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10
11 **IN THE UNITED STATES DISTRICT COURT**
12 **DISTRICT OF ARIZONA**

13 United States of America,

14 Plaintiff,

15 vs.

16 Anthony Espinosa Gonzales,

17 Defendant.

18 Case No. CR-17-01311-PHX-DGC

19 **DEFENDANT’S MOTION TO
20 COMPEL ADDITIONAL DISCOVERY
21 AND NOTICE OF FILING OF
22 TORRENTIAL DOWNPOUR
23 VERSION 1.33 TESTING AND
24 ANALYSIS**

25 *(Evidentiary Hearing Requested)*

26 Comes now Defendant, Anthony Espinosa Gonzales, by and through undersigned
27 counsel, pursuant to **Brady v. Maryland**, Rule 16 of the Federal Rules of Criminal
28 Procedure, and the Due Process Clause of the 5th Amendment to the United States
Constitution and requests that this Court enter an additional order to compel the
Government to disclose additional discovery, including all previously requested
discovery relating to the law enforcement Computer program “Torrential Downpour”
utilized by investigators in this matter. This motion incorporates by reference pleadings,

1 allegations, and argument previously presented in this matter. This motion is further
2 supported by the following Memorandum of Points and Authorities.

3
4 **MEMORANDUM OF POINTS AND AUTHORITIES**

5
6 **Introduction**

7
8 Mr. Gonzales requests that this Court order additional testing of the software
9 relevant to this matter, to include programs Torrential Downpour, Torrential Downpour
10 Receptor, and ICAC COPS. Specifically, Mr. Gonzales moves that this Court issue its
11 Order directing that (1) further testing of the software be granted to the defense; (2)
12 ICAC COPS be included in that testing; (3) additional source computers be included in
13 that testing; and (4) industry standard testing be conducted on this suite of software by a
14 qualified software testing company.
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17 In support, Mr. Gonzales offers as **Exhibit A** to this pleading, the Torrential
18 Downpour Version 1.33 Testing and Analysis report generated by Loehrs Forensics. The
19 report results from an initial round of data retrieval and examination conducted in
20 October of 2019 and is based upon the Court’s Order entered on August 27, 2019 (**Doc.**
21 **86**).
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24 **Facts**

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26 The truth and accuracy of the Government's claim that its software conducts a
27 single source download, to include ICAC COPS, is absolutely material to the defense.
28 The Government has acknowledged that the entirety of the evidence on the eight

1 distribution charges is comprised of the logs of its own software stating that the child
2 pornography was downloaded from Mr. Gonzalez's computer. On January 31, 2019, the
3 following exchange took place between this Court and AUSA Helart:

4
5 The Court: The distribution charged in each of these counts [Counts
6 One through Eight] is the sharing of the video from
7 defendant's computer to the Government's computer. That
8 is the act of distribution that's charged; correct?

9 Ms. Helart: That is correct.

10 The Court: It's not distribution with anybody else, it's that distribution.

11 Ms. Helart: Correct. Yes.

12 **RT 1/31/19**, p. 141, l. 23 to p. 142, l. 4.

13 Later in the hearing, there was discussion about the limitation of the Government's
14 evidence:

15 The Court: Yeah. But, again, the only evidence you have that that video
16 that you will be showing the jury came from the defendant's
17 computer is what Torrential Downpour and its logs tell you.

18 Ms. Helart: It is true.

19
20 **RT 1/31/19**, p. 143, lls. 18-22.

21
22 On, June 28, 2018, the defense filed a Motion to Compel Discovery; Preclude
23 Certain Evidence. Following the Government's Response, an Evidentiary Hearing was
24 held on August 16, 2019. The defense proposed conducting nine tests of the software. In
25 the Court's Order, filed on August 27, 2019, tests one and two were deemed unnecessary
26 because the Government conceded that the Torrential Downpour software program will
27 identify non-parsed and partially-parsed torrents of investigative interest. [Doc. 86]. The
28

1 Court granted Mr. Gonzales' request to conduct proposed tests three and four, however
2 without the inclusion of ICAC COPS. The Court denied the request for tests four and
3 five. Tests seven, eight, and nine were ordered without objection from the Government.
4 The Court also granted a request to present a supplemental brief. The defense asserts that
5 the tests conducted pursuant to the Court's order entered on August 27, 2019, provide
6 direct evidence and support that the issues raised are material to the preparation of a
7 defense, provide evidence that there is a 4th Amendment issue that must be addressed, and
8 demonstrate that further testing is necessary to protect Mr. Gonzales' constitutional
9 rights. A description of some of the tests conducted demonstrates some of the reasons
10 that further testing is required.

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14 The defense respectfully underscores that the results of live testing and forensic
15 analysis of the Torrential Downpour software has revealed two important realities. First,
16 contrary to the Government's repeated claims, Torrential Downpour may identify data
17 that exists outside of shared space to include deleted data. Second, the Government
18 cannot rely on log files alone because Torrential Downpour may falsely report that a user
19 possesses data that has been deleted.

20 21 22 **Test VII: Single Source Download**

23 Pursuant to Section VI of the report, "the seventh test determines the accuracy of
24 Torrential Downpour limiting downloads to a sole IP address against the BitTorrent
25 protocol." The Single Source Download test was designed to determine Torrential
26 Downpour's accuracy in limiting downloads to a sole IP address against the BitTorrent
27 protocol. This is significant because it assures law enforcement that the entirety of the
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1 illegal files came from one suspect, as opposed to incomplete pieces from multiple
2 suspects, as the BitTorrent protocol is designed and instructed to operate by default. The
3 specific goal of the test is to determine whether Torrential Downpour will obtain files
4 from other sources during the course of an investigation. However, during the testing the
5 Government manually instructed Torrential Downpour to connect to a single IP address.
6 The software did not run natively in an automated state, nor was it used to investigate
7 suspects concurrently. In other words, the test did not allow the software to fail. This
8 would be analogous to testing the safety features of a car without conducting a controlled
9 car crash. Therefore, this test is incomplete and inconclusive.

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12 The single source download test of Torrential Downpour was conducted to
13 determine if the program limits “downloads to a sole IP address against the BitTorrent
14 protocol.” (**Exhibit A**, p. 4). More directly, “the question is whether Torrential
15 Downpour will obtain files from other sources when it is unable to conduct a single
16 source download.” (**Id.**). The test is ultimately meaningless in regard to the actual
17 functionality of the program as it is used by law enforcement.

20 **Argument**

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22 The Court found Torrential Downpour material to the defense under Rule
23 16(a)(1)(E(i)). (Court’s Order, Doc. 86). Nothing could be more material to Mr.
24 Gonzales’ defense. Again, the logs compose the entirety of the evidence for the
25 distribution charges. Testing demonstrates that those logs are flawed. As noted in the
26 Court’s Order: “Evidence is ‘material’ under Rule 16 if it is helpful to the development
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28

1 of a possible defense” **United States v. Budziak**, 697 F.3d 1105, 111 (9th Cir. 2012).
2 Due process requires additional testing. It is fundamentally unfair to ask a defendant to
3 defend against allegations that are entirely based upon flawed logs without allowing that
4 defendant to ascertain the extent to which those logs are flawed and how those flaws may
5 have affected the only evidence presented against him. To prevent a defendant from
6 doing so is to effectively prevent him from confronting his accuser.
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9 The Defendant here wishes to address three primary issues related to these
10 findings. First, the Government conceded that Torrential Downpour will identify
11 suspects in child pornography investigations who have no illegal content per the Non-
12 Parsed Torrent and Partially Parsed Torrents tests. Because of this, and because the
13 associated torrents and files identified by Torrential Downpour during the FBI
14 investigation were not located on Mr. Gonzales’ computer, the defense has evidence that
15 Mr. Gonzales could have been improperly identified by Torrential Downpour when he
16 did not possess any illegal content.
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19 Second, the testing revealed Torrential Downpour will identify suspects as
20 possessing child pornography for data that has been deleted and unshared. This result,
21 combined with the fact that the associated torrents and files identified by Torrential
22 Downpour during the FBI investigation were not located on Mr. Gonzales’ computer,
23 demonstrates that Mr. Gonzales could have been inappropriately identified by Torrential
24 Downpour when he did not publicly share any illegal content. It is anticipated that the
25 Government will argue the difference in Mr. Gonzales’ case is that Torrential Downpour
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1 reported downloading data whereas the testing only identified the suspect and could not
2 download any content. This raises the third issue.

3 Third, the testing was largely inconclusive due to the limitations imposed on
4 testing the single source download feature of Torrential Downpour. There are essentially
5 two steps in an investigation using Torrential Downpour: the identification of a suspect
6 possessing suspected child pornography and downloading data from the suspect as
7 distribution of child pornography. In this case, Torrential Downpour first identified Mr.
8 Gonzales as a suspect possessing child pornography. The testing revealed Torrential
9 Downpour can and will falsely identify suspects as possessing suspected child
10 pornography that is deleted and unshared. Next, Torrential Downpour allegedly
11 downloaded illegal material from Mr. Gonzales' IP address. The testing did not allow
12 Torrential Downpour to connect to multiple suspects and, therefore, the testing could not
13 determine the possibility that data could have been downloaded from a source other than
14 Mr. Gonzales during the investigation in this case. There are two logical explanations:
15 the data was present in shared space when downloaded or it came from somewhere else.
16 If the data was not on the computer, it must have been downloaded from ICAC COPS or
17 from other users being monitored. Therefore, the Torrential Downpour logs relied upon
18 by the Government as evidence that Mr. Gonzales possessed and distributed suspected
19 child pornography are, in fact, unreliable.
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26 Because none of the suspect files that were charged in Counts 1-8 were found on
27 Mr. Gonzales' computer, there is no forensic evidence to corroborate claims presented by
28 the Government. If the software performed as described by the Government, the files

1 must certainly have been downloaded to the shared file, distributed during the undercover
2 investigation, and deleted at some time between the undercover investigation and the date
3 of seizure. However, if the software does not work as the Government has described, one
4 of several possible scenarios must have occurred. The testing described in the report that
5 constitutes **Exhibit A** addresses these scenarios.
6

7 An imperfect, but, nevertheless, instructive analogy is to consider a scenario in
8 which a defendant is charged driving under the influence of alcohol where the blood
9 alcohol analysis constitutes the only evidence against the defendant. A forensic analysis
10 of Mr. Gonzales' computer revealed none of the materials that constitute the distribution
11 charges. This is analogous to a driver who presents no poor driving, no smell of alcohol,
12 no slurred speech, and no other indications of alcohol ingestion. In addition, the results
13 of the forensic analysis of the computer is also analogous to a driver who has taken and
14 passed all field sobriety tests and who has given no indication of being inebriated. If the
15 sole evidence against this defendant is the result of the blood analysis, nothing can be any
16 more material to the defense than the reliability of that analysis. If that defendant
17 develops evidence that the blood analysis is flawed in a way that might directly affect the
18 analysis of her blood, but is not permitted to seek out and present that evidence, then that
19 defendant can present no meaningful defense at all.
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24 Here, there is demonstrable evidence that the Torrential Downpour logs are
25 unreliable when describing exactly the type of information which forms the basis of the
26 charges against Mr. Gonzales. One difference between the scenarios is that there would
27 be no probable cause for a traffic stop or for further testing in the DUI example, whereas,
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1 here, the Government is able to conduct the download without probable cause because
2 the data that they seek is presumed to be in shared space. Another distinction involves
3 the novelty and complexity of the subject matter. In a DUI case, jurors typically have
4 knowledge of alcohol use and real world experience that would be likely to make them
5 understand the issues and question the lack of evidence of alcohol consumption in
6 comparison to the alcohol analysis. Conversely, jurors likely would not have relevant
7 knowledge or experience in a trial involving complex issues surrounding a network with
8 which they are unlikely to have any experience and a government software program with
9 which they will necessarily have none.
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13 **Amendment of Prior Arguments**

14 In order to provide proper context, Mr. Gonzales seeks to review and underscore
15 certain positions previously advanced by both the defense and by the Government. The
16 defense asserted in its first motion that it had reason to believe that the Government
17 software used here accesses data beyond the public domain. (**Doc. 25**, p. 6). The Court
18 has previously established that the log files the Government intends to use in this case are
19 generated in their entirety by Torrential Downpour. Furthermore, the Government has
20 repeatedly avowed that the evidence that Torrential Downpour captures is solely within
21 the public domain.
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24 In its Response the Government alleged as follows: "It is important to note that
25 Torrential Downpour obtains *only* what is being offered *to the public* on the BitTorrent
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1 network." (*Emphasis added*). (**Doc. 29**, p. 9, l. 4). Further, at the evidentiary hearing
2 held January 31, 2019, the following exchange was held regarding the log files:

3 The Court: But they are 100 percent a product of
4 Torrential Downpour.

5 Ms. Helart: They're generated by Torrential Downpour.

6 The Court: They purport to show what Torrential Downpour
7 was doing.

8 Ms. Helart: It's what Torrential Downpour captured
9 *in the public space*.

10 **RT 1/31/2019**, p. 145, ls. 11-18. (*Emphasis added*).

11
12 The Government's witness at the August 16, 2019 hearing, testified similarly: "Detective
13 Erdely testified that Torrential Downpour never obtains any unshared information from
14 any computer running BitTorrent compatible software; rather, the Torrential Downpour
15 law enforcement software searches the .torrent download candidates the same that any
16 public user of the BitTorrent network searches and 'only searches for information that a
17 user has already made public by the very use of the [uTorrent] software.'" (**RT 8/16/19** at
18 p. 42). Detective Erdely further explained that due to the BitTorrent software's matching
19 of SHA-1 hash values of downloaded pieces "*it would be absolutely impossible to*
20 *randomly download files from a suspect's computer which are from unshared folders.*"
21 (Government's Response, **Doc. 29**, p. 9, l. 25 to p. 10, l. 8, (*Emphasis added*))

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25 The defense asserts that the Government universally claims that this software
26 cannot possibly access unshared folders. In fact, at the evidentiary hearing held on
27 August 16, 2019, this Court inquired of the defense if it had any evidence that Torrential
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1 Downpour accessed data in the defendant's computer that is beyond the shared space or
2 public domain. The defense responded that it did not have evidence at that time. The
3 testing conducted by Loehrs Forensics changes this entirely. The data collection and
4 analysis conducted thus far provides clear evidence that this claim by the Government is
5 false.
6

7 This is a hugely important point for several reasons. The first reason is that Mr.
8 Gonzales and defendants in other cases have previously asserted that the Government
9 software does not function as the Government claims. (*See Doc. 25*, Motion to Compel
10 Discovery; Preclude Certain Evidence). One example of Government claims regarding
11 access to unshared folders is evidenced by an ROI generated by an agent in attendance at
12 the data collection conducted in this case in October of 2019, but not disclosed to the
13 defense in this case. An ROI was made a part of the record in a case in the United States
14 District Court of Alaska: *United States v. Matthew William Schweir*. **Exhibit B** (Case
15 3:17-cr-00095-SLG, Document 221-1, 10/16/19). The ROI was used by the Government
16 in Alaska and elsewhere to assert, not that the software executed the tasks instructed
17 within the parameters of the testing protocol, which is all it could claim since analysis
18 had not yet even begun, but that it functioned as the Government has claimed it functions.
19 These are two very different things. The ROI makes it clear that a distinction can be
20 drawn. This distinction has, however, in some cases, been lost. In this case, the
21 Government has chosen to not only not disclose to the defense this ROI, but has not
22 attempted to make this assertion. The Government cannot successfully make this claim
23 here, as the defense was present at testing.
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1 The Government has zealously fought against disclosing information about its
2 software. However, the Government may not misrepresent the function of the software
3 under scrutiny in order to prevent the Court from granting the defense access to that
4 which it should be entitled based upon Mr. Gonzales' constitutional rights. While the
5 Government may claim to be making these allegations based upon what the software
6 owner asserts, the Government is now on notice that, if that is the case, the owner's
7 assertions may not be trusted.
8

9
10 Based upon the testing and validation of the Torrential Downpour software to
11 date, it is apparent that the software will identify files on a suspect's computer that have
12 been deleted or moved into non-shared locations. Further, the log files created by
13 Torrential Downpour will falsely indicate that the user still has the files in spite of those
14 files being deleted or unshared. This is material to Mr. Gonzales' case because the files
15 were not found on his computer and the Government relied only on the Torrential
16 Downpour logs that, based upon testing, may have been false.
17

18
19 Although Torrential Downpour was unable to download any deleted and
20 unshared files from the suspect computer during testing, two critical elements were
21 omitted from the test, (i) Torrential Downpour's ability to obtain the files from other
22 sources pursuant to the BitTorrent protocol, and (ii) Torrential Downpour's ability to
23 obtain the files from the ICAC COPS database. It is imperative that these two elements
24 are included in the testing and validation of the Torrential Downpour software to
25 determine whether Torrential Downpour falsely identified Mr. Gonzales as having
26 those files not found on his computer and whether Torrential Downpour obtained those
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1 files from some other source, such as other users, ICAC COPS, or both. These issues
2 remain relevant even in the scenario in which a detective manually directs the software.
3

4 **Additional Evidence Regarding Single Source Download**

5 The theory of the Government's case and the sole evidence supporting the
6 distribution charges. Because of these facts, the Government must prove that, indeed,
7 their computer did not receive the charged items from any other source than defendant's
8 computer. The BitTorrent network normally functions by use of multi-source downloads
9 and the Government claims that its software modifies this, guaranteeing that its software
10 only downloads from a single source. Its proof is nothing more than the logs of its own
11 software. In order to adequately defend against these claims, it is absolutely material and
12 essential to the defense to thoroughly test this software utilizing the entire suite of
13 software to include ICAC COPS.
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17 Now that initial data gathering has been conducted, the defense can demonstrate
18 that at least two additional tests must be conducted to determine whether the
19 Government's assertion of a single source download is, in fact, accurate.
20

21 First, because the structure of the data collection utilized only one suspect
22 computer, determination of single-source downloading cannot be confirmed. In other
23 words, one additional factor must be included in additional testing: the use of other
24 computers that possess and share parts of the file to confirm that Torrential Downpour
25 *cannot* obtain files from other computers. This fact is absolutely material to the defense
26 of this case.
27
28

1 Second, ICAC COPS is likewise material to further testing. Statements made by
2 Government experts in court support the claim that it is a suite of software rather than
3 independent working parts.
4

5 **Disclosure of ICAC COPS is Required Pursuant to Rule 16**

6 The Government has repeatedly claimed that ICAC COPS and Torrential
7 Downpour operate independently for purposes of Torrential Downpour's connection to
8 the suspect computer and it is, therefore, unnecessary to explore and immaterial to the
9 defense. For instance, this exchange between the Court and Mr. Erdley:
10

11 The Court: When the Torrential Downpour program takes those three
12 pieces of information and goes out to a computer and
13 communicates and attempts to download child
14 pornography, is COPS doing anything in that process.

15 Mr. Erdley: No. Nothing.

16 **RT 8/16/19** at p. 42.

17 The data analysis conducted demonstrates that this is not accurate. The data
18 analysis performed to date verifies that ICAC COPS is an integral and essential
19 component of the software and must be included in testing in order to satisfy industry
20 standards regarding function and accuracy. From the Loehrs Report:
21

22 ... [U]pon learning that references to the ICAC COPS database is contained within
23 actual system files of the software, it is reasonable to assume that it must also be
24 contained within the source code. If this is true, it would be fundamental to the
25 testing process to analyze the source code to determine the importance of the
26 ICAC COPS database as it relates to the overall functionality of the Torrential
27 Downpour software. For example, if Torrential Downpour is unable to obtain a
28 file from the suspect, ICAC COPS could potentially intervene to obtain the file
from its own database or send instructions to the Torrential Downpour software to
obtain the file from other IP addresses.

Exhibit A, p. 7

1 This specifically addresses the issue of why Agent Daniels may direct Torrential
2 Downpour to one IP address, but it could nevertheless seek the data elsewhere. As an
3 example, ICAC COPS could instruct Torrential Downpour to access other computers to
4 obtain the illegal parts of the torrent. If Torrential Downpour locates only the hash value
5 of an illegal file, but not the file itself, ICAC COPS could obtain those illegal files from
6 its own database. These possibilities must be considered in light of the fact that none of
7 the files charged in Counts 1 through 8 were found on Mr. Gonzales' computer.
8

9 Gerhard Goodyear, who worked with Mr. Erdley on development of this software,
10 has testified that the parts of this suite cannot be properly tested separately. (*See* 8/16/19
11 RT at p. 44 and **Doc. 81-2**.) Agent Daniels, the Government expert in this case, also
12 testified in *United States v. Douglas Allen Jones*, (Case 2:18-cr-08040-SMB) on
13 November 26, 2019 as follows:
14

15 Q. So Torrential Downpour, in order to launch the investigation
16 you're talking about, it has to interact with this ICAC COPS
17 database to learn about these leads?

18 A. Only briefly. It's -- it's not doing the search function itself, but it's
19 just gathering information from the database.

20 Q. Without the information from the database, you can't really
21 conduct your investigation. Fair to say?

22 A. Um, for Torrential Downpour, yes.

23 District Court of Arizona. Case 2:18-cr-08040-SMB.

24 **Torrential Downpour Receptor**

25 Finally, because Torrential Downpour Receptor has only recently been revealed
26 by the Government's experts as working in conjunction with ICAC COPS and Torrential
27 Downpour. It has not been tested for accuracy. The defense is unaware whether
28

1 Torrential Downpour Receptor works in the same or similar way as Torrential
2 Downpour. Mr. Gonzales submits that Torrential Downpour Receptor logs are, likewise,
3 material to the defense, as it is part of the suite of software used in this case.
4

5 Wherefore, Mr. Gonzales moves that this court issue its Order directing that (1)
6 further testing of the software be granted to the defense; (2) ICAC COPS be included in
7 that testing; (3) additional source computers be included in that testing; and (4) industry
8 standard testing be conducted on this suite of software by a software testing facility
9 chosen by the defense.
10

11 **Conclusion**

12
13 For the reasons stated in this motion, Mr. Gonzales requests that this Court order
14 the additional software testing requested.
15

16
17
18 RESPECTFULLY SUBMITTED this 1st day of May, 2020.
19

20 /s Zachary Storrs
21 Attorney for Defendant
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CERTIFICATE OF SERVICE

I hereby certify that on May 1, 2020, I electronically transmitted the attached document to the Clerk's Office using the CM/ECF system for filing and transmittal of a Notice of Electronic Filing to the following CM/ECF registrants:

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By:/s Zachary Storrs