

UNITED STATES BANKRUPTCY COURT
DISTRICT OF MASSACHUSETTS

In re:

TELEXFREE, LLC,
TELEXFREE, INC. and
TELEXFREE FINANCIAL, INC.,

Reorganized Debtors.

Chapter 11 Cases

14-40987-MSH
14-40988-MSH
14-40989-MSH

Substantively Consolidated

STEPHEN B. DARR, TRUSTEE
OF THE ESTATES OF TELEXFREE, LLC,
TELEXFREE, INC. and TELEXFREE
FINANCIAL, INC.,

Plaintiff,

Adversary Proceeding
No. 16-4006

v.
FRANZ BALAN, A REPRESENTATIVE OF A
CLASS OF DEFENDANT NET WINNERS

Defendants.

STEPHEN B. DARR AS TRUSTEE
OF THE ESTATES OF TELEXFREE, LLC,
TELEXFREE, INC. and TELEXFREE
FINANCIAL, INC.,

Plaintiffs,

Adversary Proceeding
No. 16-4007

v.
MARCO PUZZARINI AND SANDRO PAULO
FREITAS, REPRESENTATIVES OF A CLASS
OF DEFENDANT NET WINNERS

Defendants.

**TRUSTEE’S MEMORANDUM IN SUPPORT OF THE ADMISSIBILITY
OF TIMOTHY MARTIN’S EXPERT OPINION**

Stephen B. Darr as he is the Liquidating Trustee (the “Trustee”) of the Reorganized Debtors TelexFree, LLC, TelexFree, Inc. and TelexFree Financial, Inc. (collectively “TelexFree”) submits this Memorandum in support of the admissibility of the expert opinion (“Expert Opinion”) of Timothy Martin of the Huron Consulting Group LLC (“Huron”) setting



forth the methodology developed by Huron under the supervision of Mr. Martin to link multiple Participant User Accounts to determine those Participants who are Net Winners and the amount of their Net Winnings. The Trustee will offer the expert testimony of Mr. Martin as set forth in the Expert Report as part of his *prima facie* case establishing that the amount of the Net Winnings received by a Participant constitutes a fraudulent conveyance recoverable by the Trustee, pursuant to § 548 of the Bankruptcy Code.¹

The Trustee submits that by reason of Mr. Martin's education, training, experience and expertise and that of the various individuals at Huron who assisted Mr. Martin in developing the methodology, Mr. Martin is qualified to render an expert opinion. Mr. Martin's qualifications, coupled with the extraordinary efforts by Huron under the supervision of Mr. Martin to reconstruct the records of TelexFree and the lengthy procedures used consistent with the recognized deterministic methodology, constitute a reliable methodology for linking User Accounts under Rule 702 of the Rules of Federal Evidence for admissibility of the Expert Opinion. The Trustee further submits that the arguments raised by the Class Action Representatives concerning the reliability of the factual underpinnings and criticism of the Expert Opinion go to the weight to be given the Expert Opinion and not its admissibility.

The Trustee is offering the Expert Opinion to establish his *prima facie* case as to the Defendant Classes. Each individual Participant Defendant will have an opportunity to offer evidence to dispute the amount of the Net Winnings attributable to him/her.

¹ On November 25, 2015, the Court entered an Order determining that TelexFree engaged in a Ponzi scheme, which Order was further entered as law of the case. [Docket No. 654] As a result, TelexFree is presumed to be insolvent and Net Winnings, to be fraudulent transfers. *See In re Bernard L. Madoff Inv. Sec. LLC*, 458 B.R. 87 (Bankr. S.D.N.Y. 2011).

Factual Statement

On April 13, 2014, TelexFree commenced the Chapter 11 proceedings in the United States Bankruptcy Court for the District of Nevada. Subsequently, the cases were transferred to the United States Bankruptcy for the District of Massachusetts, and on June 6, 2014, the Trustee was appointed. Substantially contemporaneously with TelexFree's commencement of their chapter 11 cases, the Securities and Exchange Commission commenced a civil enforcement action against TelexFree, and the United States Attorney commenced a criminal investigation into the activities of TelexFree. In its criminal investigation, the United States, through the Department of Homeland Security, executed a search of the premises of TelexFree seizing, among other items, computers and servers. Thus, when the Trustee was appointed, he did not have access to any of the electronic records of TelexFree. Homeland Security provided to the Trustee a forensic copy of the files located on the seized servers and computers so that the Trustee would have access to TelexFree's electronic records.

Based upon his investigation including interviews with interested parties, information provided by governmental authorities, and documents produced pursuant to Rule 2004 examinations, the Trustee obtain an understanding of the mechanics of the TelexFree scheme.

The Debtors purported to be in the business of providing a voice over internet protocol ("VOIP") service. The primary business of the Debtors, however, was the recruitment of new persons ("Participants") to generate revenues for the Debtors, its principals, and existing Participants. Each time that a Participant purchased a VOIP plan or a membership plan, the Participant opened a new account ("User Accounts"). Participants were asked to input various categories of personal information when opening a User Account, including name, email address, physical address, cell and home phone, passwords, and similar information.

User Accounts could be opened through Direct Transactions or Triangular Transactions. In the case of a Direct Transaction, the Participant paid their invoice for the VOIP or membership plan directly to TelexFree. In the case of a Triangular Transaction, the Participant paid the amount of their invoice to the Participant who recruited them. The recruiting Participant would then use accumulated credits, as further described below, in satisfaction of the invoice and would retain the fee paid by the new Participant.

Once a User Account was opened, Participants could receive credits based upon bonuses or commissions “earned” during their involvement in the scheme, including through the recruitment of other Participants. These credits could be redeemed for cash, transferred to another Participant, or applied in satisfaction of an invoice as in the case of Triangular Transactions.

I. RECONSTRUCTION OF TELEXFREE’S RECORDS

Upon obtaining access to the electronically stored records, the Trustee’s first goal was to obtain an understanding with respect to the TelexFree record-keeping systems and the nature and amount of the information contained therein. The focus of the Trustee’s investigation was the mechanics of the TelexFree management information system, commonly referred to as SIG, which was the program used by TelexFree to track Participant activity once a User Account was opened, including the accumulation and use of credits, payment made by the Participant and amounts disbursed to Participants. The Trustee also considered the Quickbooks accounting system for funds received and disbursed.²

² The Trustee retained the services of Mesirow to assist him. The Trustee and several of the key people working on the TelexFree matter subsequently left Mesirow and joined Huron. Hereinafter, no distinction will be made for the work performed by those individuals while employed at Mesirow and the continuation of the work at Huron.

Gaining an understanding of SIG was an enormous task. SIG contained more than a hundred tables containing billions of records. By running queries through SIG, Huron determined that there were four data tables in the SIG system that contained the principle information associated with the transactions related to TelexFree and Participants.³ These tables were identified as follows:

1. Account Table, which contains records for each User Account registered with TelexFree;
2. Invoice Table, which contains a unique record for each Participant invoice generated by TelexFree for the purchase of a VOIP or membership plan. The invoices contain details including the type of plan purchased, the invoice amount, and how the invoice was satisfied, e.g., cash transfer to TelexFree or a credit transaction as part of a Triangular Transaction;
3. Transfer Table, which contains information about each transfer of credits within the TelexFree system, including requests by Participants to redeem credits for cash; and
4. Bonus Table, which contains information about each accretion of TelexFree credits into a Participant's User Account.

The Account Table contained 17,016,780 User Accounts. With respect to each User Account, the Account Table contained 44 fields of data for each Participant. Further, each time a Participant bought a membership plan, a new User Account would be opened for that Participant. Thus, Participants usually had multiple User Accounts. Further complicating matters, the Account Tables included User Accounts not only for Participants in TelexFree but also for

³ Huron employees including while at Mesirrow spent hundreds of hours investigating SIG in order to develop an understanding of SIG and the information contained in SIG.

Participants in Ympactus, which was a similar Ponzi scheme operated from Brazil by an affiliate of TelexFree.⁴

II. STEPS TO DISTINGUISH THE TELEXFREE PARTICIPANTS FROM THE YMPACTUS PARTICIPANTS

The Invoice Tables within the SIG system distinguish between invoices paid in U.S. dollars and invoices converted to U.S. dollars from Brazilian Reais. Huron determined that the Reais/dollar distinction was a reliable method to segregate transactions for Ympactus Participants from those of TelexFree Participants. Huron reviewed the Invoice Tables, which contained, among other fields, a “currency field” and an “exchange rate field.” The currency field denoted the currency used to pay for the memberships, and the exchange rate field denoted the exchange rate if the currency was not in U.S. dollars.

For 99.7% of the transactions, the currency field was noted with a “D” [denoting U.S. Dollar] and the exchange rate was populated with a zero. Conversely, for 99.8% of the transactions where the currency field was populated with an “R” [denoting Brazilian Reais], the exchange rate was populated with a range of values from 1.98% to 2.37%, which exchange rates for the relevant period equated with the exchange rates between the Reais and the U.S. Dollar. Huron concluded that the User Accounts associated with the Ympactus Participants could be separated from TelexFree Participants’ User Accounts based upon the currency paid.

Huron verified the separation of the Ympactus User Accounts from the TelexFree User Accounts by comparing the payment of invoices in Reais as opposed to payment in Dollars. Substantially all of the invoices paid in Reais were paid between February 2012 and August 2013. During that time period, substantially all of the activity was in Ympactus, and very little

⁴ Ympactus was a similar Ponzi scheme run by Messrs. Wanzeler and Costa in Brazil. When the Brazilian Government shut down Ympactus in June 2013, Messrs. Wanzeler and Costa, along with Merrill, continued the Ponzi scheme through TelexFree.

activity was in TelexFree. In June of 2013, Ympactus was shut down by the Brazilian authorities, and invoices paid with Reais halted. Simultaneously, there was a substantial increase in invoices paid in U.S. dollars. The increase in the payments in dollars coincided with the increase in the activity in the TelexFree business. (See chart annexed as Exhibit ____.)

Therefore, Huron was able to distinguish between the TelexFree Participants and the Ympactus Participants by using the currency field and eliminate the Ympactus User Accounts from its analysis. Even with the elimination of approximately 4,000,000 User Accounts associated with Ympactus, there were approximately 11,000,000 User Accounts identified in SIG associated with TelexFree.

III. DEVELOPMENT OF AGGREGATION METHODOLOGY

Participants frequently purchased multiple User Accounts but SIG did not provide a method to link a Participant's User Accounts.⁵ In order to properly ascertain whether a Participant is a Net Winner or Net Loser and the amount of any Net Winnings or Net Losses, it was necessary to develop a methodology to link the various User Accounts attributable to each Participant. The process of developing this methodology occurred over many months and with the testing of multiple different methodologies to determine the best methodology in order to accomplish the linkage of these multiple accounts. The amount of the data and the number of variables were substantial, and it was a daunting task presented to Huron to develop this methodology.⁶ For example, there were approximately 15,000,000 TelexFree combined User Accounts existing in SIG, each with one or more paid invoices. Of these 15,000,000 User Accounts, there appeared to be approximately 3,300,000 Participants whose accounts aggregated

⁵ The number of User Accounts per Participant could range from one to thousands.

⁶ Huron spent over a thousand hours developing its methodology.

to this number. Even after Huron was able to exclude from the aggregation process those Participants who purchased only a single VoIP package, there remained 2,100,000 User Accounts which needed to be aggregated, and from this 2,100,000, Huron needed to segregate the Net Losers from the Net Winners.

IV. EFFORTS TO DEVELOP A SINGLE COMMON IDENTIFIER

Initially, Huron attempted to identify a single common identifier which could be utilized to link the User Accounts. Huron considered various Account Table fields as the common identifier. For example, Huron at one point believed that using the e-mail addresses as a common identifier could be an appropriate methodology to link the User Accounts. However, after running numerous tests on this method, it proved to be inefficient because recruiting Participants often used their email addresses to open User Accounts for Participants they recruited. Accordingly, an email address alone was not sufficient because it would attribute numerous User Accounts to a recruiting Participant, as opposed to the recruited Participant. Thus, e-mail address was rejected as a single common identifier.

Huron then considered using the name ascribed to the User Account as a single common identifier to link User Accounts. However, this methodology also proved inadequate. Participants would open User Accounts with variations of their names. For example, James Sample, Jim Sample, J. Sample, Sample Jim. Also, Participants did not always populate the name field when opening a User Account. Instead of a name, Participants might insert into the Account Table a series of letters, initials or fictitious names. Accordingly, Huron determined that using the name field alone was not an adequate means to link User Accounts.

V. AGGREGATION OF ACCOUNTS THROUGH USE OF MULTI-IDENTIFIERS

Having determined that no single common identifier could be used to link the User Accounts, Huron identified eight different fields to be used in combination to link the User Accounts. Those fields are as follows:

1. Name associated with each User Account in SIG;
2. Email address associated with each User Account in SIG;
3. Home phone number entered into SIG;
4. Cellphone number entered into SIG;
5. Physical address such as a street address entered into SIG;
6. Login which was a unique one-word name created by Participant in the SIG system;
7. Password which the Participant created to access User Account details; and
8. Rep ID, or User Account identifier, which was a unique identifier generated by SIG for each User Account.

Using these eight data fields as identifiers, Huron developed a multi-step aggregation process which combined the different data fields, and combinations of portions of the data fields, to identify all the User Accounts associated with a Participant. The aggregation consisted of thirteen (13) independent steps that combined User Accounts through differing combinations of Participant data entered when opening the User Accounts, as set forth on Slides 1, 2, and 3 to Exhibit "A". Each of the 13 steps aggregates User Accounts based on the respective step criteria and the results of each step are compared to the previously aggregated User Accounts for common identifiers. The amount of aggregated User Accounts may increase after each step but does not decrease. An illustration of the aggregation process is set forth in Slides 4 through 11 of Exhibit "A" to this memorandum.

Step 1: Name and Email Address

Step 1 in the aggregation process used the name entered by the Participant as this was considered to be the most reliable data point. To reduce the aggregation of potentially unrelated User Accounts, spaces, numbers, and special characters were removed from the name column (for example, John B. Doe would be adjusted to “johnbdoe”), and a minimum number of characters (four) was required to be considered for aggregation.

It is reasonable to assume that Participants would want to include a valid email address in order to receive information about their User Account. Therefore, the first grouping was that of name and email address. To reduce the grouping of potentially unrelated accounts, email addresses without “@” and other necessary criteria were not considered because all valid email addresses require a certain format.

Slide 4 of Exhibit “A” demonstrates that four User Accounts, 1, 2, 7, and 8 contain the name James Sample and the email address jsample@gmail.com, so these four User Accounts have been aggregated.⁷

Step 2: Name and Mobile Phone

Step 2 combines cellular phone number with the Participant name. In the event the name and cellular phone number match those contained in two previously aggregated User Accounts (in this example, User Accounts 1, 2, 7, and 8), then those User Accounts will be added to the aggregation. Slide 5 of Exhibit “A” demonstrates that User Accounts 6, 12, and 15 contain the same name and cellular phone number of previously aggregated User Accounts 1, 2, 7, and 8 and therefore are now included in the aggregation.

⁷ There may have been other groups of User Accounts that could be separately aggregated, for example, User Accounts 3 and 9. For purposes of this example, the Trustee is selecting a particular aggregation and following only that aggregation through the 13 step process for illustrative purposes.

Step 3: Name and Home Phone

Step 3 involves comparison of the name and home telephone number. In the event the name and home phone number match those contained in two previously aggregated User Accounts, then those User Accounts will be added to the aggregation. Slide 6 of Exhibit “A” demonstrates that User Accounts 5, 11, and 14 contain the same name and home phone number of previously aggregated User Accounts 1, 2, 6, 7, 8, 12, and 15, and therefore are now included in the aggregation.

Step 4: Name, Partial Cell Number, and Partial Home Number

Step 5: Name, Login, and Physical Address

Step 4 involves comparison of the name, the final five digits of the cell phone number and the final five digits of the home telephone number. Step 5 involves the aggregation of the name, first three characters of the Participant’s login, and first five characters of their physical address. In the event that these combinations match those contained in two previously aggregated User Accounts, then those User Accounts will be added to the aggregation. As set forth in Slide 7 of Exhibit “A”, neither of these steps resulted in more User Accounts being added to the aggregation.

Step 6: Name, Partial Name, Email, and Partial Home Number

Step 6 involves comparison of a portion of name (“Part Name Key”), the email address, and a combination of the last five digits of the cellular phone and home phone numbers (“Part Phone Key”). In the event that these combinations match those contained in two previously aggregated User Accounts, then those User Accounts will be added to the aggregation. As set forth in Slide 8 of Exhibit “A”, User Accounts 4 and 10 contain the same combinations of this information as previously aggregated User Accounts 1, 2, 5, 6, 7, and 8. Similarly, User

Account 13 contains the same combination of this information as previously aggregated User Accounts 14, and 15. As a result of Step 6, User Accounts 4, 10, and 13 are now included in the aggregation.

Step 7: Part Name Key, Part Phone Key, Login Key, End Key

Step 8: Part Name Key, Email, Login Key, End Key

Step 9: Part Name Key, Login Key, Hash Key

Step 7 involves comparison of a combination of the Part Name Key, Part Phone Key, a portion of the login associated with the User Account (“Login Key”), and a portion of the physical address (“End Key”). Step 8 involves comparison of a combination of the Part Name Key, email address, Login Key, and End Key. Step 9 involves comparison of a combination of Part Name Key, Login key, and an aggregation field derived from the code generated by the encryption of the secondary password associated with the User Account (“Hash Key”). In the event that these combinations match those contained in two previously aggregated User Accounts, then those User Accounts will be added to the aggregation. As set forth in Slide 9 of Exhibit “A”, none of these steps resulted in additional User Accounts being added to the aggregation.

Step 10: Name, Partial Name, Email, and Partial Home Number

Step 10 involves comparison of a combination of a portion of the name (“Part Name Key2”), the email address, and the Part Phone Key. In the event that these identifiers match those contained in two previously aggregated User Accounts, then those User Accounts will be added to the aggregation. Slide 10 of Exhibit “A” demonstrates that User Accounts 3 and 9 contain the same identifiers as previously aggregated User Accounts 6 and 12, and therefore are now included in the aggregation.

Step 11: Part Name Key2, Part Phone Key, Login Key, End Key
Step 12: Part Name Key2, Email, Login Key, End Key
Step 13: Part Name Key2, Login Key, Hash Key

Steps 11 through 13 are similar to Steps 7 through 9, except that they use Part Name Key 2 rather than Part Name Key in combining fields of data. In Slide 11, no additional aggregations result, and the aggregation process is now complete.

VI. VERIFICATION

Having applied the aggregation algorithm to link User Accounts to ascertain the Net Losers and Net Winners, Huron then verified its results by comparing the results to both manual aggregations performed by Huron and to listings of User Accounts shared with Huron by Participants. For example, Huron identified that in certain instances a Participant may have used a shortened version of their first name. For example, a Participant with the name “James Sample” may have used combinations of “James Sample”, “James A Sample”, “Jim Sample”, “JA Sample” and “J Sample”. To address this issue Huron created “Part Name Key2” which consists of a combination of the first and last four characters of name field. This search field allowed the algorithm to aggregate names that would not have been aggregated by comparing the full name field. The Part Name Key2 for each of the examples above would be “jimple” and the algorithm would aggregate the associated User Accounts if there was sufficient overlap of other data. The modifications identified by the manual review were made to the aggregation algorithm, and then another complete review was conducted to arrive at the final algorithm.

The algorithm served as the basis for the Trustee’s establishment of an interactive internet portal (“Portal”) for Participants to file electronic proofs of claim (“ePOCs”). The Portal was designed so that each Participant could enter the personal identifiers that were input when establishing their User Accounts. If the personal identifiers entered by the Participant matched a

portion of the personal identifiers associated with a User Account, the Portal would then present Participants with a listing of their aggregated User Accounts based upon the information input. Participants could accept or reject any of the User Accounts generated, add additional User Accounts, adjust transactions, or input additional data before submitting their claim. One of the changes that a Participant could make through the ePOC system was to add or subtract User Accounts. Approximately 132,000 claims were filed through the ePOC system, and of those claims, more than ninety percent (90%) agreed with the information provided, including the User Accounts that were ascribed to them based upon the algorithms developed by Huron.

The aggregation algorithm described above was developed over more than three months, and thousands of hours were expended on developing, testing, refining, modifying and, ultimately, reaching the conclusions expressed in the Expert Report. Given the millions of User Accounts and the transactions reflected in those accounts and the issues with respect to the information contained in the accounts, the aggregation algorithm prepared by Huron meets the threshold requirements under Federal Rules of Evidence, Rule 702 for admissibility. Admitting the Trustee's Expert Report and Opinion testimony leaves open for each individual Participant to dispute the specific finding as to them and for the Court to weigh the findings by Huron as to any individual Net Winner against specific evidence offered by a Participant.

VII. LEGAL STANDARD

The admissibility of expert testimony is governed by Federal Rule of Evidence 702. Rule 702 provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and

methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

The trial judge is the gatekeeper whose function is to ensure that an expert witness is sufficiently qualified by “knowledge, skill, experience, training, or education” and that the “testimony both rests on a reliable foundation and is relevant to the task at hand” so as to assist the trier of fact. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 597 (1993); *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999) (clarifying that *Daubert*’s gatekeeping obligation extended to technical and other specialized expert testimony). In evaluating reliability, a trial court “*may* consider one or more of the more specific factors that *Daubert* mentioned,” such as testing, peer review, error rates, and acceptability in the relevant scientific community, but these factors “do not constitute a ‘definitive checklist or test.’” *Kumho Tire*, 526 U.S. at 150 (emphasis in original). The appellate courts have stressed that the trial court must have “considerable leeway” in both “how to determine reliability” and “its ultimate conclusion.” *Id.* at 152–53. The test of reliability is “a flexible one” and must be “tied to the facts of a particular case.” *Id.* at 150 (citations and quotations omitted).

While a trial judge may examine the data offered to support an expert’s opinions, Rule 702 does not require that the proffering party “carry the burden of proving to the judge that the expert’s assessment of the situation is correct.” *Milward v. Acuity Specialty Products Group, Inc.*, 639 F.3d 11, 15 (1st Cir. 2011), *cert. denied*, 132 S. Ct. 1002 (2012) (citation and quotation omitted). Instead, the proponent of the expert testimony must show only “by a preponderance of proof” that the expert has used a “sound and methodologically reliable” reasoning process to reach his or her conclusion, and that the expert, “whether basing testimony on professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that

characterizes the practice of an expert in the relevant field.” *Kumho Tire*, 526 U.S. at 152; *Daubert*, 509 U.S. at 592 & n. 10.

The First Circuit in addressing the Trial Court’s gatekeeper function has cautioned that:

So long as an expert’s scientific testimony rests upon ‘good grounds,’ based on what is known, it should be tested by the adversarial process, rather than excluded for fear that jurors will not be able to handle the scientific complexities. 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. *Milward*, 639 F.3d at 15.

Thus, admissibility of the Expert Opinion does not hinge on the Court finding at this stage that the aggregation algorithm developed by Huron is, in fact, correct. Rather, the inquiry is whether the methodology employed to generate the result has the earmarking of reliability. *Kumho Tire Co. v. Carmichael*, 526 U.S. at 152 (1999). Once admissible, the basis for the opinion and the methodology will be tested by cross-examination, and the Court will determine the weight to be given to the expert opinion. In this case, the opinion will be subject to a dual test; first, in light of the StoneTurn rebuttal report and, then, each Participant will have the opportunity to offer evidence to challenge the specific facts that he/she is a Net Winner and the amount of the Net Winnings.

ARGUMENT

STONETURN’S OBJECTIONS GO TO THE WEIGHT OF THE OPINION, NOT THE ADMISSIBILITY.

The Class Action Representatives will submit the expert testimony of Joshua Dennis as set forth in the expert report of StoneTurn (the “StoneTurn Report”) in rebuttal to the Trustee’s Expert Report. The StoneTurn Report does not offer an alternative methodology with respect to the linking of the various User Accounts to determine who are the Net Winners, nor does it offer an alternative method for determining the amount of Net Winnings each Net Winner received. The StoneTurn Report criticizes the basis of Huron’s report and challenges the sufficiency and

reliability of the information that forms the basis for the Expert Report, but offers no alternative methodology. Apparently, StoneTurn is asserting the position that no methodology is possible and that there is no means of aggregating User Accounts or determining Net Winners and Net Losers.

StoneTurn's objections to the Expert Report are in two categories. In the first, StoneTurn criticizes the reliability of the Expert Report by noting that (1) the deterministic record linkage methodology has never been applied to a Ponzi scheme, (2) TelexFree's internal controls were insufficient to prevent Participants from entering inconsistent or unreliable information, (3) the ePOC data was too small a sample to verify the results, and (4) a review of certain accounts suggests instances of under-aggregation.

All of StoneTurn's criticisms go to the weight the Court should give to the expert opinion in arriving at its final judgment, not to the admissibility of the expert opinion. *See Zagklara v. Sprague Energy Corp.*, No. 2:10-CV-445-GZS, 2013 WL 160271, at *2 (D. Me. Jan. 15, 2013); *Zurich Ins. Co. v. Sunday River Skiway Corp.*, No. CIV. 08-325-P-H, 2010 WL 1511495, at *14 (D. Me. Apr. 15, 2010); *Forbis v. City of Portland*, No. 02-135-P-H, 2003 WL 21250675, at *4 (D. Me. May 29, 2003) ("Challenges to the methodology used by an expert witness are usually adequately addressed by cross-examination." (citing *United States v. Diaz*, 300 F.3d 66, 76-77 (1st Cir. 2002))).

As noted, Rule 702 also "does not require that a party who proffers expert testimony to carry the burden of proving to the judge that the expert's assessment of the situation is correct." *Milward*, 639 F.3d at 15 (citation omitted). "The soundness of the factual underpinnings of the expert's analysis and the correctness of the expert's conclusions based on that analysis are factual matters to be determined by the trier of fact. When the factual underpinning of an

expert's opinion is weak, it is a matter affecting the weight and credibility of the testimony—a question to be resolved by the jury.” *Id.* at 22 (citations omitted).

As noted, the Expert Report does not rely exclusively upon the deterministic methodology, but utilizes that methodology as a template to develop a more refined methodology so as to match the facts and circumstances presented in the TelexFree case. It is clear that the TelexFree Ponzi scheme is unique, both in the sense of the amount of the data which needed to be reviewed and collated and in the nature of the scheme itself. Recognizing this uniqueness, the Expert Report ultimately develops its own methodology for linking User Accounts, borrowing from the recognized deterministic methodology.

StoneTurn's next criticism with respect to the aggregation methodology concerns the use of the name as a key linking data point. As noted, the name was selected because it is reasonable to assume that Participants who would be receiving either credits or distributions would provide at least in one instance an accurate identification so that they could receive the benefits of their membership. Additionally, the name was only one of the multiple identifiers utilized, and as detailed above, the Expert Report used a sophisticated 13-step procedure to equate various identifiers to ultimately link the accounts. Again, StoneTurn's criticism goes to the weight, not to the admissibility.

StoneTurn criticizes the use of the ePOC data as providing a verification of the Trustee's methodology. A review of the 132,000 claims which were processed through the Portal encompassing approximately 1,900,000 User Accounts, disclosed more than 90% of the Participants substantially agreed with the findings by Huron with respect to User Accounts being attributed to those Participants. While the number of Participants who filed claims through the Portal were relatively small in comparison to the overall universe of potential claimants, the fact

that the vast majority of the claimants who filed claims through the Portal agreed with the Trustee's aggregation of User Accounts is certainly indicia of the reliability of the system and a factor which the Court can consider in considering the admissibility of the Expert Opinion.

Finally, StoneTurn criticized the aggregation method on the basis that when StoneTurn performed a manual review of the Net Losers and Net Winners' accounts, it found instances of potential underaggregation. This criticism, like its others, goes to the weight to be given to the Expert Opinion, not to its admissibility. The Expert Report does not purport to state that the aggregation method is infallible, only that it represents a reasonably methodology for linking accounts to determine the Net Winners and Net Losers. Each Net Winner will be provided with an account statement and an opportunity to contest his/her individual accounting; and in its role of fact finder, the Court can consider the Expert Opinion, weigh the evidence submitted by the Net Winners, and ultimately make the factual determination as to the liability, if any, of each individual Net Winner. The process for ultimately resolving the amount of each Net Winner's liability will be substantially similar to the process employed to resolve claim objections, which process is proven to be fair and efficient.

StoneTurn's objection challenges certain fundamental assumptions made by Mr. Martin in forming the Expert Opinion. These core assumptions are: (1) credit transactions solely between Participants are not included in the determination of the net equity calculation;⁸ and (2) Triangular Transactions are presumed to involve payment of cash by the new Participant to the recruiting Participant.

With respect to StoneTurn's criticism that the credit transactions solely among participants should be included in the calculation of the net equity, that criticism raises a legal

⁸ Credit transactions where a Participant purchases credits from TelexFree are accounted for in SIG and included in the net equity calculation.

issue, as opposed to admissibility of the Expert Opinion. The interparticipant credit transactions were excluded from the calculation because they were, in fact, interparticipant transactions, which did not directly involve TelexFree. While TelexFree does have information with respect to the credit transfers which occurred, they were outside of the TelexFree Ponzi scheme itself. Credits have not been considered in the calculation of any claim outside the definitions of Direct and Triangular Transactions. Whether credit transfers should be included in the calculation of Net Winnings is in the first instance a legal determination to be made unrelated to the admissibility of the Expert Opinion. Further, how credits are accounted for goes to the amount of the Net Winnings – therefore, the damage claim – and not to the admissibility of the Expert Opinion itself. If necessary, an additional calculation can be done to the extent that an individual Net Winner raises an issue of credits and the Court determines as a matter of law that credits should be considered in the calculation of Net Winnings.

The second challenge relates to the assumption made in the Expert Opinion that the Triangular Transactions involved the payment of cash by the new Participant to the recruiting Participant. The Trustee's expert assumed that the Triangular Transactions were based on cash paid to the recruiting Participant because the recruiting Participant redeemed credits in connection with a Triangular Transaction and it is unreasonable to assume that a recruiting Participant who could redeem credits for cash would redeem them for no payment in connection with a Triangular Transaction. Further, the Trustee, through meetings with victims groups, provided to the expert information from numerous Participants, all of whom stated that the Triangular Transactions involved the payment of cash to the recruiting Participant.

CONCLUSION

In conclusion, under the circumstances of the case, the Expert Report is admissible, and the criticisms and challenges to the Expert Report go to the ultimate weight it should be given when determining each individual Participant's liability.

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LIQUIDATING TRUSTEE,

By his counsel,

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Dated: November 18, 2020
788468

Aggregation Methodology – Illustrative Example

User Account	Name	Log-In	Street Address	Cell Phone	Home Phone	Email Address	Password (Hash)
1	James Sample	jsample1	100 Main St.	1617551212	1212555777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
2	James Sample	jsample2	100 Main Street	1-617-555-1212	212-555-777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
3	Jim Sample	jsample3	100 Main St.	6175551212	1212555777	jsample@yahoo.com	5f4dcc3b5aa765d61d8327deb882cf99
4	James J. Sample	sample1	100 Main Street #10	16175551212	1212555777	jsample@gmail.com	6cb75f652a9b52798eb6cf2201057c73
5	JamesSample	sample2	10 Main St.	5551212	1212555777	jsample@gmail	6cb75f652a9b52798eb6cf2201057c73
6	James Sample	sample3	100 Main St.	16175551212	1212555777	jsample@yahoo.com	6cb75f652a9b52798eb6cf2201057c73
7	James Sample	jsample4	100 Main St.	1617551212	1212555777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
8	James Sample	jsample5	100 Main Street	1-617-555-1212	212-555-777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
9	Jim Sample	jsample6	100 Main St.	6175551212	1212555777	jsample@yahoo.com	5f4dcc3b5aa765d61d8327deb882cf99
10	James J. Sample	redsox11	100 Main Street #10	16175551212	1212555777	jsample@gmail.com	6cb75f652a9b52798eb6cf2201057c73
11	JamesSample	sample5	10 Main St.	5551212	1212555777	jsample@gmail	6cb75f652a9b52798eb6cf2201057c73
12	James Sample	sample6	100 Main St.	16175551212	1212555777	jsample@yahoo.com	6cb75f652a9b52798eb6cf2201057c73
13	James J. Sample	redsox15	100 Main Street #10	16175551212	1212555777	jsample@hotmail.com	819b0643d6b89dc9b579fdcf9094f28e
14	JamesSample	sample5	10 Main St.	5551212	1212555777	jsample@hotmail.com	819b0643d6b89dc9b579fdcf9094f28e
15	James Sample	sample6	100 Main St.	16175551212	1212555777	jsample@hotmail.com	819b0643d6b89dc9b579fdcf9094f28e

- For illustration purposes, the above chart above represents 15 User Accounts which would be aggregated together using the Aggregation Methodology. The following slides demonstrate how the Aggregation Methodology associates each User Account together.
- The data includes name variations, multiple email addresses and formatting differences

Aggregation Methodology – Illustrative Example

User Account	Name	Log-In	Street Address	Cell Phone	Home Phone	Email Address	Password (Hash)
1	JamesSample	jsample1	100MainSt	1617551212	1212555777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
2	JamesSample	jsample2	100MainStreet	16175551212	212555777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
3	JimSample	jsample3	100MainSt	6175551212	1212555777	jsample@yahoo.com	5f4dcc3b5aa765d61d8327deb882cf99
4	JamesJSample	sample1	100MainStreet	16175551212	1212555777	jsample@gmail.com	6cb75f652a9b52798eb6cf2201057c73
5	JamesSample	sample2	10MainSt	5551212	1212555777	[NO KEY b/c of Bad eMail]	6cb75f652a9b52798eb6cf2201057c73
6	JamesSample	sample3	100MainSt	16175551212	1212555777	jsample@yahoo.com	6cb75f652a9b52798eb6cf2201057c73
7	JamesSample	jsample4	100MainSt	1617551212	1212555777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
8	JamesSample	jsample5	100MainStreet	16175551212	212555777	jsample@gmail.com	5f4dcc3b5aa765d61d8327deb882cf99
9	JimSample	jsample6	100MainSt	6175551212	1212555777	jsample@yahoo.com	5f4dcc3b5aa765d61d8327deb882cf99
10	JamesJSample	redsox11	100MainStreet	16175551212	1212555777	jsample@gmail.com	6cb75f652a9b52798eb6cf2201057c73
11	JamesSample	sample5	10MainSt	5551212	1212555777	[NO KEY b/c of Bad eMail]	6cb75f652a9b52798eb6cf2201057c73
12	JamesSample	sample6	100MainSt	16175551212	1212555777	jsample@yahoo.com	6cb75f652a9b52798eb6cf2201057c73
13	JamesJSample	redsox15	100MainStreet	16175551212	1212555777	jsample@hotmail.com	819b0643d6b89dc9b579fdcf9094f28e
14	JamesSample	sample5	10MainSt	5551212	1212555777	jsample@hotmail.com	819b0643d6b89dc9b579fdcf9094f28e
15	JamesSample	sample6	100MainSt	16175551212	1212555777	jsample@hotmail.com	819b0643d6b89dc9b579fdcf9094f28e

- Data normalization was performed to compare the accounts
- Spaces, punctuation and other extraneous characters were removed
- Data that could not be relied upon for aggregation was excluded
 - Improperly formatted email addresses in records 5 and 11 were excluded.
 - Data that did not meet minimum character length requirements were also excluded (not shown).

Aggregation Steps

Aggregation Procedure	Linking Keys Used
1	Name Key, Email Key
2	Name Key, Cel Key
3	Name Key, Fone Key
4	Name Key, Part Phone Key
5	Name Key, Login Key, End Key
6	Part Name Key, Email Key, Part Phone Key
7	Part Name Key, Part Phone Key, Login Key, End Key
8	Part Name Key, Email Key, Login Key, End Key
9	Part Name Key, Login Key, Hash Key
10	Part Name Key2, Email Key, Part Phone Key
11	Part Name Key2, Part Phone Key, Login Key, End Key
12	Part Name Key2, Email Key, Login Key, End Key
13	Part Name Key2, Login Key, Hash Key

Step 1: Name Key, Email Key

Step 1	
User Account	name_key, email_key
1	JamesSamplejsample@gmail.co ✓
2	JamesSamplejsample@gmail.co ✓
3	JimSamplejsample@yahoo.com
4	JamesJSamplejsample@gmail.com
5	Excluded
6	JamesSamplejsample@yahoo.com
7	JamesSamplejsample@gmail.co ✓
8	JamesSamplejsample@gmail.co ✓
9	JimSamplejsample@yahoo.com
10	JamesJSamplejsample@gmail.com
11	Excluded
12	JamesSamplejsample@yahoo.com
13	JamesJSamplejsample@hotmail.com
14	JamesSamplejsample@hotmail.com
15	JamesSamplejsample@hotmail.com

- **The User Accounts were first grouped by a combination of the name key and email key associated with the User Accounts.**
 - User Accounts 1,2,7 and 8 aggregated in Step 1 represented by the red checkmark.
 - For the purpose of this presentation:
 - Green highlights indicate User Accounts which match at a particular Step and will be part of the example aggregation.
 - Please note that additional User Accounts may also aggregate with each other in each step but are not highlighted for the purpose of this example.
 - Red checkmarks also indicate the step at which a User Account was aggregated with other User Accounts.

Step 2: Name Key, Cel Key

	Step 1	Step 2
User Account	name_key, email_key	name_key, cel_key
1	JamesSamplejsample@gmail.c ✓	JamesSample16175512
2	JamesSamplejsample@gmail.c ✓	JamesSample16175551212
3	JimSamplejsample@yahoo.com	JimSample6175551212
4	JamesJSamplejsample@gmail.com	JamesJSample16175551212
5	Excluded	JamesSample5551212
6	JamesSamplejsample@yahoo.com	JamesSample16175 ✓ 212
7	JamesSamplejsample@gmail.c ✓	JamesSample16175512 12
8	JamesSamplejsample@gmail.c ✓	JamesSample16175551 212
9	JimSamplejsample@yahoo.com	JimSample6175551212
10	JamesJSamplejsample@gmail.com	JamesJSample16175551 212
11	Excluded	JamesSample5551212
12	JamesSamplejsample@yahoo.com	JamesSample16175 ✓ 212
13	JamesJSamplejsample@hotmail.co m	JamesJSample16175551 212
14	JamesSamplejsample@hotmail.com	JamesSample5551212
15	JamesSamplejsample@hotmail.com	JamesSample16175 ✓ 212

- The User Accounts were then independently grouped by the combined name key and cel key
 - In Step 2, User Accounts 2,6,8,12 and 15 have the same combination of name key and cel key.
 - For a new User Account to join the aggregation, the User Account group identified above must overlap with two or more previously aggregated User Accounts.
 - Because three previously unaggregated User Accounts (6,12&15) overlap with two previously aggregated User Accounts (2&8), 6,12&15 join the aggregation (indicated by the red checkmarks).
 - All User Accounts highlighted in green are now part of the aggregation.

Step 3: Name Key, Fone Key

User Account	Step 1 name_key, email_key	Step 2 name_key, cel_key	Step 3 name_key, fone_key
1	JamesSamplesamplemail.com ✓	JamesSample16175512	JamesSample1212555777
2	JamesSamplesamplemail.com ✓	JamesSample16175551212	JamesSample212555777
3	JimSamplesample@yahoo.com	JimSample6175551212	JimSample121255577
4	JamesJSamplesample@gmail.com	JamesJSample16175551212	JamesJSample121255777
5	Excluded	JamesSample5551212	JamesSample1215777 ✓
6	JamesSamplesample@yahoo.com	JamesSample16175212 ✓	JamesSample121255777
7	JamesSamplesamplemail.com ✓	JamesSample16175512	JamesSample121255777
8	JamesSamplesamplemail.com ✓	JamesSample16175551212	JamesSample212555777
9	JimSamplesample@yahoo.com	JimSample6175551212	JimSample121255577
10	JamesJSamplesample@gmail.com	JamesJSample16175551212	JamesJSample121255777
11	Excluded	JamesSample5551212	JamesSample1215777 ✓
12	JamesSamplesample@yahoo.com	JamesSample16175212 ✓	JamesSample121255777
13	JamesJSamplesample@hotmail.com	JamesJSample16175551212	JamesJSample121255777
14	JamesSamplesample@hotmail.com	JamesSample5551212	JamesSample1215777 ✓
15	JamesSamplesample@hotmail.com	JamesSample16175212 ✓	JamesSample121255777

- The User Accounts were then independently grouped by the combined name key and fone key
- As the process continues through Step 3, User Accounts 5, 11 and 14 join the aggregation as represented by the red checkmarks.

Steps 4 and 5:

User Account	Step 1 name_key, email_key	Step 2 name_key, cel_key	Step 3 name_key, fone_key	Step 4 name_key, part_phone_key	Step 5 name_key, login_key, end_key,
1	JamesSamplej ple@gmail.com ✓	JamesSample1617 5551212	JamesSample121 2555777	JamesSample512 1255777	JamesSamplejs a100Ma
2	JamesSamplej ple@gmail.com ✓	JamesSample1617 5551212	JamesSample212 555777	JamesSample512 1255777	JamesSamplejs a100Ma
3	JimSamplejsam ple@yahoo.com	JimSample617555 1212	JimSample12125 55777	JimSample51212 55777	JimSamplejsa10 0Ma
4	JamesJSamplejsam ple@gmail.com	JamesJSample161 75551212	JamesJSample12 12555777	JamesJSample51 21255777	JamesJSamples am100Ma
5	Excluded	JamesSample5551 212	JamesSampl 2555777 ✓	JamesSample512 1255777	JamesSamplesa m10Mai
6	JamesSamplejsam ple@yahoo.com	JamesSample1 5551212 ✓	JamesSample121 2555777	JamesSample512 1255777	JamesSamplesa m100Ma
7	JamesSamplejs ple@gmail.com ✓	JamesSample1617 551212	JamesSample121 2555777	JamesSample512 1255777	JamesSamplejs a100Ma
8	JamesSamplejs ple@gmail.com ✓	JamesSample1617 5551212	JamesSample212 555777	JamesSample512 1255777	JamesSamplejs a100Ma
9	JimSamplejsam ple@yahoo.com	JimSample617555 1212	JimSample12125 55777	JimSample51212 55777	JimSamplejsa10 0Ma
10	JamesJSamplejsam ple@gmail.com	JamesJSample161 75551212	JamesJSample12 12555777	JamesJSample51 21255777	JamesJSamples am100Ma
11	Excluded	JamesSample5551 212	JamesSample 2555777 ✓	JamesSample512 1255777	JamesSamplesa m10Mai
12	JamesSamplejsam ple@yahoo.com	JamesSample1 5551212 ✓	JamesSample121 2555777	JamesSample512 1255777	JamesSamplesa m100Ma
13	JamesJSamplejsam ple@hotmail.com	JamesJSample161 75551212	JamesJSample12 12555777	JamesJSample51 21255777	JamesJSamples am100Ma
14	JamesSamplejsam ple@hotmail.com	JamesSample5551 212	JamesSampl 2555777 ✓	JamesSample512 1255777	JamesSamplesa m10Mai
15	JamesSamplejsam ple@hotmail.com	JamesSample 5551212 ✓	JamesSample121 2555777	JamesSample512 1255777	JamesSamplesa m100Ma

- **No User Accounts were added to the aggregation in Step 4 or Step 5.**
- Because neither step resulted in groupings which overlapped with two previously aggregated User Accounts, no additional User Accounts joined the aggregation.

Step 6: Part Name Key, Email Key, Part Phone Key

User Account	Step 1 name_key, email_key	Step 2 name_key, cel_key	Step 3 name_key, fone_key	Step 4 name_key, part_phone_key	Step 5 name_key, login_key, end_key,	Step 6 part_name_key, email_key, part_phone_key
1	JamesSamplejsa le@gmail.com ✓	JamesSample1 617551212	JamesSample12 12555777	JamesSample512 1255777	JamesSamplejs a100Ma	Jamejsample@gmail .com5121255777
2	JamesSamplejsa le@gmail.com ✓	JamesSample1 6175551212	JamesSample21 2555777	JamesSample512 1255777	JamesSamplejs a100Ma	Jamejsample@gmail .com5121255777
3	JimSamplejsampl e@yahoo.com	JimSample617 5551212	JimSample1212 555777	JimSample51212 55777	JimSamplejsa10 0Ma	JimSjsample@yahoo .com5121255777
4	JamesJSamplejsam ple@gmail.com	JamesJSample 16175551212	JamesJSample1 212555777	JamesJSample51 21255777	JamesJSamples am100Ma	Jamejsample@g .com5121255777 ✓
5	Excluded	JamesSample5 551212	JamesSamp ✓ 12555777	JamesSample512 1255777	JamesSamplesa m10Mai	Excluded
6	JamesSamplejsamp le@yahoo.com	JamesSam ✓ 6175551212	JamesSample12 12555777	JamesSample512 1255777	JamesSamplesa m100Ma	Jamejsample@yaho o.com5121255777
7	JamesSamplejsa le@gmail.com ✓	JamesSample1 617551212	JamesSample12 12555777	JamesSample512 1255777	JamesSamplejs a100Ma	Jamejsample@gmail .com5121255777
8	JamesSamplejsa le@gmail.com ✓	JamesSample1 6175551212	JamesSample21 2555777	JamesSample512 1255777	JamesSamplejs a100Ma	Jamejsample@gmail .com5121255777
9	JimSamplejsampl e@yahoo.com	JimSample617 5551212	JimSample1212 555777	JimSample51212 55777	JimSamplejsa10 0Ma	JimSjsample@yahoo .com5121255777
10	JamesJSamplejsam ple@gmail.com	JamesJSample 16175551212	JamesJSample1 212555777	JamesJSample51 21255777	JamesJSamples am100Ma	Jamejsample@g .com5121255777 ✓
11	Excluded	JamesSample5 551212	JamesSamp ✓ 12555777	JamesSample512 1255777	JamesSamplesa m10Mai	Excluded
12	JamesSamplejsamp le@yahoo.com	JamesSam ✓ 6175551212	JamesSample12 12555777	JamesSample512 1255777	JamesSamplesa m100Ma	Jamejsample@yaho o.com5121255777
13	JamesJSamplejsam ple@hotmail.com	JamesJSample 16175551212	JamesJSample1 212555777	JamesJSample51 21255777	JamesJSamples am100Ma	Jamejsample@h ail.com5121255777 ✓
14	JamesSamplejsamp le@hotmail.com	JamesSample5 551212	JamesSamp ✓ 12555777	JamesSample512 1255777	JamesSamplesa m10Mai	Jamejsample@hotm ail.com5121255777
15	JamesSamplejsamp le@hotmail.com	JamesSam ✓ 6175551212	JamesSample12 12555777	JamesSample512 1255777	JamesSamplesa m100Ma	Jamejsample@hotm ail.com5121255777

- Three User Accounts were added to the aggregation in Step 6
- User Accounts 4, 10 and 13 were added to the aggregation in Step 6 as represented by the red checkmarks.
 - User Accounts 4 and 10 joined the aggregation because they grouped with User Accounts 1, 2, 7 and 8 which were part of a prior aggregation.
 - User Account 13 joined the aggregation because it grouped with User Accounts 14 and 15, which were also part of a prior step aggregation.

Steps 7, 8 and 9:

User Account	Step 1 name_key, email_key	Step 2 name_key, cel_key	Step 3 name_key, fone_key	Step 4 name_key, part_phone_key	Step 5 name_key, login_key, end_key,	Step 6 part_name_key , email_key, part_phone_key	Step 7 part_name_key, part_phone_key, login_key, end_key	Step 8 part_name_key , email_key, login_key, end_key	Step 9 part_name_key, login_key, hash_key
1	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSample1212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99
2	JamesSample@gmail.com ✓	JamesSample16175551212	JamesSamplee212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99
3	JimSamplejsample@yahoo.com	JimSample6175551212	JimSample1212555777	JimSample5121255777	JimSamplejsa100Ma	JimSjsample@yahoo.com5121255777	JimS5121255777jsa100Ma	JimSjsample@yahoo.comjsa100Ma	JimSjsa5f4dcc3b5aa765d61d8327deb882cf99
4	JamesJSample@gmail.com	JamesJSample16175551212	JamesJSamplee1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp@gmail.com5121255777 ✓	Jame5121255777sam100Ma	Jamejsample@gmail.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73
5	Excluded	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Excluded	Jame5121255777sam100Ma	Excluded	Jamesam6cb75f652a9b52798eb6cf2201057c73
6	JamesSamplejsample@yahoo.com	JamesSam ✓ 6175551212	JamesSamplee1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@yahoo.com5121255777	Jame5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73
7	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSamplee1212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99
8	JamesSample@gmail.com ✓	JamesSample16175551212	JamesSamplee212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99
9	JimSamplejsample@yahoo.com	JimSample6175551212	JimSample1212555777	JimSample5121255777	JimSamplejsa100Ma	JimSjsample@yahoo.com5121255777	JimS5121255777jsa100Ma	JimSjsample@yahoo.comjsa100Ma	JimSjsa5f4dcc3b5aa765d61d8327deb882cf99
10	JamesJSample@gmail.com	JamesJSample16175551212	JamesJSamplee1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp@gmail.com5121255777 ✓	Jame5121255777red100Ma	Jamejsample@gmail.comred100Ma	Jamered6cb75f652a9b52798eb6cf2201057c73
11	Excluded	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Excluded	Jame5121255777sam100Ma	Excluded	Jamesam6cb75f652a9b52798eb6cf2201057c73
12	JamesSamplejsample@yahoo.com	JamesSam ✓ 6175551212	JamesSamplee1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@yahoo.com5121255777	Jame5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73
13	JamesJSamplejsample@hotmail.com	JamesJSample16175551212	JamesJSamplee1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp@hotmail.com5121255777 ✓	Jame5121255777red100Ma	Jamejsample@hotmail.comred100Ma	Jamered819b0643d6b89dc9b579dfc9094f28e
14	JamesSamplejsample@hotmail.com	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@hotmail.com5121255777	Jame5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamesam819b0643d6b89dc9b579dfc9094f28e
15	JamesSamplejsample@hotmail.com	JamesSam ✓ 6175551212	JamesSamplee1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@hotmail.com5121255777	Jame5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamesam819b0643d6b89dc9b579dfc9094f28e

- **No User Accounts were added to the aggregation in Steps 7, 8 or 9.**
- **Because no step resulted in groupings which overlapped with two previously aggregated User Accounts, no additional User Accounts joined the aggregation.**

Step 10: Part Name Key2, Email Key, Part Phone Key

User Account	Step 1 name_key, email_key	Step 2 name_key, cel_key	Step 3 name_key, fone_key	Step 4 name_key, part_phone_key	Step 5 name_key, login_key, end_key	Step 6 part_name_key , email_key, part_phone_key	Step 7 part_name_key, part_phone_key, login_key, end_key	Step 8 part_name_key , email_key, login_key, end_key	Step 9 part_name_key, login_key, hash_key	Step 10 part_name_key2, email_key, part_phone_key
1	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSample1e1212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777
2	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSample1e212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777
3	JimSamplejsample@yahoo.com	JimSample617551212	JimSample1212555777	JimSample5121255777	JimSamplejsa100Ma	JimSjsample@yahoo.com5121255777	JimS5121255777jsa100Ma	JimSjsample@yahoo.comjsa100Ma	JimSjsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@yahoo.com5121255777 ✓
4	JamesJSamplejsample@gmail.com	JamesJSample1617551212	JamesJSample1e1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsample@gmail.com5121255777 ✓	Jame5121255777sam100Ma	Jamejsample@gmail.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@gmail.com5121255777
5	Excluded	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Excluded	Jame5121255777sam100Ma	Excluded	Jamesam6cb75f652a9b52798eb6cf2201057c73	Excluded
6	JamesSamplejsample@yahoo.com	JamesSam ✓ 6175551212	JamesSample1e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@yahoo.com5121255777	Jame5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@yahoo.com5121255777
7	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSample1e1212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777
8	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSample1e212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	Jame5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777
9	JimSamplejsample@yahoo.com	JimSample617551212	JimSample1212555777	JimSample5121255777	JimSamplejsa100Ma	JimSjsample@yahoo.com5121255777	JimS5121255777jsa100Ma	JimSjsample@yahoo.comjsa100Ma	JimSjsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@yahoo.com5121255777 ✓
10	JamesJSamplejsample@gmail.com	JamesJSample1617551212	JamesJSample1e1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp ✓ gmail.com5121255777	Jame5121255777jed100Ma	Jamejsample@gmail.comred100Ma	Jamered6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@gmail.com5121255777
11	Excluded	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Excluded	Jame5121255777sam100Ma	Excluded	Jamesam6cb75f652a9b52798eb6cf2201057c73	Excluded
12	JamesSamplejsample@yahoo.com	JamesSam ✓ 6175551212	JamesSample1e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@yahoo.com5121255777	Jame5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@yahoo.com5121255777
13	JamesJSamplejsample@hotmail.com	JamesJSample1617551212	JamesJSample1e212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp ✓ hotmail.com5121255777	Jame5121255777jed100Ma	Jamejsample@hotmail.comred100Ma	Jamered819b0643d6b89dc9b579fdcf9094f28e	Jamplejsample@hotmail.com5121255777
14	JamesSamplejsample@hotmail.com	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@hotmail.com5121255777	Jame5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamesam819b0643d6b89dc9b579fdcf9094f28e	Jamplejsample@hotmail.com5121255777
15	JamesSamplejsample@hotmail.com	JamesSam ✓ 6175551212	JamesSample1e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@hotmail.com5121255777	Jame5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamesam819b0643d6b89dc9b579fdcf9094f28e	Jamplejsample@hotmail.com5121255777

- Two User Accounts were added to the aggregation in Step 10.
- User Accounts 3 and 9 join the aggregation
- Steps 11 through 13 are similar to Steps 7 through 9, except that they use Part Name Key 2 rather than Part Name Key in combining fields of data.
- No additional aggregations result from Steps 11 through 13 and the aggregation is now complete.

Complete Aggregation

User Account	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12	Step 13
	name_key, email_key	name_key, ce_key	name_key, fone_key	name_key, part_phone_key	name_key, login_key, end_key,	part_name_key, email_key, part_phone_key	part_name_key, part_phone_key, login_key, end_key	part_name_key, email_key, login_key, end_key	part_name_key, login_key, hash_key	part_name_key2, email_key, part_phone_key	part_name_key 2, part_phone_key, login_key, end_key	part_name_key 2, email_key, login_key, end_key	part_name_key2, login_key, hash_key
1	JamesSample@gmail.com ✓	JamesSample1617551212	JamesSample1212555777	JamesSample5121255777	JamesSample5121255777	Jamejsample@gmail.com5121255777	James5121255777sa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777	Jample5121255777jsa100Ma	Jamplejsample@gmail.comjsa100Ma	Jamplejsa5f4dcc3b5aa765d61d8327deb882cf99
2	JamesSample@gmail.com ✓	JamesSample16175551212	JamesSample1212555777	JamesSample5121255777	JamesSample5121255777	Jamejsample@gmail.com5121255777	James5121255777sa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777	Jample5121255777jsa100Ma	Jamplejsample@gmail.comjsa100Ma	Jamplejsa5f4dcc3b5aa765d61d8327deb882cf99
3	JimSamplejsample@yahoo.com	JimSample6175551212	JimSample1212555777	JimSample5121255777	JimSamplejsa100Ma	JimSjsample@yahoo.com5121255777	JimS5121255777jsa100Ma	JimSjsample@yahoo.comjsa100Ma	JimSjsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777 ✓	Jample5121255777jsa100Ma	Jamplejsample@yahoo.comjsa100Ma	Jamplejsa5f4dcc3b5aa765d61d8327deb882cf99
4	JamesJSample@gmail.com	JamesJSample16175551212	JamesJSample1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp@gmail.com5121255777 ✓	James5121255777sam100Ma	Jamejsample@gmail.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@gmail.com5121255777	Jample5121255777sam100Ma	Jamplejsample@gmail.comsam100Ma	Jamplesam6cb75f652a9b52798eb6cf2201057c73
5	Excluded	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Excluded	James5121255777sam100Ma	Excluded	Jamesam6cb75f652a9b52798eb6cf2201057c73	Excluded	Jample5121255777sam100Ma	Excluded	Jamplesam6cb75f652a9b52798eb6cf2201057c73
6	JamesSamplejsample@yahoo.com	JamesSam ✓ 6175551212	JamesSample1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@yahoo.com5121255777	James5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@yahoo.com5121255777	Jample5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamplesam6cb75f652a9b52798eb6cf2201057c73
7	JamesSamplejsample@gmail.com ✓	JamesSample1617551212	JamesSample1212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	James5121255777sa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777	Jample5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamplejsa5f4dcc3b5aa765d61d8327deb882cf99
8	JamesSamplejsample@gmail.com ✓	JamesSample16175551212	JamesSample1212555777	JamesSample5121255777	JamesSamplejsa100Ma	Jamejsample@gmail.com5121255777	James5121255777sa100Ma	Jamejsample@gmail.comjsa100Ma	Jamejsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777	Jample5121255777jsa100Ma	Jamejsample@gmail.comjsa100Ma	Jamplejsa5f4dcc3b5aa765d61d8327deb882cf99
9	JimSamplejsample@yahoo.com	JimSample6175551212	JimSample1212555777	JimSample5121255777	JimSamplejsa100Ma	JimSjsample@yahoo.com5121255777	JimS5121255777jsa100Ma	JimSjsample@yahoo.comjsa100Ma	JimSjsa5f4dcc3b5aa765d61d8327deb882cf99	Jamplejsample@gmail.com5121255777 ✓	Jample5121255777jsa100Ma	Jamplejsample@yahoo.comjsa100Ma	Jamplejsa5f4dcc3b5aa765d61d8327deb882cf99
10	JamesJSample@gmail.com	JamesJSample16175551212	JamesJSample1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp@gmail.com5121255777 ✓	James5121255777red100Ma	Jamejsample@gmail.comred100Ma	Jamered6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@gmail.com5121255777	Jample5121255777red100Ma	Jamejsample@gmail.comred100Ma	Jamlered6cb75f652a9b52798eb6cf2201057c73
11	Excluded	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Excluded	James5121255777sam100Ma	Excluded	Jamesam6cb75f652a9b52798eb6cf2201057c73	Excluded	Jample5121255777sam100Ma	Excluded	Jamplesam6cb75f652a9b52798eb6cf2201057c73
12	JamesSamplejsample@yahoo.com	JamesSam ✓ 6175551212	JamesSample1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@yahoo.com5121255777	James5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamesam6cb75f652a9b52798eb6cf2201057c73	Jamplejsample@yahoo.com5121255777	Jample5121255777sam100Ma	Jamejsample@yahoo.comsam100Ma	Jamplesam6cb75f652a9b52798eb6cf2201057c73
13	JamesJSamplejsample@hotmail.com	JamesJSample16175551212	JamesJSample1212555777	JamesJSample5121255777	JamesJSamplesam100Ma	Jamejsamp@hotmail.com5121255777 ✓	James5121255777red100Ma	Jamejsample@hotmail.comred100Ma	Jamered819b0643d6b89dc9b579dfc9094f28e	Jamplejsample@hotmail.com5121255777	Jample5121255777red100Ma	Jamejsample@hotmail.comred100Ma	Jamlered819b0643d6b89dc9b579dfc9094f28e
14	JamesSamplejsample@hotmail.com	JamesSample5551212	JamesSa ✓ e1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@hotmail.com5121255777	James5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamesam819b0643d6b89dc9b579dfc9094f28e	Jamplejsample@hotmail.com5121255777	Jample5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamplesam819b0643d6b89dc9b579dfc9094f28e
15	JamesSamplejsample@hotmail.com	JamesSam ✓ 6175551212	JamesSample1212555777	JamesSample5121255777	JamesSamplesam100Ma	Jamejsample@hotmail.com5121255777	James5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamesam819b0643d6b89dc9b579dfc9094f28e	Jamplejsample@hotmail.com5121255777	Jample5121255777sam100Ma	Jamejsample@hotmail.comsam100Ma	Jamplesam819b0643d6b89dc9b579dfc9094f28e