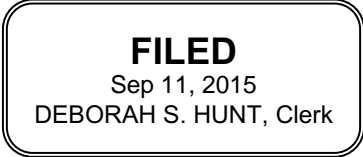


No. 14-1420

UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT



UNITED STATES OF AMERICA, )  
 )  
 Plaintiff-Appellee, )  
 )  
 v. )  
 )  
 DONALD STEVEN REYNOLDS, )  
 )  
 Defendant-Appellant. )

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

Before: BOGGS and BATCHELDER, Circuit Judges; and HUCK, District Judge.\*

BOGGS, Circuit Judge. Defendant-Appellant Donald Reynolds appeals his conviction, after a jury trial, and his sentence for three counts of violating federal child-pornography law. He argues that the district court erred in (1) admitting expert testimony based on historical cell-site data; (2) permitting the government to call a rebuttal witness; (3) excluding two alibi witnesses; (4) imposing a sentence enhancement; and (5) calculating the amount in restitution. For the following reasons, we affirm.

**I. Background**

On April 7, 2011, undercover Federal Bureau of Investigations (FBI) Special Agent Ryan Blanton used a peer-to-peer file-sharing program to download images containing child pornography from a computer. The FBI traced the computer's internet-protocol address to Donald Reynolds's home in Canton, Michigan. On May 26, 2011, FBI agents executed a search warrant on the home and seized the desktop computer from which Blanton had downloaded the

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\* The Honorable Paul C. Huck, United States District Judge for the Southern District of Florida, sitting by designation.

child-pornography images. In addition to Donald Reynolds, three other individuals regularly used that computer: Reynolds's two adult children who lived with him—Arica and Andrew Reynolds<sup>1</sup>—and Arica's boyfriend, Michael Cook. All four individuals denied using the computer to view, download, or distribute child pornography. Reynolds admitted that he owned the computer and that he had an account at Match.com, an online dating service.

FBI computer forensic examiner Walker Sharp found on the computer's hard drive over 8,000 child-pornography images that had been downloaded through a peer-to-peer file-sharing program. Sharp identified the following periods in May 2011 during which a user downloaded child pornography onto the computer.

- May 6, 2011 between 5:08 PM and 6:07 PM
- May 12, 2011 between 5:55 PM and 10:56 PM
- May 13, 2011 between 7:01 PM and 7:46 PM
- May 18, 2011 at approximately 2:24 PM
- May 23, 2011 between 9:42 PM and 10:23 PM
- May 24, 2011 between 7:01 AM and 7:40 AM and at 5:05 PM
- May 25, 2011 between 4:50 PM and 5:59 PM

The FBI analyzed cellphone records and concluded that, during the relevant download periods, Andrew, Arica, and Cook each had their cellphone activity that used cell towers that were geographically inconsistent with their being located at Reynolds's residence. In contrast, Reynolds made cellphone calls that used cell towers that were consistent with his being at his residence during the download periods. In addition to the cellphone evidence, Andrew was at work during four of the child-pornography download periods, and Arica and Cook were not

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<sup>1</sup> This opinion will refer to Donald Reynolds's adult children by their first names to avoid confusion.

present at the home during the May 25 download period. There was also activity through Reynolds's Match.com account on the computer during or near several child-pornography downloads periods.

The government charged Reynolds with one count of receipt of child pornography, in violation of 18 U.S.C. § 2252(A)(a)(2); one count of distribution of child pornography based on sharing files with Agent Blanton on April 7, 2011, in violation of the same statute; and one count of possession of child pornography, in violation of 18 U.S.C. § 2252(A)(a)(5)(B). The government presented FBI Agent Christopher Hess to give expert testimony on historical cell-site tracking analysis. Reynolds moved the district court to exclude Hess's testimony or, in the alternative, to grant a *Daubert* hearing "to determine the admissibility of the Government's proposed evidence related to cell-site tracking analysis." The district court denied the motion. Reynolds called Manfred Schenk as an expert witness to rebut Hess's testimony, and the government called Joseph Smyk, a Sprint-Nextel engineer, to rebut Schenk. Defense counsel objected to Smyk's rebuttal testimony on the ground that it was unexpected expert testimony, in violation of Federal Rule of Criminal Procedure 16, but the district court concluded that Smyk offered "classic rebuttal" testimony. Defense counsel sought to introduce two alibi witnesses in the middle of trial, well after the alibi-witness-disclosure deadline. The government objected, and the district court excluded the two witnesses from testifying.

A jury convicted Reynolds on all three counts. The district court applied a sentence enhancement under the advisory guidelines for possession of over 600 child-pornography images and sentenced Reynolds to 144 months of imprisonment. The district court also ordered Reynolds to pay a total of \$26,500 in restitution to two identified child-pornography victims. This appeal followed.

## **II. Standard of Review**

We review for abuse of discretion a district court's evidentiary rulings concerning the admission of expert testimony, rebuttal testimony, and undisclosed alibi-witnesses testimony. *Kumho Tire. Co. v. Carmichael*, 526 U.S. 137, 142 (1999) (excluding expert testimony); *United States v. Rayborn*, 495 F.3d 328, 343 (6th Cir. 2007) (admitting rebuttal testimony); *United States v. White*, 583 F.2d 899, 902 (6th Cir. 1978) (excluding alibi witnesses). We will only “find an abuse of discretion where [we] ha[ve] a definite and firm conviction that the court below committed a clear error of judgment in the conclusion it reached upon a weighing of the relevant factors.” *United States v. Jones*, 403 F.3d 817, 820 (6th Cir. 2005) (internal quotation marks and citation omitted). We review the district court's application of the sentencing guidelines de novo, *United States v. Brown*, 579 F.3d 672, 677 (6th Cir. 2009), and its restitution awards for abuse of discretion, *United States v. Vandenberg*, 201 F.3d 805, 812 (6th Cir. 1999).

## **III. Discussion**

### **A. Reliability of Historical Cell-Site Tracking Analysis**

Without holding a *Daubert* hearing, the district court admitted Agent Hess's testimony that, out of the four individuals who had access to the computer, Reynolds was the only one whose cellphone connected with cell towers that were consistent with the caller being at the residence during the relevant child-pornography download periods. Reynolds argues that the district court abused its discretion because Hess's historical cell-site tracking analysis was neither relevant nor reliable.

Testimony “concerning how cell phone towers operate constitute[s] expert testimony because it involve[s] specialized knowledge not readily accessible to any ordinary person.” *United States v. Yeley-Davis*, 632 F.3d 673, 684 (10th Cir. 2011). The district court admitted Agent Hess's

analysis as expert testimony. Federal Rule of Evidence 702 requires the district court to act as a “gatekeeper” by “ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 597 (1993). A district court is not required to hold a *Daubert* hearing before admitting expert testimony. *Clay v. Ford Motor Co.*, 215 F.3d 663, 667 (6th Cir. 2000). In the absence of a *Daubert* hearing, we review the record “to determine whether the district court erred in its assessment of the relevance and reliability of the expert testimony.” *Greenwell v. Boatwright*, 184 F.3d 492, 498 (6th Cir. 1999).

Evidence is relevant if it has a tendency to make a fact of consequence more or less probable than it would be without the evidence. Fed. R. Evid. 401. Agent Hess’s testimony was unquestionably relevant because it was probative as to whether each of four persons who generally had access to a desktop computer was absent from the computer’s location while child pornography was downloaded onto that computer.

When evaluating the reliability of expert testimony, we focus “solely on principles and methodology, not on the conclusions that they generate.” *Daubert v.* 509 U.S. at 595. The Supreme Court listed factors that courts could use to assess the reliability of scientific or technical expert testimony, including (1) whether the expert’s technique or theory can be, or has been, tested in some objective sense; (2) whether the technique or theory has been subject to peer review or publication; (3) the known or potential rate of error of the technique or theory when applied; (4) the existence and maintenance of standards and controls; and (5) the degree to which the technique or theory has been generally accepted by the scientific community. *Id.* at 593–95.

The *Daubert* factors do not “necessarily apply . . . in every instance in which the reliability of scientific testimony is challenged,” and the district courts retains considerable discretion in

assessing reliability. *Kumho Tire*, 526 U.S. at 141, 151; Fed. R. Evid. 702 advisory committee notes (2000 Amendment). But this discretion does not permit the district court “to perform the [gatekeeping] function inadequately.” *Kumho Tire*, 526 U.S. at 158–59 (Scalia, J., concurring). Expert testimony is properly excluded if it “is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.” *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

Cellular technology relies on radio waves to carry transmissions between a cellphone and a cell site, also known as a cell tower. Each tower typically has three antennae, each responsible for covering a 120-degree wedge. In the area surrounding Canton, Michigan, cell towers are spaced approximately one to two miles apart. A cell site “sector” refers to the area contained within a (usually) hexagonal array of cell towers. A cellphone generates “historical” cell-site data when it places a call and connects to a specific cell tower.<sup>2</sup> Such data includes the particular cell-tower antenna to which the cellphone connected and the duration of the call.<sup>3</sup> The “one-location” tracking approach assumes that the cellphone connected to the closest tower because that tower is most likely to produce the strongest signal. As most cell towers have three antennae facing different directions, the data generally indicate the direction of the caller relative to that tower—i.e., the 120-degree wedge serviced by the antenna—and thereby estimate the cell-site sector from which the call originated. *See Cisco, Wi-Fi Location-Based Services 4.1: Location Tracking Approaches 2-1* (2008). While cellphones are designed to connect to the tower with

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<sup>2</sup> A cellphone also produces “real time” data by passively transmitting signals to every tower within range when it is powered on, regardless of whether a call is made. Law-enforcement officers can triangulate a caller’s location with real-time data with reasonable precision. *See In re Application of U.S. for an Order for Prospective Cell Site Location Info. on a Certain Cellular Tel.*, 460 F. Supp. 2d 448, 451 n.3 (S.D.N.Y. 2006). But cellphone companies do not typically record real-time data. *See Declan McCullagh, Feds Push for Tracking Cell Phones*, CNET News (Feb. 11, 2010), <http://www.cnet.com/news/feds-push-for-tracking-cell-phones/>.

<sup>3</sup> A cell tower sometimes “hands off” a cellphone to another tower that produces a stronger signal during a call. There may be multiple “hand offs” during a single call. When this occurs, the cellphone company records the initial and the final cell towers that were connected to the cellphone, but it does not record intermediate connections.

the strongest signal, that tower might not actually be the closest because factors such as weather, obstructions, and network traffic can cause a call to connect to a tower farther away. FBI historical cell-site tracking does not account for these factors.

Reynolds relies on *United States v. Evans* to argue that Agent Hess's historical cell-site analysis was not a reliable indicator of his past location. 892 F. Supp. 2d 949 (N.D. Ill. 2012). In *Evans*, an FBI agent applied a technique to estimate the general location of the defendant's cellphone during a twenty-minute period in which the phone connected to two towers to place nine calls. *Id.* at 952.

To determine the location of a cell phone using the theory of granulization, Special Agent Raschke first identify[d] (1) the physical location of the cell sites used by the phone during the relevant time period; (2) the specific antenna used at each cell site; and (3) the direction of the antenna's coverage. He then estimate[d] the range of each antenna's coverage based on the proximity of the tower to other towers in the area. This is the area in which the cell phone could connect with the tower given the angle of the antenna and the strength of its signal. Finally, using his training and experience, Special Agent Raschke predict[ed] where the coverage area of one tower will overlap with the coverage area of another.

*Ibid.* The *Evans* court excluded the cell-site tracking testimony as being unreliable under *Daubert* because the testimony rested upon the questionable assumption that the defendant's phone connected to the closest tower in each call.<sup>4</sup> *Id.* at 955–57; *cf. United States v. Sepulveda*, 115 F.3d 882, 891 (11th Cir. 1997) (rejecting “cell site analysis offered by the government and relied on by the district court” at a sentencing hearing because the analysis “contained inherent uncertainties” as to which sector was the origin of calls that connected to a particular cell site).

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<sup>4</sup> The FBI's cell-site analysis of Andrew's cellphone records highlights the *Evans* court's concern. According to Agent Hess's analysis, Andrew made “multiple calls” on May 12, 2011, using cell towers that were “consistent with [his] employment address located at 6581 North Wayne Road, Westland, Michigan.” One call connected to cell site 212-4, which is the second closest tower to that address and is approximately 1 mile away. A second call connected to cell site 212-88, which is the fifth closest tower and is approximately 3 miles away. Historical cell-site tracking analysis would have placed Andrew's location at the time he made the second call in the cell-site sector adjacent to the sector in which his place of employment was located.

Several “courts have reached the opposite conclusion of the *Evans* Court regarding the reliability of an agent’s methodology in estimating cell sectors where the agent used cell-phone records.” *United States v. Machado-Eraza*, 950 F. Supp. 2d 49, 57 (2013) (quoting *United States v. Davis*, No. 11-60285-cr, 2013 WL 2156659, at \*6 (S.D. Fla. May 17, 2013)). These courts relied primarily on other *federal courts*’ acceptance of historical cell-site tracking to conclude that the technique is reliable. *Id.* at 56; *see also United States v. Schaffer*, 439 F. App’x 344, 346 (5th Cir. 2011); *Davis*, 2013 WL 2156659, at \*6; *United States v. Fama*, No. 12-cr-186, 2012 WL 6102700, at \*3 (E.D.N.Y. Dec. 10, 2012).

However, “judges are not scientists and do not have the scientific training that can facilitate the making of [scientific] decisions.” *Joiner*, 522 U.S. 136, 148 (Breyer, J., concurring); *see e.g.*, National Academies of Science, *Strengthening Forensic Science in the United States* 161 (2009) (concluding that, although many courts accept microscopic hair analysis, “testimony linking microscopic hair analysis to a particular defendant is highly unreliable” and that there is “no scientific support for the use of hair comparisons for individualization in the absence of DNA”). For this reason, *Daubert* identified the “scientific community,” rather than federal courts, as the relevant group in which acceptance is an indicator of a technique’s reliability. 509 U.S. at 593–94. But there is controversy as to whether cell-site tracking can pinpoint a call’s origin to a specific cell-sector. *See e.g.*, Cisco, *Wi-Fi Location-Based Services 4.1: Location Tracking Approaches 2-1* (2008) (“[T]he overwhelming drawback of pure cell of origin positioning approaches continues to be coarse granularity. For various reasons, mobile devices can be associated to cells that are not in close physical proximity, despite the fact that other nearby cells would be better candidates.”).



*United States v. Schaffer*, which lies at the heart of the anti-*Evans* citation chain, concluded that using historical cell-site tracking analysis to determine a person’s past whereabouts was reliable because the technique was “neither untested nor unestablished.” 439 F. App’x at 347. But it reached this conclusion on the basis of testimony that the technique had been tested and accepted by the *law-enforcement* community, and not the *scientific* community. An FBI expert testified that the “FBI had been successful at least 1000 times” in locating suspects with historical cell-site tracking. *Ibid.* This claim appears to be precisely the sort of “*ipse dixit* of the expert” testimony that should raise a gatekeeper’s suspicion. *See Joiner*, 522 U.S. at 146. While being successfully employed “1000 times” may sound impressive, the claim is not subject to independent peer review and fails to establish an error rate with which to assess reliability because there was no information on how many times the technique was employed *unsuccessfully*.

The *Schaffer* court also concluded that “the technique has been accepted by approximately [sic] federal courts.” 439 F. App’x at 347. But the two federal cases it cited—*Sepulveda*, 115 F.3d at 891, and *United States v. Weathers*, 169 F.3d 336 (6th Cir. 1999)—do not support the proposition that historical cell-site tracking can reliably determine a caller’s location. At a sentencing hearing where the court’s gatekeeper function under Rule 702 was not triggered, *Sepulveda* *rejected* historical cell-site data as an unreliable indicator of the cell sector from which a call originated. 115 F.3d at 891; Fed. R. Evid. 1101(d)(3). And *Weathers* simply did not involve the use of historical cell-site data to estimate a person’s past location in any way.<sup>5</sup>

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<sup>5</sup> In *Weathers*, historical cell-site data was introduced to show that the defendant’s cellphone sent signals from his known and undisputed location in Kentucky to a cell site in Indiana. 169 F.3d at 342. The court held that this transmission established the “interstate commerce” element for the defendant’s murder-for-hire conviction. *Ibid.*

We need not resolve in this case the split among federal courts as to the reliability of using historical cell-site analysis to determine a caller's location as being in a specific cell-sector. This is because Agent Hess used historical cell-site analysis to identify a cell-sector in which callers were not. The *Evans* court held that the FBI's tracking technique in that case was unreliable because it rested upon the questionable assumption that each call connected to one of the nearest towers. 892 F. Supp. 2d at 956. Agent Hess's analysis did not rely on this assumption. Rather than placing any of the four callers at a specific sector, Agent Hess sought to *exclude* each of them from the sector in which the Reynolds residence was located by showing that their calls connected to cell towers that were far away from the residence. While the assumption that every call connected to the nearest tower may (or may not) require "too great an analytical gap between the data and the opinion proffered," *see Joiner*, 522 U.S. at 146, it is reliable to assume that a call would not connect to a tower that was many sectors away. *United States v. Benford*, No. 2:09-cr-86, 2010 WL 2346305, at \*3 (N.D. Ind. June 8, 2010) (admitting cell-site analysis showing that a perjury defendant's phone connected with a cell tower over 30 miles away from the place she testified to have been); *see also United States v. Henderson*, 564 F. App'x 352, 363 (10th Cir. 2014) (admitting lay testimony based on cellphone records that a call did not originate from a particular place); *United States v. Feliciano*, 300 F. App'x 795, 800 (11th Cir. 2008) (same).

Cell records in this case showed that Cook made calls during the child-pornography download periods that connected to multiple cell towers in Dearborn and Inkster, all located between 10 and 15 miles away from the Reynolds residence; Arica made calls that connected to two cell towers in southwest Detroit, located approximately 20 miles away from the residence;

and Andrew made calls that connected to two towers that were 6 to 8 miles away.<sup>6</sup> Agent Hess assumed that each call was not diverted to a tower that was many sectors away to conclude that these three individuals were absent from the residence during the relevant time periods. While the assumption that a tower would not service a call made 10 or 20 miles away may be challenged—and indeed it was challenged at Reynolds’s trial—such a challenge speaks to the weight of the evidence, and not to its inherent reliability, because there are identifiable, measurable, and scientifically accepted factors that determine a cell tower’s maximum coverage range.<sup>7</sup> *See e.g., Jones*, 918 F. Supp. 2d at 5 (holding that challenges to “assumptions about the strength of the signal from a given cell tower . . . go to the weight of [the] testimony, not its reliability”).

Reynolds made calls that connected to two towers that were each approximately 1 mile away from his residence. Agent Hess’s analysis concluded that, unlike the other three household members, the cell-site data *did not show* that Reynolds was *absent* from the home. Importantly, Agent Hess declined to draw a conclusion about Reynolds’s location on the basis of cell-site data alone. The data was used to establish the absence of the other household members from Reynolds’s residence. The data was also used to show that Reynolds’s absence from the residence could not be demonstrated, permitting an inference that Reynolds was the only one out of four household members who was at the residence during the time child pornography was downloaded onto a desktop computer in that residence. Hess’s technique thereby avoided the

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<sup>6</sup> While the cell towers that Andrew used were a shorter distance from the residence, his employer testified that he was not at the residence during four of the download periods because he was at work.

<sup>7</sup> Reynolds presented evidence that a typical cell tower could service a call 30 miles away but the government countered with evidence that, because the cellphone company angled its cell-site antennae downward, the actual coverage range was substantially shorter.

disputed assumption that each call connected to the nearest tower or originated from within a specific cell sector.

Therefore, even if we adopt Reynolds's position that the nearest-tower assumption is unreliable for the purpose of Rule 702, his argument fails because Hess's conclusion as to Reynolds's whereabouts did not rely on that assumption. Accordingly, the district court did not abuse its discretion in admitting historical cell-site tracking analysis to determine where household members were *not* located during child-pornography download periods.

### **B. Admission of Rebuttal Testimony**

Reynolds identified Manfred Schenk as an expert whom he might call to rebut Agent Hess's testimony, but he did not expressly communicate an intention to call Schenk until after Hess's testimony had concluded. Reynolds ultimately did call Schenk as a rebuttal witness, and Schenk disputed Hess's testimony that cellphones usually connect to the nearest tower and that the two towers near Reynolds's home provided service ranges of 1.5 miles. Specifically, Schenk estimated that a cellphone could connect to a tower that was 30 miles away, which meant that Arica could have been in Reynolds's residence when she placed calls that connected to towers in southwest Detroit, 18 miles away. In response to Schenk's testimony, the government called Sprint-Nextel engineer Joseph Smyk. Smyk testified that, though proximity is not the only factor, it is the most important factor in determining the tower to which a cellphone call connects. He further explained that, because Sprint-Nextel tilted its cell towers at a downward angle, the coverage was far less than the 30 miles that Schenk projected. Smyk estimated that a call originating from Reynolds's residence has a 90% chance of being serviced by one of the two closest towers.

Reynolds argues on appeal that Smyk was an improper rebuttal witness. Rebuttal testimony is properly admitted to “rebut new evidence or new theories proffered in the defendant’s case-in-chief, and is not limited by the fact that the plaintiff could have introduced the proffered evidence in his case-in-chief.” *United States v. Caraway*, 411 F.3d 679, 683 (6th Cir. 2005) (internal quotation marks omitted). Smyk’s evidence responded directly to Schenk’s testimony as to the range of the cell towers and attendant implications and so was proper rebuttal evidence. Further, Reynolds’s argument that the government planned all along to “backload” Smyk for a “sneak attack” is unconvincing. *See* Appellant’s Br. at 43–44. Reynolds never confirmed in advance whether he would call Schenk and so the government could not have reliably planned on using Smyk to ambush Reynolds. Accordingly, the district court did not abuse its discretion in admitting Smyk’s testimony.

### **C. Exclusion of Alibi Witnesses**

Reynolds challenges the district court’s exclusion of two alibi witnesses—James Reynolds (the defendant’s brother) and Larry Bullock—who were disclosed late, in violation of Federal Rule of Criminal Procedure 12.1(a)(1). Rule 12.1(a)(1) allows the government to request from the defendant a list of alibi witnesses for specified times and places, and the defendant must provide the list “[w]ithin 14 days after the request, or at some other time the court sets.” Fed. R. Crim. P. 12.1(a)(2). If a party fails to comply, “the court may exclude the testimony of any undisclosed witness regarding the defendant’s alibi.” *Id.* at 12.1(e). To determine whether exclusion is proper, the district court should consider (1) the amount of prejudice to the government resulting from late disclosure; (2) the reason for nondisclosure; (3) the extent to which nondisclosure harms were mitigated by subsequent events; (4) the weight of properly

admitted evidence supporting the defendant's guilt; and (5) other relevant factors. *White*, 583 F.2d at 902.

The government requested alibi witnesses from Reynolds on March 19, 2013 for the relevant child-pornography download periods. Reynolds did not disclose James Reynolds and Larry Bullock as alibi witnesses until June 26, 2013, after trial had begun. The government was undoubtedly prejudiced by this late disclosure because it could not investigate the alibi, and subsequent events did not mitigate this prejudice. Nor did Reynolds's offer to make these witnesses available for interview cure this prejudice. Trial had started, and the government had already prepared (and partially presented) a case-in-chief that did not take these witnesses into account. Further, Reynolds's proffered reasons for late disclosure—ambiguities in the government's notice and his desire to avoid disclosing "the nature of the charges" to family and friend—were unconvincing. The government's notice contained precise time-and-place information and so was not ambiguous. Discomfort at disclosing criminal charges to potential alibi witnesses is an issue that every criminal defendant faces and so cannot excuse late disclosure. Accordingly, the district court did not abuse its discretion in excluding James Reynolds and Larry Bullock.

#### **D. Sentence and Restitution**

USSG § 2G2.2(b) provides for a five-level enhancement for child-pornography convictions that involve 600 or more images. The district court applied this enhancement to Reynolds's sentence based on the fact that the FBI found 8,000 child-pornography images on his computer. Reynolds argues that the government proved only 269 images because that was the number of images downloaded during the specific dates and times identified by the FBI. While the government may have proved that Reynolds *received* only 269 unlawful images, in violation of

18 U.S.C. § 2252(A)(a)(2), it also proved that he *possessed* over 8,000 images, in violation of 18 U.S.C. § 2252(A)(a)(5)(B), because that was the number of images found on his computer. Therefore, the district court properly applied the enhancement.

Reynolds also objects to the restitution awarded to two identified child-pornography victims as being improperly determined through “an exercise in speculation.” Appellant’s Br. at 63. Under 18 U.S.C. § 2259, a district court must award restitution to child-pornography victims in the “full amount of the victim’s losses” proximately caused by the offense. *Paroline v. United States*, 134 S. Ct. 1710, 1722 (2014). The restitution amount should reflect the degree to which the individual’s crime contributed to the victim’s injuries. *Id.* at 1729 (“[V]ictims should be compensated and . . . defendants should be held to account for the impact of their conduct on those victims, but also . . . defendants should be made liable for the consequences and gravity of their own conduct, not the conduct of others.”). The Supreme Court declined to provide a mathematical formula to calculate restitution and instead provided a non-exhaustive list of relevant factors for consideration by lower courts. *Id.* at 1728. Recognizing difficulties in this approach, the Supreme Court asked lower courts to “do their best” in exercising their “discretion and sound judgment.” *Id.* at 1728–29.

The district court considered the *Paroline* factors and concluded that Reynolds owed \$11,000 and \$15,500 to the victims, respectively. The district court reached these figures by using \$1,000 as a baseline restitution amount for each victim and adjusted upwards on the basis of the number of images that Reynolds possessed and the graphic and sadistic nature of those images. *United States v. Reynolds*, No. 12-cr-20843, 2014 WL 4187936, at \*7 (E.D. Mich. Aug. 22, 2014). The upward adjustment was greater for one of the victims because she had received fewer restitution awards to date. *Id.* at \*6. While this may seem speculative to Reynolds, the Supreme Court gave

the district court broad discretion to calculate restitution with limited guidance. The district court indeed did “do its best” in following that guidance, and Reynolds presents no evidence to the contrary. Accordingly, the district court did not abuse its discretion in awarding restitution.

#### **IV. Conclusion**

We AFFIRM Reynolds’s convictions, sentence, and restitution.