML-II at issue. In Michigan, "[a] manufacturer will be held liable for manufacturing defects existing at the time of manufacture and sale." *Gregory*, 538 N.W.2d at 328 n.7. To prove a manufacturing defect, a plaintiff "must prove a defect attributable to the manufacturer and [a] causal connection between that defect and the injury or damage of which he complains." *Crew v. Gen. Motors Corp.*, 253 N.W.2d 617, 619 (Mich. 1977) (quoting *Piercefield v. Remington Arms Co.*, 133 N.W.2d 129, 135 (1965)). When pursuing a manufacturing defect claim, the product at issue is to be "evaluated against the manufacturer's own production standards, as manifested by that manufacturer's other like products." *Prentis*, 365 N.W.2d at 182. A claim based on a manufacturing defect is different than one premised on a design defect because it "necessitates examination of the product itself rather than the manufacturer's conduct." *Gregory*, 538 N.W.2d at 329, n.10. In other words, the trier of fact is not required to make a reasonableness

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determination. The plaintiff must merely show: (1) the product was not produced in conformity with the manufacturer's specifications, and (2) the defect proximately caused of the plaintiff's injuries.

#### **IV. EXPERT WITNESSES**

The Plaintiffs first appeal exclusion of their causation experts. Upon review, we conclude that the district court abused its discretion by excluding Dr. Radcliffe and Dr. Crimp. These experts were qualified and offered reliable opinions that would have helped the jury weigh the issues and apply Michigan's products liability law. Accordingly, the district court erred by excluding them.

##### **A. Standard of Review**

Under Federal Rule of Evidence 702, "[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:"

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. The trial judge is the "gatekeeper" of expert evidence and determines its admissibility under Rule 702. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 142 (1997). As gatekeeper, "the trial judge has discretion in determining whether a proposed expert's testimony is admissible based on whether the testimony is both relevant and reliable." *Rose v. Truck Ctrs., Inc.*, 388 F. App'x 528, 533 (6th Cir. 2010) (citing *Johnson v. Manitowoc Boom Trucks, Inc.*, 484 F.3d 426, 429 (6th Cir. 2007)). When making that determination about a particular expert, the judge must assess "whether the reasoning or methodology underlying the testimony is scientifically valid and . . .

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whether that reasoning or methodology properly can be applied to the facts in issue.” *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592-93 (1993).

A district court’s decision to admit or exclude an expert witness is reviewed for an abuse of discretion. *See Joiner*, 552 U.S. at 146 (“[A]buse of discretion is the proper standard by which to review a district court’s decision to admit or exclude scientific evidence.”) “A district court abuses its discretion if it bases its ruling on an erroneous view of the law or on a clearly erroneous assessment of the evidence.” *Brown v. Raymond Corp.*, 432 F.3d 640, 647 (6th Cir. 2005) (internal quotation marks omitted). “[W]e will not substitute our own judgment for that of the district court and will reverse an evidentiary decision ‘only where we are left with a definite and firm conviction that [the district court] committed a clear error of judgment.’” *In re Scrap Metal Litig.*, 527 F.3d 517, 528 (6th Cir. 2008) (quoting *Conwood Co., L.P. v. U.S. Tobacco Co.*, 290 F.3d 768, 781 (6th Cir. 2002)).

#### **B. Dr. Clark Radcliffe**

The Plaintiffs’ first causation expert, Dr. Clark Radcliffe, is a professor of mechanical engineering at Michigan State University. After examining the firearm, Dr. Radcliffe concluded that the entire 10ML-II product line suffered from a design defect and that the particular 10ML-II Rodney used also suffered from a manufacturing defect. In particular, he concluded that the gun barrel failed because a threaded hole installed at the rear of the barrel made the barrel weaker and more susceptible to failure when fired.<sup>3</sup>

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<sup>3</sup> Dr. Radcliffe also opined that an improper material had been used to manufacture the gun barrel. But the Court need not consider this opinion because on cross-examination at the *Daubert* hearing Dr. Radcliffe readily admitted that: 1) he is a mechanical engineer, not a materials scientist; 2) the attributes of the material used in the 10ML-II are beyond his area of expertise; and 3) he has never offered any testimony in his report or deposition about the



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### **1. Dr. Radcliffe's Design Opinion**

The 10ML-II is designed with a small hole near the base of the barrel. The hole is located at the top-center of the barrel but does not extend through the barrel wall. Because the hole is partially threaded along its depths, screws can be used to attach various accessories, like a rear sight, to the gun. After examination, Dr. Radcliffe opined that the 10ML-II product line was defectively designed because the excess, unthreaded portion of the hole unnecessarily increases the stress on the barrel during firing, leading to its failure. He ultimately concluded that the excess depth of the hole directly contributed to the failure of the 10ML-II at issue.

Pictures in Dr. Radcliffe's report show that threads are only cut along half of the hole's depth. According to Dr. Radcliffe, this excess and unthreaded depth does not help fasten a rear sight to the gun and, therefore, has no function. Rather, the unthreaded portion only serves to increase the stresses on the barrel during firing. Therefore, not only does the excess depth not provide any benefit to the gun, but it actually makes it less safe to operate. In total, Dr. Radcliffe concluded that the excess, unthreaded portion of the hole was an improper design that led to the barrel's failure and Rodney's injuries. Dr. Radcliffe opined that the dangers associated with the gun could be reduced, and the gun made safer, by eliminating the unthreaded depth of the hole. In other words, the hole did not have to be eliminated entirely, but the excess and unthreaded portion, which has no function, should be removed.

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properties used in the barrel in question. By Dr. Radcliffe's own testimony he is unqualified to offer a materials opinion and, despite the terms of his report, apparently has never offered such an opinion. Because Dr. Radcliffe is not qualified by knowledge, skill, experience, training, or education to offer a materials opinion, such opinion will remain excluded on remand.

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***2. Dr. Radcliffe's Manufacturing Opinion***

Dr. Radcliffe also concluded that the particular 10ML-II Rodney used was defectively manufactured. His manufacturing defect opinion is closely related to his design defect opinion and again focuses on the hole at the rear of the barrel.

Dr. Radcliffe inspected the subject firearm, made measurements of the hole at issue, and compared those measurements to design specifications produced by Savage Arms during discovery. The design specifications stated that the maximum depth of the hole should be 0.161 inches. The hole in the 10ML-II examined by Dr. Radcliffe had a depth of 0.168 inches, or 0.007 inches deeper than specified. Based on this difference, Dr. Radcliffe concluded that the additional depth increased stress on the barrel when fired, leading to its failure.

***3. Dr. Radcliffe's Opinions are Admissible***

Although the district court did not question Dr. Radcliffe's qualifications as an expert, it excluded his opinion on grounds that it would not assist the jury in determining whether the 10ML-II was defectively designed or manufactured. The court was critical of Dr. Radcliffe's opinion in light of his admission that he is not a firearms expert and has not consulted in the design or manufacture of a firearm. The court also found that Dr. Radcliffe's opinions would not supply a jury with a sufficient basis for determining whether there was a design or manufacturing defect under Michigan law. Upon review of the record, we conclude that the district court erred by excluding Dr. Radcliffe's opinions.

First, we agree with the district court that Dr. Radcliffe is qualified to offer expert opinions in this case. As a professor of mechanical engineering there is little doubt that he is qualified by his

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knowledge, skill, experience, training, and education to proffer an expert opinion. His qualifications also remedy the district court's concerns that he is not a firearms expert. His skill, education, and training in mechanical engineering render him competent to offer opinions on a variety of mechanical topics, and we will not require Dr. Radcliffe to have a specialized knowledge of firearms to offer opinions here. *See, e.g., Surles ex rel. Johnson v. Greyhound Lines, Inc.*, 474 F.3d 288, 294 (6th Cir. 2007) (holding that although the expert's experience was not specific to a particular industry, his background and experience left him "well-positioned to assist the trier of fact to make sense of" the evidence (internal quotations omitted)). The scope of his expertise may cut against the weight given to his opinion, but it does not affect its admissibility.

Second, we disagree with the district court that Dr. Radcliffe's opinion would not aid the jury in determining whether the 10ML-II suffered from a design or manufacturing defect. Dr. Radcliffe wrote in his expert report and testified in the *Daubert* hearing that the excess depth of the rear sight hole in the 10ML-II, as designed and actually manufactured, increased stress on the gun's barrel when fired. He concluded that the additional stress caused by the excess depth of the hole was a "key issue" in the gun's failure. As for an alternative design, Dr. Radcliffe opined that Savage Arms could have reduced the likelihood of barrel failure by making the hole shallower and by manufacturing it with tools that created cut marks with rounded edges, rather than the angular cut marks he observed. According to Dr. Radcliffe, these alternative manufacturing practices and design would have decreased the stress on the barrel when fired, reducing the likelihood of barrel failure.

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To pursue a design defect, Michigan law requires a plaintiff to show, in part, that “a practical and technically feasible alternative production practice was available that would have prevented the harm without significantly impairing the usefulness or desirability of the product to users and without creating equal or greater risk of harm to others.” Mich. Comp. Laws § 600.2946(2). Dr. Radcliffe’s design opinion complies with the requirements of Michigan Law and should not have been excluded. Likewise, his manufacturing opinion is also admissible. As discussed previously, a plaintiff proves a manufacturing defect by showing that the product was not manufactured in conformity with the manufacturer’s specifications and that this nonconformity caused the plaintiff’s injuries. Upon examination, Dr. Radcliffe found that the rear sight hole in the 10ML-II at issue was deeper than specified, and he reasoned that this additional depth increased stress on the barrel, resulting in its failure and Rodney’s injuries. Such an opinion should have been admitted.

Finally, the district court took issue with Dr. Radcliffe’s lack of testing of his proposed alternative and his lack of knowledge concerning the amount of pressure generated in the barrel during firing. Although the pressure generated by firing relates to the stress on the barrel, we conclude that Dr. Radcliffe’s lack of knowledge on this topic goes to the weight to be given to his opinion, not to its admissibility. Dr. Radcliffe is of the opinion that an alternative design would have reduced the likelihood of barrel failure. His opinion bears none of the “red flag” that we have held may justify exclusion, such as: “reliance on anecdotal evidence, improper extrapolation, failure to consider other possible causes, lack of testing, and subjectivity.” *Newell Rubbermaid, Inc. v. Raymond Corp.*, 676 F.3d 521, 527 (6th Cir. 2012). How he arrived at this opinion can be explored at trial, and the fact that he did not consider barrel pressures can be highlighted on cross-examination

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to question the weight that should be given to his opinion. It does not, however, render his opinion inadmissible.

### **C. Dr. Martin Crimp**

The Plaintiffs' second causation expert, Dr. Martin Crimp, is also a professor at Michigan State University. He was offered as an expert on materials science who would testify about the structure and properties of the metal used to manufacture the 10ML-II. Like Dr. Radcliffe, Dr. Crimp also concluded that the entire 10ML-II product line suffered from a design defect and that the particular 10ML-II Rodney used was defectively manufactured.

#### ***1. Dr. Crimp's Design Opinion***

The stainless steel version of the 10ML-II is designed to be manufactured from 416R stainless steel. During his investigation Dr. Crimp discovered that 416R stainless steel is "martensitic," meaning that it is created through a quench and temper treatment. Martensitic steels are designed to have high strengths and to be fracture resistant. The high "toughness" of martensitic steels makes them difficult to machine and shape, however. To improve machinability, sulfur is added to martensitic steels like 416R. This additional sulfur combines with manganese in the steel to form manganese sulfide particles, which are hard, difficult to deform, and adhere poorly to the surrounding steel. The sulfide particles create voids in the microscopic structure of the steel, allowing it to be more easily machined. According to Dr. Crimp, the improved machinability comes at the cost of increased susceptibility to fracture.

Dr. Crimp examined sections of the barrel of the 10ML-II at issue using three different techniques: reflected light optical microscopy, scanning electron microscopy, and energy dispersive

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x-ray analysis. Each of these methods allowed Dr. Crimp to examine the microscopic structure of the barrel and to observe the arrangement of the sulfide particles in the metal. Based on his observations, Dr. Crimp concluded that the sulfide particles in the 416R stainless steel caused the metal to be “anisotropic.”

“Anisotropic” generally means that a material will have different properties throughout the body of the material. In the case of the 416R stainless steel observed by Dr. Crimp, the sulfide particles stretched along the length of the barrel. Based on the presence of these “strings” of sulfides, Dr. Crimp concluded that cracks would be expected to propagate down the length of the barrel as the gun is repeatedly fired. To explain the anisotropic nature of the metal, Dr. Crimp compared the properties of the barrel to those found in wood. Wood is anisotropic because it is easier to split along the grains rather than perpendicularly to the axis of the tree. Therefore, wood has different strength properties in different directions. In a similar way, Dr. Crimp concluded that the “grains” of sulfide particles in the 416R stainless steel made it weaker along the length of the barrel, which is the direction it split during Rodney’s accident. In all, Dr. Crimp concluded that the anisotropic nature of 416R stainless steel made it inappropriate for use in gun barrels and was a design defect in the 10ML-II product line. He opined that the guns could be made safer by manufacturing them from a different type of material.

## ***2. Dr. Crimp’s Manufacturing Opinion***

Dr. Crimp also concluded that the 10ML-II used by Rodney was defectively manufactured because chemical analysis of the barrel revealed that it contained greater levels of sulfur than recommended for 416R stainless steel. According to Dr. Crimp, properly manufactured 416R

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stainless steel is composed of 0.13 percent sulfur. Chemical analysis of the barrel at issue showed that it contained 0.17 percent sulfur, or 0.04 percent more sulfur than specified. Dr. Crimp concluded that the increased sulfur content caused two defects in the barrel. First, it made the metal softer than specified for 416R stainless steel. Second, an increased concentration of sulfur made the metal more susceptible to intergranular fracture.

Material specifications provided to the Plaintiffs by Savage Arms indicate that 416R stainless steel should have a Brinell<sup>4</sup> hardness in the range of 235-277. Because the section of the barrel subjected to hardness testing was of inappropriate shape and size for Brinell testing, Dr. Crimp performed a Rockwell C hardness test. Converting the results of the Rockwell C hardness test into Brinell units using an appropriate method, Dr. Crimp found that the metal of the barrel at issue had a Brinell hardness of 222, meaning that it was softer than the hardness specified for 416R stainless steel. Based on this result, Dr. Crimp concluded in his report that the barrel had a Brinell hardness lower than the specified range.

In addition to a defect in the material's hardness, Dr. Crimp concluded that increased amounts of sulfur caused "intergranular fractures" in the barrel. The intergranular fractures occurred in areas with high concentrations of sulfide particles. The material fractured at those locations because the steel was unable to flow, or flex, in the proper proportions (known as "plastic deformation") when subjected to stress. Describing the issue another way, Dr. Crimp concluded that the sulfide particles are not ductile, meaning they do not deform under stress. As the concentration

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<sup>4</sup> The Brinell hardness scale is one of a number of measurements engineers use to categorize the hardness of materials.

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of sulfur increases in the metal, more sulfides are created. This increases the metal's machinability but also increases the number of structural weaknesses found in it. Without an appropriate amount of metal between the sulfide particles to serve as a "ligaments," which allow the metal to deform, the metal becomes more susceptible to fractures. Based on the intergranular fractures Dr. Crimp observed, he concluded that the barrel was metallurgically flawed, did not conform to design specification, and was not proper for its intended use.

### ***3. Dr. Crimp's Opinions are Admissible***

Much like those offered by Dr. Radcliffe, we conclude that Dr. Crimp's opinions are admissible and that the district court abused its discretion by excluding them. The district court did not question Dr. Crimp's qualification and found him to be well-qualified in the field of materials science and engineering. The court found that his opinions should be excluded because he could not identify the proximate cause of the barrel's failure and did not propose a feasible alternative design that would have prevented the accident. Upon review of the record, we find that the district court erred on these two points.

First, after examining the barrel, Dr. Crimp found that the 416R stainless steel was anisotropic. The sulfide particles in the metal created weaknesses running along the length of the barrel, making it more susceptible to fracture. Dr. Crimp concluded that these weaknesses, which were intentionally included in order to improve the metal's machinability, caused intergranular fractures in the material, rendering it "flawed from a metallurgical standpoint." Thus, the proximate cause of the barrel's failure, in Dr. Crimp's opinion, was use of a metal that was inappropriate for gun barrels. Second, Dr. Crimp testified at the *Daubert* hearing that other, less anisotropic stainless



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steels exists and are used to manufacture gun barrels. His opinion was that use of one of these types of stainless steels would make the barrel less likely to fail. Accordingly, Dr. Crimp offered an opinion as to the proximate cause of the barrel's failure and an alternative design. Dr. Crimp's opinions were admissible.

#### **D. Result of Reversal**

After finding Dr. Radcliffe and Dr. Crimp's opinions inadmissible, the district court granted summary judgment to the Defendant *sua sponte*. The court reasoned that summary judgment was appropriate because without expert opinions the Plaintiffs could not maintain products liability claims under Michigan law. The parties have put forth arguments as to the propriety of the *sua sponte* grant of summary judgment. Because Dr. Radcliffe and Dr. Crimp were improperly excluded, the court need not consider these arguments. Dr. Radcliffe and Dr. Crimp's opinions were admissible, and the district court should not have granted summary judgment to the Defendant. Therefore, the court reverses summary judgment on the design defect, manufacturing defect, and failure to warn claims. These causes of action will be remanded to the district court.

### **I. ALLEGEDLY SIMILAR INCIDENTS**

The Palatkas also appeal the district court's exclusion of allegedly similar incidents involving other 10ML-II firearms. We find that the district court did not abuse its discretion and affirm exclusion of this evidence.

#### **A. Standard of Review**

A trial court's decision to exclude evidence of other similar incidents is reviewed for an abuse of discretion. *Surles ex rel. Johnson*, 474 F.3d at 296; *Rye v. Black & Decker Mfg. Co.*, 889

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F.2d 100, 101 (6th Cir. 1989). “A district court abuses its discretion if it bases its ruling on an erroneous view of the law or on a clearly erroneous assessment of the evidence.” *Brown v. Raymond Corp.*, 432 F.3d 640, 647 (6th Cir. 2005) (internal quotations omitted). “[H]eavy reliance is placed on the discretion of the trial judge’ in admitting or excluding evidence of prior accidents, and the trial judge’s decision is to be given ‘great latitude.’” *Rye*, 889 F.2d at 101-02 (quoting *Rhodes v. Michelin Tire Corp.*, 542 F. Supp. 60, 62 (E.D. Ky. 1982); *Moran v. Vermeer Mfg. Co.*, 742 F.2d 456, 458 (8th Cir. 1984)).

#### **B. Other 10ML-II Failures**

The Plaintiffs sought to introduce evidence that other 10ML-IIs failed under circumstances that were substantially similar to those leading to Rodney’s injuries. Specifically, the Plaintiffs identified two cases, one from Tennessee and one from Canada, in which the plaintiffs sued Savage Arms after sustaining personal injuries when their 10ML-II muzzleloaders exploded during use. Based on reports produced by the Defendant during discovery, the Plaintiffs also identified eight other incidents in which the barrels of 10ML-IIs failed.

In the district court the Plaintiffs asserted that these ten incidents were admissible for the purpose of proving that the 10ML-II was defective, that the Defendant knew it was defective, and the Defendant failed to warn users of the defect. The Plaintiffs claimed that the other incidents were substantially similar to Rodney’s accident for at least four reasons. First, like Rodney’s accident, all of the other incidents involved the stainless steel version of the 10ML-II. Second, the location of the barrel failure in the other incidents was at or near the same location (at the base of the barrel near the drilled hole) as the failure that occurred in Rodney’s accident. Third, the operators of the

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other 10ML-IIs properly loaded and used their guns. Finally, the Defendant denied liability in the other incidents, claiming that the 10ML-IIs most likely failed because users double-loaded the firearms.

During the first final pretrial hearing, the district court heard arguments concerning the Defendant's motion to exclude the allegedly similar incidents. The court granted the motion for two reasons. First, the court found that the evidence was not admissible because the Plaintiffs failed to demonstrate that the other incidents were substantially similar to the facts before it. To be substantially similar, the court noted that the Plaintiffs would have to rule out other causes of the allegedly similar incidents, but they were unable to do so on the limited record before the court.

Second, the court held that even if the incidents were similar they were still inadmissible under Federal Rule of Evidence 403. None of the incidents highlighted by the Plaintiffs had been reduced to a judgment nor had their cause been determined. If admitted, it would have been necessary for the court to conduct mini-trials of each of the ten similar incidents in order to determine causation. Trying those ten incidents within the course of the Plaintiffs' case would have delayed the trial, misled the jury, and directed them away from the dispositive issue in the Palatkas' case. Accordingly, the court excluded the allegedly similar incidents.

Upon review, we affirm exclusion of the allegedly similar incidents on procedural and substantive grounds. First, on appeal, the Plaintiffs fail to support their arguments with citations to the evidentiary record. Federal Rule of Appellate Procedure 28(a)(9) requires that each argument made by an appellant contain the "appellant's contentions and the reasons for them, with citations to the authorities and parts of the record on which the appellant relies." In their opening brief, the

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Plaintiffs' argument on the issue of allegedly similar incidents is nine pages in length. They support their argument with four more pages in their reply. In thirteen pages of argument on the issue, the Plaintiffs never cite to the evidentiary record. They fail to cite records that would aid this court in determining whether the other incidents were substantially similar to Rodney's accident. Without citing to the record, the Plaintiffs assert that the firearms in the other incidents were stainless steel 10ML-IIs, that each incident involved a failure at approximately the same location on the barrel, and that the guns had not been "double-loaded" by their operators. Lacking appropriate citations to the record, the court has no grounds for determining whether the Plaintiffs' arguments have any evidentiary basis.

In *Seifert v. Graphic Packaging Int'l*, 486 F. App'x 594, 596 (6th Cir. 2012) (per curiam), the court found that filing "a brief with no record citations . . . indicates that [the appellants] had no reasonable expectation of vacating the district court's summary judgment in favor of [the defendant]." Likewise, other circuits have held that by "making mere assertions, failing to challenge the district court's reasoning, [and/or] not citing any record support," appellants waive certain arguments on appeal. *Sky Harbor Air Servs., Inc. v. Reams*, 491 F. App'x 875, 881 (10th Cir. 2012); *see Conto v. Concord Hosp., Inc.*, 265 F.3d 79, 81 (1st Cir. 2001) ("[T]he Federal Rules of Appellate Procedure require that appellants, rather than courts of appeals, ferret out and articulate the record evidence considered material to each legal theory advanced on appeal."). Because the Plaintiffs have not supported their argument with proper citations to the record on appeal, the court affirms exclusion of the allegedly similar incidents.

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Second, even if the Plaintiffs had properly cited to the evidentiary record, the court would still affirm the district court's exclusion on substantive grounds. "Prior accidents must be 'substantially similar' to the one at issue before they will be admitted into evidence." *Croskey*, 532 F.3d at 518 (citing *Koloda v. Gen. Motors Parts Div., Gen. Motors Corp.*, 716 F.2d 373, 376 (6th Cir. 1983)). For incidents to be "substantially similar," they "must have occurred under similar circumstances or share the same cause." *Id.* The plaintiff "has the burden of showing the substantial similarity between prior accidents and his own." *Id.*

Although the other incidents identified by the Plaintiffs involved barrel failures, they could not point to or rule out any cause of those failures. Based on the Plaintiffs' inability to describe the factual circumstances surrounding each failure, the other incidents were properly excluded because there was no showing that they were "substantially similar" to Rodney's accident. Even if relevant, the other incidents were not admissible because they would confuse the jury, be misleading on the dispositive issues, and cause an undue delay in the trial while the specific facts of each failure were adjudicated. *See* Fed. R. Evid. 403. Accordingly, the district court did not abuse its discretion by excluding the allegedly similar incidents.

Finally, the Plaintiffs' reliance on *Croskey v. BMW of N. Am., Inc.*, 532 F.3d 511 (6th Cir. 2008) is misplaced. *Croskey* was a products liability case governed by Michigan law in which the plaintiff was injured when the radiator on his girlfriend's automobile ruptured, scalding him with hot liquid. *Id.* at 513. He brought suit against the manufacturer alleging design defect and failure to warn. *Id.* To support his claims, the plaintiff sought to introduce evidence of other similar incidents. *Id.* at 513-14. The trial court excluded this evidence to the extent that the plaintiff would

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use it to show a design defect in the radiator. *Id.* at. 514. The lower court found that this evidence could not be introduced because Michigan law prohibited the introduction of similar incidents for this purpose. *Id.* After reviewing recent Michigan cases, the Sixth Circuit reversed. The court held that “it was error for the district court to make a blanket exclusion of all ‘other incidents’ evidence by plaintiff to prove a negligence claim involving design defect.” *Id.* at 518.

The Plaintiffs’ reliance on *Croskey* in the instant case ignores a critical distinguishing feature of that case. The district court in *Croskey* found that other incidents involving the radiator were substantially similar to the events leading to the plaintiff’s injuries. It then excluded those incidents based on an erroneous belief that Michigan law prohibited introduction of other incidents for the purpose of proving a design defect.

In the present case the district court excluded the other incidents because the Plaintiffs failed to show that the other incidents were substantially similar to the events surrounding Rodney’s injuries. Accordingly, the district court’s exclusion of this evidence was not based on an erroneous view of the law, but on a determination that the other incidents were not substantially similar. Therefore, the Plaintiffs reliance on *Croskey* is unavailing.

### CONCLUSION

The Plaintiffs appeal from a grant of summary judgment by the district court. For all of the foregoing reasons, we reverse the district court’s exclusion of the Plaintiffs’ expert witnesses, Dr. Radcliffe and Dr. Crimp. Because exclusion of the expert witnesses was inappropriate, we also reverse the grant of summary judgment on the design defect, manufacturing defect, and failure to

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warn claims. We affirm the district court's exclusion of evidence of allegedly similar incidents.

This case is remanded to the district court for further proceedings consistent with this opinion.