

[PUBLISH]

IN THE UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

No. 15-15360

D.C. Docket No. 1:15-cr-20388-JIC-1

UNITED STATES OF AMERICA,

Plaintiff - Appellee,

versus

VANSTON VENNER WILLIAMS,
MARIO ALIN BENT BARKER,
EDINCE GARCIA CARDOZA,
HENDRICK GUILLERMO LINERO DUFFIS,
CARLOS CLEMENTE HENRY TAYLOR,

Defendants - Appellants.

Appeals from the United States District Court
for the Southern District of Florida

(August 1, 2017)

Before JORDAN and JILL PRYOR, Circuit Judges, and PROCTOR,^{*} District Judge.

JILL PRYOR, Circuit Judge:

In the waning hours of May 9, 2015, the crew of the *Rasputin*—defendants Vanston Venner Williams, Mario Alin Bent Barker, Carlos Clemente Henry Taylor, Edince Garcia Cardoza, and Hendrick Guillermo Linero Duffis—were traveling away from Colon, Panama when, much like their vessel’s namesake, their luck ran out. A Coast Guard cutter approached the *Rasputin*, which sped away as four of the crew members swiftly threw dozens of packages overboard, none of which were recovered. Although the defendants successfully jettisoned their contraband, they could not elude the Coast Guard, who boarded the *Rasputin* and arrested its crew. After a trial, a jury concluded that the jettisoned packages contained cocaine, convicting each defendant of conspiracy to distribute at least five kilograms of a substance containing cocaine while on board a covered vessel, in violation of 46 U.S.C. §§ 70503(a)(1) and 70506(b) and 21 U.S.C. § 960(b)(1)(B), and possession with intent to distribute at least five kilograms of a substance containing cocaine, in violation of 46 U.S.C. §§ 70503(a)(1) and 70506(a) and 21 U.S.C. § 960(b)(1)(B). The jury also convicted Williams of failure to heave to, in violation of 18 U.S.C. § 2237(a)(1), and the remaining

^{*} Honorable R. David Proctor, United States District Judge for the Northern District of Alabama, sitting by designation.

defendants of aiding and abetting Williams's failure to heave to, in violation of 18 U.S.C. §§ 2237(a)(1) and (2). The defendants appeal their convictions, challenging several of the district court's evidentiary rulings as well as the sufficiency of the evidence supporting their convictions. After oral argument and thorough review of the record, we affirm each defendant's drug convictions and Williams's failure-to-heave-to conviction but reverse for lack of evidence the remaining defendants' aiding and abetting failure-to-heave-to convictions.

I. BACKGROUND

We present only the facts relevant to the issues on appeal, which are the defendants' challenges to the admission of the testimony of government expert Gustavo Tirado, the testimony of several Coast Guard officers that the objects they witnessed being jettisoned resembled cocaine bales seized in previous interdictions, and a document listing the *Rasputin*'s next port of call, as well as the defendants' challenges to the sufficiency of the evidence as to each of their convictions.¹

The United States Coast Guard cutter "Bear" was patrolling waters off the coast of Colombia and Panama—an area where drug trafficking is known to occur—searching for vessels that might be smuggling drugs. Around midnight,

¹ Because the defendants challenge the sufficiency of the evidence against them, we recite the facts relevant to their convictions in the light most favorable to the jury's verdict. *See United States v. Haile*, 685 F.3d 1211, 1219 (11th Cir. 2012).

crew member Petty Officer Turner Adair noticed that the Bear's radar was picking up a vessel approximately six to eight nautical miles away. The vessel was heading north-northwest away from Colon, Panama at eight to ten knots. As the Bear approached the vessel, Adair used a forward-looking infrared system (FLIR) to view it. The FLIR system could capture images of body heat miles away. Objects that were body temperature or warmer appeared as black, while objects cooler than body temperature appeared as white. Through the FLIR, Adair could see that the vessel was a fishing boat containing a driver and four other individuals.² When the Bear's crew hailed the vessel on the radio, Adair observed that the four individuals who were not driving the vessel began to move about in a "worried manner." Trial Tr. 9/8/2015, Doc. 118 at 189-90, 201.³ The four individuals began to place objects, each measuring approximately one foot high by three feet long, into a fishing net.

As the four men on the vessel gathered the objects, the vessel increased its speed to 12 to 14 knots and began zig zagging from left to right for no apparent reason. Adair testified that such maneuvers were dangerous given that the waves and swells that night were between six and eight feet. After the four men finished

² Although Adair recorded everything picked up by the FLIR that evening, recordings approximately 85 minutes in length, most of the footage was lost. All that remained was a 12 minute video—a highlight reel of sorts that Adair produced to send to higher command. The 12 minute video was played at trial.

³ Citations to "Doc." refer to docket entries in the district court record in this case.

placing at least ten bale-like objects into the fishing net, they tied the net up and threw it into the sea. Noticing that it took all four men to lift the net, Adair estimated (based on bales he had handled) that each bale weighed 65 to 75 pounds. After dumping the first net overboard, the four men loaded five more bales into another fishing net then threw that net overboard as well. The vessel changed direction, then heading south, and the four men dumped a third net full of bales.

Meanwhile, on board the Bear, Petty Officer Stephen Fleming and his team prepared to pursue the vessel. Fleming's team gave chase in a rigid hull inflatable boat, activating blue law enforcement lights and giving orders to stop in both English and Spanish via both a loudhailer and the radio tuned to Channel 16. The vessel failed to stop or slow down; instead it continued to change direction erratically at full speed. Only when Fleming's craft pulled within a few feet of the vessel did it finally stop.

Fleming observed that the vessel was a 34-foot fishing boat called the Rasputin and that it was flying an American flag. After Fleming and his team boarded the Rasputin, defendant Williams identified himself as the ship's master. He explained that the ship was a U.S. vessel and that he and the four other men aboard were Colombian nationals. According to Williams, the Rasputin had come from Colombia and was headed to Colon, Panama. But when the Rasputin was spotted, it was headed north-northwest away from Colon.

Fleming discovered that the Rasputin's radio was turned to Channel 16—the channel that the Coast Guard had been using to attempt to communicate with the vessel—and the volume was turned all the way up. Fleming observed two empty fuel drums aboard the vessel and four empty 40-gallon gas containers. He recognized the strong smell of gasoline, noting that the fish hold had more than an inch of gasoline covering the floor. The Rasputin did not run on gasoline, however; it ran on diesel. The presence of gasoline suggested to the officers that it was being used as a masking agent to alter the chemical composition of contraband residue. And despite the fact that the Rasputin was registered in Florida as a commercial fishing vessel, there was no fishing gear, bait, ice, or fish aboard. Fleming and his crew seized three Global Positioning Systems (GPS) from the Rasputin and one \$20 bill each from Williams and Cardoza. The officers also seized from the vessel a “zarpe”—a Colombian document including the names of the defendants and their ports of call. The zarpe listed Colon, Panama as the Rasputin's next port of call. The zarpe was admitted into evidence at trial over the defendants' objection that it was hearsay and unauthenticated.

No quantity of drugs was found aboard the Rasputin, nor were any of the jettisoned packages recovered, as they apparently sank. In an attempt to detect the presence of contraband aboard the vessel, Fleming's boarding team used an IonScan machine. IonScan technology is designed to detect trace amounts of illicit

materials—often amounts so small as to be imperceptible to the human eye. Samples, or “swipes,” are taken of areas and objects thought to contain contraband. The samples are then run through the IonScan machine, which measures the amount of time it takes for ions from vaporized molecules to drift from one side of a tube into a collector. Because every substance has a unique, predictable drift time, the machine can identify a substance on a sample based on the amount of time it takes for the vaporized molecules to drift into the collector. Fleming collected 34 IonScan swipes aboard the Rasputin.

To protect against contamination and to ensure the boarding team introduced no contraband onto the Rasputin, the officers who boarded had their gear swiped for testing prior to boarding. Aboard the Rasputin, Fleming conducted IonScan swipes by putting on rubber gloves from sealed boxes and using small circular pads (also from sealed boxes) to swipe various surface areas of the Rasputin and its crew. Another member of Fleming’s team kept a log of each swipe, assigning a number and description to each swipe. After each swipe, Fleming removed his gloves and placed them into a sealed bag, which was identified with a number corresponding to the number logged for each swipe. The sealed bags containing the IonScan pads were transported back to the Bear for analysis.

Petty Officer Richard Caruso was the IonScan operator aboard the Bear. Caruso had attended a three-day training course where he learned how the IonScan

machine worked and how to maintain the machine, calibrate it properly, run swipes through it, and read the results of its analysis. Caruso testified at trial that he had operated the machine more than five times in training and at least eight to ten times since, and that no scientific degree was required to operate it. The Bear's IonScan machine underwent a weekly preventative maintenance check and a daily parts check, and it was located in a secure area with limited access. While the Coast Guard pursued the *Rasputin*, Caruso turned on the IonScan machine and calibrated it, determining that it was operating correctly. He then swiped himself, the machine, and the area around the machine to ensure there was no contamination.

Caruso received the swipes Fleming had taken aboard the *Rasputin*. Of the 34 swipes, 13 tested positive for cocaine. After each positive hit, Caruso ran two blank swipes through the machine to clear it, again to prevent contamination. The IonScan analysis detected positive hits for cocaine in the *Rasputin*'s fish hold, marine toilet, and sink, as well as on seat cushions and on a knife. The IonScan also revealed cocaine on the person of each occupant of the *Rasputin* except defendant Taylor. By contrast, the IonScan tests conducted on the *Rasputin*'s fantail—the area of the ship from which the bales were jettisoned—were negative.

At trial, the government called Senior Chief Petty Officer Gustavo Tirado as its expert witness on IonScan technology. Tirado explained that he had trained as an IonScan machine operator and that he had operated IonScan machines hundreds

of times, running thousands of swipes. From 2006 to 2011 and from 2013 on, Tirado was an IonScan machine instructor, teaching others on hundreds of occasions how to use IonScan machines. Tirado was initially trained to operate IonScan machines at a four-day seminar in 1999, where he was taught both how to operate the machine and to interpret its results. In 2006, when Tirado first became an IonScan instructor, he participated in more in-depth training, where he learned in greater detail how to interpret the results of IonScan testing. He attended additional training almost every year from 2006 to 2015. The district court permitted him to testify as an expert on the IonScan process and the meaning of the results of IonScan testing, after a hearing to assess the admissibility of expert testimony under *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993). Tirado explained at trial the scientific process used by the IonScan machine, including how it measures drift time. He noted that to avoid false positive results, the IonScan machine was programmed to identify the presence of cocaine only where certain other parameters were met. He further explained that when an IonScan machine yields a positive result, it will produce values for three variables—delta, maximum amplitude, and number of segments—that indicate whether the sample had a high or low concentration of a particular substance. Tirado applied those variables to Caruso's IonScan results, explaining that some of the positive hits showed greater concentrations of cocaine than others. He further

testified that according to the operator's manual the IonScan machine reported false positives of less than 1%.

Tirado was unable to tell from the IonScan results that any particular quantity of cocaine was ever aboard the Rasputin, however. He was also unable to say whether the positive samples resulted from direct contact with cocaine or indirect contact from traces of cocaine brought aboard the ship by a person or object that had had direct contact with cocaine. Nor did he say how long the cocaine traces detected by the IonScan machine had been aboard the Rasputin.

On cross examination, Tirado testified that Caruso deviated from standard Coast Guard protocol in conducting the IonScan testing in two ways. First, although Caruso properly ran two blanks through the machine in between positive results, he violated protocol by failing to note whether the blanks indicated for an illicit substance. It is unclear, therefore, from Caruso's log alone whether two blanks were run, and if so, whether the blanks indicated the presence of cocaine. Second, Tirado testified that Fleming violated protocol by wearing only one glove on one hand when conducting swipes, when Coast Guard protocol required gloves on both hands and multiple layers of gloves on the swiping hand.

Adair testified at trial that the jettisoned objects he saw on the FLIR resembled cocaine bales he had seen in prior drug interdictions. Other Coast Guard officers gave similar testimony, including Caruso, Fleming, and Petty

Officer William Coffey. The defense's objections—and the district court's handling of those objections—were inconsistent. The defense strenuously objected to Fleming's comparison between cocaine bales from prior drug interdictions on the grounds that such testimony was speculative, irrelevant, prejudicial, and unnoted expert testimony, but let Adair⁴ and Caruso⁵ give similar testimony largely without objection. The district court sustained an objection to Coffey's testimony that the bales seen on the FLIR looked like bales found during previous cocaine interdictions.

Although several Coast Guard witnesses testified that the objects seen on the FLIR appeared similar in shape and size to cocaine bales from previous interdictions, they also testified that the size and shape were consistent with everyday objects. For example, when Adair was asked whether a "bale" was different from a package, he answered no and explained that a "bale" could be "the same size [and] same weight" as a package. Trial Tr. 9/8/2015, Doc. 118 at 230. Fleming explained that a bale is "slightly larger than a file box" and is "similar to

⁴ The defense failed to object to Adair's testimony that the FLIR appeared to show bales, which "usually contain[] cocaine." Trial Tr. 9/8/2015, Doc. 118 at 190. The defense subsequently lodged a speculation objection—which the court overruled—to Adair's testimony that similar looking bales from previous interdictions contained cocaine.

⁵ Although the defense failed to object when Caruso compared the packages seen on the FLIR to bales from previous cocaine interdictions, the district court sustained the defense's objection when Caruso was asked what he thought was in the jettisoned packages, on the ground that the question called for speculation.

your suitcase or your briefcase.” Trial Tr. 9/9/2015, Doc. 119 at 110. Coffey testified that a bale is approximately the size of a burlap sack or a briefcase.

The jury returned a guilty verdict as to all charges against all defendants. Each defendant was sentenced to 10 years’ imprisonment on each drug conviction. Williams was sentenced to 5 years’ imprisonment, to be served concurrently, on the failure-to-heave-to conviction, as were the remaining defendants for their aiding and abetting failure-to-heave-to convictions. The defendants timely appealed.

II. LEGAL STANDARDS

“We review evidentiary rulings for an abuse of discretion.” *United States v. Henderson*, 409 F.3d 1293, 1297 (11th Cir. 2005). Basing an evidentiary ruling on a legal error constitutes an abuse of discretion *per se*. *Id.*

We “review *de novo* the sufficiency of the evidence supporting a criminal conviction.” *United States v. Walker*, 490 F.3d 1282, 1296 (11th Cir. 2007). In doing so, we consider the evidence in the light most favorable to the jury’s verdict, here drawing all reasonable inferences and making all credibility choices in the government’s favor. *United States v. Haile*, 685 F.3d 1211, 1219 (11th Cir. 2012). “We will reverse a conviction based on insufficient evidence only if no reasonable trier of fact could have found guilt beyond a reasonable doubt.” *Walker*, 490 F.3d at 1296 (internal quotation marks omitted).

III. DISCUSSION

On appeal, the defendants argue that the district court erred in admitting several key pieces of evidence, including Tirado's expert testimony concerning the IonScan results, the testimony of several Coast Guard witnesses that the jettisoned objects they saw on the FLIR resembled cocaine bales from prior drug interdictions, and the zarpe. They also challenge the sufficiency of the evidence as to each conviction. We address each argument in turn.⁶

A. Evidentiary Issues

The defendants argue that the district court abused its discretion in admitting three key pieces of evidence over their objections. First, they assert that the district court improperly admitted Tirado's testimony, challenging his qualifications as well as his testimony's relevance. Second, the defendants argue that the district court should have precluded—as expert testimony for which proper notice was not given—the statements of several Coast Guard witnesses that the objects they saw on the FLIR were similar in shape and size to cocaine bales from previous interdictions. Third, the defendants posit that the zarpe should have been excluded because it was unauthenticated and contained hearsay. Each of these arguments lacks merit.

⁶ On appeal, each defendant raises different issues, but each also adopts the arguments made by the others. We therefore treat each argument as though it were raised by all defendants.

1. IonScan Evidence

The defendants lodge a number of attacks on Tirado's testimony introducing the results of the IonScan testing conducted on swipes taken from the Rasputin. The defendants challenge Tirado's qualifications to interpret IonScan test results, the relevance of his opinions to the issues in this case, and whether the nature of his testimony was overly prejudicial. We reject these arguments.

Federal Rule of Evidence 702, which governs expert testimony, permits a "witness who is qualified as an expert by knowledge, skill, experience, training, or education" to give an opinion or otherwise testify if "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," "the testimony is based on sufficient facts or data . . . [and] is the product of reliable principles and methods," and "the expert has reliably applied the principles and methods to the facts of the case." Fed R. Evid. 702.

No one disputes that Tirado delivered expert testimony, the admissibility of which is governed by Rule 702. In *Daubert*, the Supreme Court defined the contours of a proper Rule 702 inquiry, explaining that Rule 702's requirement that expert testimony "assist the trier of fact to understand the evidence or to determine a fact in issue . . . goes primarily to relevance." 509 U.S. at 591 (internal quotation marks omitted). Indeed, expert testimony unrelated to the issues in the case does

not assist the trier of fact. *Id.* This requirement “has been aptly described . . . as one of ‘fit.’” *Id.* In essence, “Rule 702’s helpfulness standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.” *Id.* at 591-92 (internal quotation marks omitted).

Moreover, the proponent of expert testimony bears the burden of demonstrating the expert’s qualifications and competence to give his proposed testimony. *United States v. Frazier*, 387 F.3d 1244, 1260 (11th Cir. 2004) (en banc). Experts may be qualified by scientific training, education, or experience in the relevant field; they need not be formally educated to qualify as experts. *Id.* at 1260-61. But even if an expert is qualified, and his testimony is relevant and methodologically sound, Federal Rule of Evidence 403 permits the exclusion of all testimony—expert or otherwise—if “its probative value is substantially outweighed by a danger of . . . unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.” Fed. R. Evid. 403; *see also Daubert*, 509 U.S. at 595. Under this framework, we evaluate the district court’s admission of Tirado’s testimony.

i. Tirado’s Qualifications and Reliability

The defendants lodge a narrow challenge to Tirado’s qualifications. Conceding that Tirado is qualified as an expert in the operation of IonScan machines, they challenge his qualifications to interpret IonScan test results.

Importantly, the defendants concede that IonScan technology is, in general, a reliable tool for identifying the presence of narcotics—and cocaine specifically—in a given location.⁷ They argue only that, assuming IonScan technology generally is reliable, Tirado was unqualified to testify to whether the IonScan results Caruso generated indicated that traces of cocaine were present in certain areas of the *Rasputin*. We find no merit in their argument.

Tirado was qualified by his training and experience to testify to the results of the IonScan testing aboard the *Rasputin*. *See Frazier*, 387 F.3d at 1260-61 (noting that an expert may be qualified by training or experience). At the *Daubert* hearing, Tirado testified that he was first trained on IonScan technology by the machine's manufacturer in 1999, which included instruction on how to interpret IonScan test results. At trial, Tirado elaborated that he was trained to interpret the variables generated by an IonScan test, including "maximum amplitude, delta, [and] number of segments." Trial Tr. 9/10/2015, Doc. 121 at 109. That training was reinforced in annual courses from 2006 to 2015, including more in-depth

⁷ After the *Daubert* hearing, the district court asked the defendants if they challenged the reliability of IonScan technology in general. Counsel for defendant Cardoza responded, "in light of Your Honor's ruling, we think that it would also go to weight, not the admissibility" of the IonScan evidence. Hearing Tr. 8/21/2015, Doc. 63 at 43. No other defendant lodged a challenge to the general reliability of IonScan technology in the district court. So, to the extent the defendants argue that the district court should have rejected Tirado's testimony because he was unqualified to assess the general reliability of IonScan technology, they failed to preserve that argument for appeal. *See Goulah v. Ford Motor Co.*, 118 F.3d 1478, 1483 (11th Cir. 1997) ("An objection on one ground will not preserve an error for appeal on other grounds.").

training on “how to interpret the results of the machine” when he first became a certified IonScan instructor. *Id.* at 106. Tirado also testified at trial that between 1999 and 2015, he operated an IonScan machine hundreds of times as part of Coast Guard drug interdictions. In short, ample testimony supported the district court’s conclusion that Tirado was qualified as an expert in the interpretation of IonScan test results.

In challenging Tirado’s qualifications, the defendants argue that he has no background in science, that his work in the field has never been peer reviewed, and that he was unfamiliar with literature assessing the general reliability of IonScan testing. These concerns fail to establish that the district court abused its discretion in admitting the testimony.

First, the defendants identify no specific opinions that were beyond the scope of Tirado’s expertise, instead vaguely referring to his “scientific opinions.” At trial, Tirado’s opinions essentially concerned compliance with Coast Guard procedure and the meaning of the IonScan machine’s outputs. For example, he explained whether and why the IonScan’s outputs for the samples taken aboard the *Rasputin*—delta, maximum amplitude, and number of segments—indicated a relatively low or high concentration of cocaine in that particular sample. The defendants never explain how any gaps in Tirado’s training or experience should

have precluded him from delivering these opinions. On the contrary, the opinions he delivered fell squarely within his training and experience.

Second, a witness need not have formal education as a scientist if his other training and experience otherwise qualifies him to testify as an expert. *See Frazier*, 387 F.3d at 1260-61; *see also United States v. Holt*, 777 F.3d 1234, 1265 (11th Cir. 2015) (noting that an expert was qualified based on “her extensive involvement in this particular investigation . . . as well as her training, experience in previous wiretaps, and general investigative experience during her six years as a DEA Agent”). Tirado unquestionably had such training and experience.

Third, that Tirado was unfamiliar with literature assessing the general reliability of IonScan technology does not matter because the defendants explicitly declined to challenge in the district court Tirado’s opinions on the machine’s reliability. *See supra* note 7.

The district court acted within its discretion in determining that, given Tirado’s extensive training and experience, any quarrels with his qualifications were fodder for cross examination rather than reason to exclude his testimony altogether. “[The] district court’s gatekeeper role under *Daubert* is not intended to supplant the adversary system or the role of the jury.” *Quiet Tech. DC-8, Inc. v. Hurel-Dubois UK Ltd.*, 326 F.3d 1333, 1341 (11th Cir. 2003) (internal quotation marks omitted). “Quite the contrary, vigorous cross-examination, presentation of

contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Id.* (internal quotation marks omitted). Although Tirado’s qualifications may have been imperfect, the district court did not err in finding that any defects were slight enough that the defendants could explore them on cross examination. The district court did not abuse its discretion in finding Tirado qualified as an expert on the interpretation of IonScan testing.⁸

ii. *Daubert* “Fit” and Rule 403

The defendants next argue that Tirado’s testimony does not “fit” for *Daubert* purposes and has insufficient probative value for Rule 403 purposes because it leaves several questions unanswered: for example, Tirado failed to address the quantity of cocaine aboard the Rasputin or how recently cocaine was present, and he was unable to account for a number of purported inconsistencies in the government’s theory of the case. We disagree that these gaps required the district court to exclude Tirado’s testimony. To be admissible, expert testimony need not answer every question. *See id.* at 1348 (affirming district court’s admission of

⁸ The defendants also argue that Tirado failed to explain how his training and experience informed his opinions in this case. This argument is belied by the record, which reveals that Tirado provided a robust explanation of how the interpretive tools he learned in training and employed in practice over the past 17 years enabled him to form his opinions in this case. He discussed at length the meaning of the IonScan’s outputs—part of his training in the interpretation of IonScan results—and applied those concepts to the facts of this case. We therefore reject the defendants’ argument.

expert testimony over a *Daubert* “fit” challenge where the testimony related to one, but not another, of the issues before the court). Indeed, at its core, the *Daubert* “fit” question is one of relevance, 509 U.S. at 591, and the positive IonScan tests have some “tendency” to make it “more . . . probable” that the jettisoned packages contained cocaine “than it would be without the [IonScan evidence].” Fed. R. Evid. 401 (defining relevant testimony). Tirado’s testimony was helpful to the jury because the singular presence of traces of cocaine aboard the *Rasputin* made it more likely that the jettisoned packages contained cocaine. We cannot say that the testimony wholly lacked relevance—such that the district court abused its discretion in admitting it—simply because the IonScan evidence was imperfect or could not definitively answer every question concerning the presence of cocaine aboard the *Rasputin*.

Nor can we say that the district court abused its discretion by admitting the IonScan evidence over the defendants’ objection that it was unduly prejudicial. Federal Rule of Evidence 403 requires a showing that the prejudicial effect of relevant evidence *substantially* outweighs its probative value. Expert testimony creates a unique risk of prejudice as it “may be assigned talismanic significance in the eyes of lay jurors.” *Frazier*, 387 F.3d at 1263. Here, though, the district court properly found that the IonScan evidence had probative value. And the defendant’s explanation for why Tirado’s testimony was prejudicial—it failed to

address time period or quantity, and it could have misled the jury into believing that the tests definitively proved that the jettisoned packages contained cocaine—easily could have been mitigated by thorough cross examination. *See Quiet Tech.*, 326 F.3d at 1341 (noting that “vigorous cross-examination” is a traditional tool for attacking weak, but admissible evidence). Recognizing that expert testimony poses a unique risk of prejudice, we cannot say that the risk of prejudice here so substantially outweighed the IonScan evidence’s probative value as to require the district court to exclude it.⁹

2. Lay Opinion Testimony

Next, the defendants argue that the district court abused its discretion in admitting the testimony of Adair, Caruso, Coffey, and Fleming that the jettisoned objects they saw through the FLIR resembled cocaine bales found in previous drug interdictions. The defendants contend that the testimony was expert testimony that was improperly admitted because it failed to comply with Federal Rule of Evidence 702. We disagree.

Under Federal Rule of Evidence 701, lay witnesses are permitted to give opinions so long as they are “rationally based on the witness’s perception,”

⁹ In his reply brief, defendant Cardoza argues for the first time that Tirado’s testimony should have been excluded because Tirado admitted that two Coast Guard officials involved in the IonScan testing deviated from Coast Guard procedures. Because Cardoza advances this argument only on reply, we decline to address it. *See Big Top Coolers, Inc. v. Circus-Man Snacks, Inc.*, 528 F.3d 839, 844 (11th Cir. 2008).

“helpful to clearly understanding the witness’s testimony or to determining a fact in issue,” and “not based on scientific, technical, or other specialized knowledge within the scope of Rule 702.” Fed. R. Evid. 701. The central question here is whether the Coast Guard witnesses’ testimony was based on “scientific, technical, or other specialized knowledge,” such that it was governed by Rule 702’s expert testimony requirements rather than Rule 701’s lay opinion standard. The district court acted within its discretion in admitting the testimony as lay opinion.

A witness is permitted to deliver a lay opinion testimony based on his professional experiences as long as the testimony is “rationally based on” those experiences, rather than on scientific or technical knowledge. *United States v. Toll*, 804 F.3d 1344, 1355 (11th Cir. 2015); *see also Tampa Bay Shipbuilding & Repair Co. v. Cedar Shipping Co.*, 320 F.3d 1213, 1223 (11th Cir. 2003) (affirming a district court’s admission of lay opinion testimony where witnesses testified not using scientific or technical “knowledge subject to Rule 702,” but only “knowledge garnered from years of experience within the field”). Here, the Coast Guard witnesses compared the packages they saw on the FLIR to packages they had seen in previous cocaine interdictions, an assessment of “the appearance” and “size” of objects that required no scientific or technical knowledge. *Tampa Bay Shipbuilding*, 320 F.3d at 1222 (explaining that opinion relating to “the appearance of persons or things, . . . size, weight, [and] distance” are “prototypical examples of

the type of evidence contemplated by . . . Rule 701” (alteration and internal quotation marks omitted)).

The defendants rely on *United States v. Jayyousi*, 657 F.3d 1085 (11th Cir. 2011), to argue that opinions based on prior law enforcement investigations necessarily are expert opinions governed by Rule 702. But *Jayyousi* does not support their position. In *Jayyousi*, we affirmed a district court’s decision admitting a law enforcement agent’s testimony that interpreted code language used by the defendant and his co-conspirators. We held that the agent’s testimony was lay opinion because “[h]e limited his testimony to what he learned during this particular investigation, and he testified that he interpreted code words based on their context.” *Id.* at 1103-04.

Nothing in *Jayyousi* indicates that the lay opinion of a law enforcement official automatically becomes an expert opinion simply because it involves knowledge that preexisted the investigation in the present case. The code language testimony at issue in *Jayyousi* would have required “scientific, technical, or other specialized knowledge” had the witness been speaking generally from prior experiences or training instead of using her knowledge of the code language used by the conspirators during the investigation of that very case. *See id.* at 1120 n.3 (“[T]his Circuit generally require[s] a law enforcement officer’s testimony about the modus operandi of drug smugglers and the meaning of coded language in

conversations to qualify as expert and not lay opinion when derived from their years of experience.”). The court concluded that an officer’s investigation can provide sufficient foundation for an opinion that would otherwise require technical expertise. It never addressed the central question here, which is whether the opinions delivered by the Coast Guard witnesses were of the kind that *ever* require expert testimony.

They were not. The Coast Guard witnesses’ assessments were well within the ken of the average layperson; they simply compared the size and shape of the objects they saw on the FLIR to bales they had seen previously in cocaine arrests. Because the Coast Guard witnesses’ opinions were not based on any scientific or technical knowledge, but instead on their rationally based perceptions of the size and shape of objects, the district court acted within its discretion in admitting the testimony under Rule 701.¹⁰ *See United States v. Tinoco*, 304 F.3d 1088, 1119 (11th Cir. 2002) (officer’s characterization of vessel as a “go fast” boat was

¹⁰ Assuming that these arguments were properly preserved for appeal, we also reject as meritless the defendants’ arguments that the district court abused its discretion in admitting each Coast Guard witness’s testimony over the defendants’ objections that the testimony was speculative, irrelevant, and more prejudicial than probative. The testimony was based directly on the witnesses’ observations and tended to demonstrate that the jettisoned packages contained cocaine. And while the testimony may have had a prejudicial effect by linking the jettisoned packages to cocaine bales from interdictions with which the defendants had no involvement, we cannot say as a matter of law that such an effect improperly and substantially outweighed the testimony’s probative value. The district court therefore committed no abuse of discretion in admitting the Coast Guard witnesses’ testimony.

permissible lay testimony under Rule 701); *see also Tampa Bay Shipbuilding*, 320 F.3d at 1222.

3. The Zarpe

The defendants argue that the district court improperly admitted the zarpe into evidence, asserting that it was unauthenticated and that it contained hearsay. Both of these arguments lack merit.

First, we easily reject the defendants’ argument that the zarpe was not properly authenticated. Federal Rule of Evidence 901 “require[s] only enough evidence that a jury could have reasonably concluded that a document was authentic.” *In re Int’l Mgmt. Assocs., LLC*, 781 F.3d 1262, 1267 (11th Cir. 2015) (internal quotation marks omitted). The defendants contend that the government had to demonstrate the zarpe’s authenticity through the procedures outlined by Federal Rule of Evidence 902(3). But Rule 902(3) is inapplicable here: it defines the circumstances in which a foreign public document is *self-authenticating*, i.e., where a party need not provide any additional evidence to demonstrate that the document is authentic. There is no contention here—nor was there at trial—that the zarpe was self-authenticating. Instead, under Rule 901, “[t]he government may authenticate a document solely through the use of circumstantial evidence, including the document’s own distinctive characteristics and the circumstances

surrounding its discovery.” *United States v. Smith*, 918 F.2d 1501, 1510 (11th Cir. 1990).

Here, the government introduced evidence indicating that the zarpe was authentic: Fleming testified that it contained the precise information typically found on a zarpe and that it was found aboard the Rasputin. This showing sufficed to satisfy Rule 901. *See Int’l Mgmt. Assocs.*, 781 F.3d at 1267 (upholding a bankruptcy court’s decision that a document was authentic where a witness “testified that all of the underlying documents were found at [the debtor’s] offices and that the information in those documents substantially matched the records kept by the financial institutions and clients with which [the debtor] had transacted”).

Second, the zarpe was not hearsay because it was not offered “to prove the truth of the matter asserted” in it. Fed. R. Evid. 801(c)(2). At trial, the government explained that it intended to use the zarpe to demonstrate that when the Coast Guard approached Rasputin, it was heading away from its purported destination. The zarpe indicated—and Williams told the boarding team—that the Rasputin’s next port of call was Colon, Panama, but when the Coast Guard encountered the Rasputin, it was traveling away from Colon. The zarpe was admitted not to show that Colon was actually the Rasputin’s next port of call, but rather to demonstrate that the document, and Williams’s story, was a ruse. When a statement is entered into evidence to show its falsity, the statement is not hearsay.

See United States v. Costa, 31 F.3d 1073, 1080 (11th Cir. 1994) (explaining that a statement is not hearsay where “[t]he government offered the statement not for its truth . . . but rather to show its falsity”).

B. Sufficiency of the Evidence: Drug Convictions

All the defendants argue that their convictions for conspiracy to distribute and possession with intent to distribute five kilograms or more of a substance containing cocaine should be reversed because the government’s evidence was insufficient to establish that the contraband jettisoned from the *Rasputin* was cocaine. Admittedly, this case is an unusual one—no visible amount of drugs was found on board the *Rasputin* and no drugs were recovered from the sea. Even so, we find sufficient evidence to support the drug conspiracy convictions.

We must affirm the district court if the evidence and any reasonable inferences from that evidence—taken in the light most favorable to the government—would permit a reasonable jury to find guilt beyond a reasonable doubt. *United States v. Harrell*, 737 F.2d 971, 979 (11th Cir. 1984). We do not ask whether *we* believe that the evidence established guilt beyond a reasonable doubt; the “relevant question is whether, after viewing the evidence in the light most favorable to the prosecution, *any* rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt.” *Jackson v. Virginia*, 443 U.S. 307, 319 (1979). We consider the evidence “with all inferences and

credibility choices drawn in the government's favor," and we "are bound by the jury's credibility choices, and by its rejection of the inferences raised by the defendant[s]." *United States v. Broughton*, 689 F.3d 1260, 1276-77 (11th Cir. 2012) (citation omitted). Importantly, the "evidence need not exclude every reasonable hypothesis of innocence or be wholly inconsistent with every conclusion except that of guilt." *Harrell*, 737 F.2d at 979; *see also Holland v. United States*, 348 U.S. 121, 139-40 (1954) (rejecting the argument that, where the government's evidence is circumstantial, "it must be such as to exclude every reasonable hypothesis other than that of guilt").

"To establish a conspiracy, the government must prove beyond a reasonable doubt that two or more persons entered into an unlawful agreement to commit an offense, that the defendant knew of the agreement, and that he voluntarily became a part of the conspiracy." *United States v. Cruickshank*, 837 F.3d 1182, 1188 (11th Cir. 2016). "In order to convict a defendant for possession with intent to distribute a controlled substance, the government must prove knowing possession and an intent to distribute." *Id.* at 1189 (internal quotation marks omitted). To convict a defendant for conspiracy to possess with intent to distribute a controlled substance or possession with intent to distribute a controlled substance, "the identity of [the drug] must be established beyond a reasonable doubt." *United States v. Sanchez*, 722 F.2d 1501, 1506 (11th Cir. 1984).

The government may establish the identity of a drug using circumstantial evidence. *United States v. Clavis*, 956 F.2d 1079, 1088 (11th Cir. 1992).

Generally, “identification of a controlled substance can be established by such circumstantial evidence as lay experience based on familiarity through prior use, trading, or law enforcement; a high sales price; on-the-scene remarks by a conspirator identifying the substance as a drug; and behavior characteristic of sales and use, such as testing, weighing, cutting and peculiar ingestion.” *United States v. Baggett*, 954 F.2d 674, 677 (11th Cir. 1992) (internal quotation marks omitted).

We have previously held that “[t]he uncorroborated testimony of a person who observed [the] defendant in possession of a controlled substance is sufficient if the person is familiar with the substance at issue.” *United States v. Zielie*, 734 F.2d 1447, 1456 (11th Cir. 1984), *abrogated on other grounds by Bourjaily v. United States*, 483 U.S. 171, 177-79 (1987).

At trial, the government presented evidence more than sufficient to demonstrate that the defendants jettisoned contraband of some kind. The defendants were traveling at night, in rough waters, along a known drug trafficking route. When the Coast Guard encountered the *Rasputin*, the vessel was going in the opposite direction from where Williams initially stated it was headed and what was indicated on the vessel’s manifesto (the zarpe). The defendants had no fish, bait, ice, or fishing equipment on board a registered fishing vessel, and the area

where the Rasputin was found is not known for fishing. Several Coast Guard witnesses testified that as the Bear pursued the Rasputin, they saw through the FLIR that the Rasputin's crew began to gather packages and throw them overboard. Coast Guard officers found gasoline—a known masking agent—on board the diesel-fueled vessel, including several near-empty 40-gallon gasoline containers and nearly an inch and a half of gasoline in the fish hold. In addition to these suspicious circumstances, the FLIR images showed that once the cutter attempted to hail the vessel, the Rasputin sped up and moved erratically for no discernible reason. Collectively, these circumstances provided compelling evidence that the Rasputin contained contraband that the defendants jettisoned as the Bear approached.

As for the identity of the contraband—the difficult issue in this case—four Coast Guard officers testified that they had made prior drug interdictions in that same area off the coast of Panama and that only cocaine was recovered on those occasions. Three Coast Guard witnesses also testified to the size and shape of the packages they saw (through the FLIR) being jettisoned by the defendants, and they compared those packages to cocaine bales they had personally recovered and handled during these past interdictions.

Tirado testified that the IonScan samples from the Rasputin and the defendants resulted in 13 hits positive for cocaine and no hits positive for any other

drugs—even though the IonScan machine could detect up to 40 substances.¹¹

These included positive hits on the person of four of the five defendants. Tirado also explained that certain swipe results indicated high concentrations of cocaine. Certainly, Tirado’s testimony concerning the IonScan results had imperfections. For example, defendant Taylor—one of the defendants alleged to have jettisoned packages off the back of the Rasputin—did not test positive for cocaine when swiped. And the back of the vessel, where the jettisoning occurred, did not test positive either. But the record contained an explanation for this, which we must accept in drawing all inferences in favor of the jury’s verdict: several Coast Guard officers testified as to the rough conditions of the sea that night, including constant sea spray washing over the Rasputin. Fleming explained that it was difficult to swipe the back of the vessel because the swipes kept getting wet and deteriorating. Fleming and Tirado both testified that certain conditions aboard the Rasputin—including saltwater, wind, humidity, and gasoline—could erode the presence of cocaine and interfere with the successful sampling of an area.

Although the defendants theorize that the cocaine traces could have come aboard the Rasputin via contact with currency, the rigid hull boat, the boarding

¹¹ The record reflects that the IonScan machine used aboard the Rasputin was optimized for cocaine, heroin, and methamphetamine. Although the defense’s IonScan expert appeared to suggest that the machine would have to be specifically programmed to detect a substance besides cocaine, heroin, or methamphetamine, viewing the evidence in the light most favorable to the verdict, the jury could find that the IonScan machine was able to detect other substances, such as different drugs or explosives.

team, a personal amount of cocaine carried by one of the crew members, or cocaine that pre-dated the defendants' involvement with the ship, the record contained little to no evidence supporting these propositions. Indeed, the record explicitly contradicted some of these hypotheses—for example, the team that boarded the *Rasputin* was swiped prior boarding and tested negative for cocaine, while the rigid hull boat was brand new and had never been used in a drug interdiction before. Even to the extent the defendants' hypotheses were supported by some modicum of evidence, the jury was not required to return a verdict of acquittal. *See Harrell*, 737 F.2d at 979 (noting that the evidence need not disprove “every reasonable hypothesis of innocence” to permit a guilty verdict). The jury was free to “choose between or among the reasonable conclusions to be drawn from the evidence presented at trial.” *United States v. Molina*, 443 F.3d 824, 828 (11th Cir. 2006).

We conclude that sufficient evidence supported the jury's determination that the jettisoned packages contained cocaine. We recognize that this case is like no other in this circuit in that there was no witness who identified the jettisoned contraband as cocaine, nor was any cocaine recovered. While no single piece of evidence in this case, on its own, sufficed to permit a reasonable jury to conclude that the jettisoned packages contained cocaine, that is not the relevant question. Instead, the question is whether all of the evidence presented by the government,

taken together, permitted any reasonable jury to arrive at that conclusion. *See, e.g., United States v. Waymer*, 55 F.3d 564, 571 (11th Cir. 1995); *United States v. Draine*, 811 F.2d 1419, 1421 (11th Cir. 1987); *see also United States v. Vergara*, 687 F.2d 57, 61 (5th Cir. 1982) (“While each piece of evidence, standing alone, may have been susceptible of innocent interpretation, we are convinced that the jury reasonably could have concluded that the evidence, when examined in the aggregate, sufficed to establish that Vergara was a culpable member of the conspiracy as charged in the indictment.”). In sum, the government presented evidence that: (1) the Coast Guard witnesses had been involved in previous drug interdictions in the area where the *Rasputin* was stopped, and only cocaine had been recovered; (2) the packages the Coast Guard witnesses saw through the FLIR had the same size and shape as cocaine bales seized in prior drug interdictions; (3) IonScan testing revealed traces of cocaine aboard the *Rasputin*, including on the person of four of the five defendants; and (4) some of the IonScan swipes reflected high concentrations of cocaine. The cumulative effect of this evidence was enough to permit a reasonable jury to determine, beyond a reasonable doubt, that the substance jettisoned from the vessel was cocaine, notwithstanding the fact that no visible amount of cocaine was recovered by the Coast Guard. *See also United States v. Cruz-Valdez*, 773 F.2d 1541, 1546-47 (11th Cir. 1985) (en banc) (explaining that juries and courts “frequently take into account matters of common

sense or general knowledge,” such as the “almost ritualistic series of precautionary maneuvers that often characterize large controlled substance transactions”).¹²

C. Sufficiency of the Evidence: Failure-to-Heave-To Convictions

1. Williams

The government presented evidence sufficient to permit a reasonable fact finder to convict Williams for failure to heave to. Under 18 U.S.C. § 2237(a)(1), “[i]t shall be unlawful for the master, operator, or person in charge of a vessel of the United States, or a vessel subject to the jurisdiction of the United States, to knowingly fail to obey an order by an authorized Federal law enforcement officer to heave to that vessel.” “Heave to” means “to cause a vessel to slow, come to a stop, or adjust its course or speed to account for the weather conditions and sea state to facilitate a law enforcement boarding.” 18 U.S.C. § 2237(e)(2).

The government presented evidence that Williams was the master of the *Rasputin*, the *Rasputin* sped up and made erratic movements after it was hailed by the Coast Guard, and such movements were inappropriate and dangerous given the sea conditions that night. Williams nonetheless contends that the record contains

¹² To the extent the defendants argue that the trial evidence was insufficient to establish that they jettisoned at least five kilograms of cocaine, we disagree. Adair testified that he initially witnessed, through the FLIR, four men gathering ten or so bales into a net. Adair then explained that it took all four men to throw the first net of bales overboard. Based on that observation and the size of the bales, Adair estimated that each bale weighed between 65 and 75 pounds. Adair further testified that the four men threw overboard two additional sets of bales. This testimony permitted a reasonable jury to conclude that the defendants jettisoned at least five kilograms of cocaine.

no evidence that he heard or saw the Coast Guard's attempts to hail the Rasputin with a loudhailer. Coffey testified, however, that the Rasputin was hailed through both the loud hailer and the radio via Channel 16. Fleming testified that when he boarded the Rasputin, the radio was tuned to Channel 16 with the volume turned all the way up. Fleming also testified that when another officer gave the instruction to heave to over the loudhailer, the Rasputin responded by speeding up and beginning to move erratically. This testimony easily permits the inference that Williams attempted to evade the Coast Guard after hearing the loudhailer and/or the radio.

Williams argues in the alternative that the evidence adduced at trial compels the conclusion that it would have been unsafe for him to heave to faster than he did. But the government presented evidence indicating the opposite: that the Rasputin's movements after being hailed were dangerous given the marine conditions that night. Adair testified that after the Coast Guard hailed the Rasputin, the vessel started "going from left to right for no apparent reason, going through swells that a[] 24-foot [sic] vessel should not be going through." Trial Tr. 9/8/2015, Doc. 118 at 190. Fleming testified that the Rasputin "started operating erratically doing sudden course changes" just after the Coast Guard hailed the vessel, suggesting that Williams's maneuvers resulted from the presence of the Coast Guard rather than weather or sea conditions. Trial Tr. 9/9/2015, Doc. 119 at

32-33. This testimony sufficed to permit the jury to find that Williams' erratic movements were an attempt to evade the Coast Guard, rather than an effort to stay safe in rough waters.

2. Barker, Cardoza, Duffis and Taylor

The remaining defendants' convictions for aiding and abetting Williams' failure to heave to must be reversed for insufficient evidence. "To prove guilt under a theory of aiding and abetting, the Government must prove: (1) the substantive offense was committed by someone; (2) the defendant committed an act which contributed to and furthered the offense; and (3) the defendant intended to aid in its commission." *United States v. Camacho*, 233 F.3d 1308, 1317 (11th Cir. 2000). At trial, the government presented no evidence of the third element—that Williams's codefendants intended to aid him in failing to heave to. On appeal, the government argues that the mere fact that the codefendants jettisoned packages from the *Rasputin* indicates that they intended to aid Williams by making the *Rasputin* lighter and therefore faster. But, to support its theory, the government points to nothing other than the fact that the codefendants jettisoned the packages. The government's proof is especially tenuous given that the defendants had an obvious alternative motive for their behavior—ridding the boat of contraband before law enforcement arrived. Without more, no reasonable jury could find beyond a reasonable doubt that Williams's codefendants intended to help him

evade the Coast Guard by jettisoning the packages. *See United States v. Hamblin*, 911 F.2d 551, 558 (11th Cir. 1990) (overturning a firearm conviction where the government failed to meet its “burden of proving that [the defendant] shared the criminal intent of his co-defendant with respect to the firearm charges”). We therefore reverse these defendants’ convictions for aiding and abetting failure to heave to.

IV. CONCLUSION

For the foregoing reasons, we affirm the drug convictions of all defendants. We affirm Williams’s failure-to-heave-to conviction and reverse the remaining defendants’ aiding and abetting failure-to-heave-to convictions. We remand for resentencing of Barker, Cardoza, Duffis, and Taylor.

AFFIRMED IN PART, REVERSED IN PART, AND REMANDED.