Docket #0140 Date Filed: 5/15/2023

UNITED STATES BANKRUPTCY COURT
WESTERN DISTRICT OF NORTH CAROLINA
CHARLOTTE DIVISION

In re ALDRICH PUMP LLC, *et al.*, Debtors.	Chapter 11 Case No. 20-30608 (JCW) (Jointly Administered)
ARMSTRONG WORLD INDUSTRIES, INC. ASBESTOS PERSONAL INJURY SETTLEMENT TRUST *et al.*, Plaintiff(s), v. ALDRICH PUMP LLC, *et al.* Defendant(s).	Miscellaneous Pleading No. 22-00303 (JCW) (Transferred from District of Delaware)
AC&S ASBESTOS SETTLEMENT TRUST, COMBUSTION ENGINEERING 524(G) ASBESTOS PI TRUST, GI HOLDINGS INC. ASBESTOS PERSONAL INJURY SETTLEMENT TRUST, GST SETTLEMENT FACILITY, KAISER ALUMINUM & CHEMICAL CORPORATION ASBESTOS PERSONAL INJURY TRUST, QUIGLEY COMPANY, INC. ASBESTOS PI TRUST T H AGRICULTURE & NUTRITION, L.L.C. ASBESTOS PERSONAL INJURY TRUST, and YARWAY ASBESTOS PERSONAL INJURY TRUST, Petitioners, v. ALDRICH PUMP LLC and MURRAY BOILER LLC, Respondents,	Miscellaneous Pleading No. 23-00300 (JCW) (Transferred from District of New Jersey)

VERUS CLAIM SERVICES, LLC,

Interested Party,

NON-PARTY CERTAIN MATCHING CLAIMANTS,

Interested Party.

DECLARATION OF MICHAEL A. KAPLAN, ESQ.

I, **Michael A. Kaplan, Esq.,** hereby declares under penalty of perjury:

1. I am a Partner at the law firm Lowenstein Sandler LLP, and counsel for the eight third-party asbestos settlement trusts identified below[1].

2. Attached hereto as **Exhibit A** is a true and correct copy of Dr. Abraham J. Wyner's expert report, dated April 25, 2023.

3. Attached hereto as **Exhibit B** is a true and correct copy of the transcript from the May 8, 2023 deposition of Dr. Charles Mullin.

Dated: May 15, 2023

s/ Michael A. Kaplan

Michael A. Kaplan, Esq.

[1] The eight trusts are: (i) ACandS Asbestos Settlement Trust; (ii) Combustion Engineering 524(g) Asbestos PI Trust; (iii) G-I Holdings Inc. Asbestos Personal Injury Settlement Trust; (iv) GST Settlement Facility; (v) Kaiser Aluminum & Chemical Corporation Asbestos Personal Injury Trust; (vi) Quigley Company, Inc. Asbestos PI Trust; (vii) T H Agriculture & Nutrition, L.L.C. Asbestos Personal Injury Trust; and (viii) Yarway Asbestos Personal Injury Trust.

EXHIBIT A

UNITED STATES BANKRUPTCY COURT
WESTERN DISTRICT OF NORTH CAROLINA
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In re ALDRICH PUMP LLC, *et al.*,[1] Debtors.	Chapter 11 Case No. 20-30608 (JCW) (Jointly Administered)
ARMSTRONG WORLD INDUSTRIES, INC. ASBESTOS PERSONAL INJURY SETTLEMENT TRUST *et al.*, Plaintiff(s), v. ALDRICH PUMP LLC, *et al.* Defendant(s).	Miscellaneous Pleading No. 22-00303 (JCW) (Transferred from District of Delaware)
AC&S ASBESTOS SETTLEMENT TRUST, COMBUSTION ENGINEERING 524(G) ASBESTOS PI TRUST, GI HOLDINGS INC. ASBESTOS PERSONAL INJURY SETTLEMENT TRUST, GST SETTLEMENT FACILITY, KAISER ALUMINUM & CHEMICAL CORPORATION ASBESTOS PERSONAL INJURY TRUST, QUIGLEY COMPANY, INC. ASBESTOS PI TRUST T H AGRICULTURE & NUTRITION, L.L.C. ASBESTOS PERSONAL INJURY TRUST, and YARWAY ASBESTOS PERSONAL INJURY TRUST, Petitioners, v.	Miscellaneous Pleading No. 23-00300 (JCW) (Transferred from District of New Jersey)

[1] The Debtors are the following entities (the last four digits of their respective taxpayer identification numbers follow in parentheses): Aldrich Pump LLC (2290) and Murray Boiler LLC (0679). The Debtors' address is 800-E Beaty Street, Davidson, North Carolina 28036.

ALDRICH PUMP LLC and MURRAY BOILER LLC, Respondents, VERUS CLAIM SERVICES, LLC, Interested Party, NON-PARTY CERTAIN MATCHING CLAIMANTS, Interested Party.

EXPERT REPORT OF ABRAHAM J. WYNER, PH.D.

I. INTRODUCTION & QUALIFICATIONS

1. I am a Tenured Full Professor of Statistics and Data Science at University of Pennsylvania's Wharton School. I am also the Chair of the University's Undergraduate Program in Statistics. I also co-direct the Wharton People Analytics Initiative and the Wharton Sports Analytics and Business Initiative.

2. I completed my undergraduate education magna cum laude at Yale University with a Bachelor of Science in Mathematics in 1988. I then earned my Ph.D. in Statistics from Stanford University in 1993.

3. My conclusions in this report are based on my more than 25 years of professional and academic experience in the relevant field of statistics. During this time, I have worked with many large intersecting data sets (including asbestos trusts) and I am familiar with the complexities involved in extracting the data that is needed to do an analysis. My research interests have been broad. I have published across many methods and applications including Applied Probability, Information Theory, Mathematical Analysis of Algorithms, Machine Learning, Applied Statistical Analysis, and Bayesian Hierarchical Modeling.

4. I am being compensated at a rate of $1,000 per hour for my efforts in connection with the preparation of this report. My compensation is in no way contingent on the results of this or any other proceeding. I have no financial interest in the outcome of this matter.

II. SCOPE OF MY REPORT

5. I have been asked by counsel for the DCPF Trusts[2], the Delaware Claims Processing Facility, LLC, the Verus Trusts[3], and Verus Claims Services, LLC, to respond to the Declaration of Charles H. Mullin, Ph.D.[4], submitted in support of Aldrich Murray LLC and Murray Boiler LLC's (the "Debtors") Motion for Rehearing, regarding the relative cost/benefits of sampling versus a full population census of the 12,000 at-issue claimants. I will opine on the accuracy and sufficiency of a sample of 1,200 claimants (10% of total population) for reasonable purposes.

6. As described in detail below, it is my opinion that a random 10% sample of 1,200 claimants would fulfill all of the Debtors' reasonable needs. My opinion and others described herein reflect my evaluation of the sources listed in Exhibit A to this report. I expressly reserve the right to modify, amend, and/or supplement my opinions expressed herein to respond to any arguments made by the Debtors directly, or through the testimony of its experts, in response to my opinions expressed herein, or to consider any new evidence that becomes available.

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[2] The DCPF Trusts are the Armstrong World Industries, Inc. Asbestos Personal Injury Settlement Trust; The Babcock & Wilcox Company Asbestos PI Trust; Celotex Asbestos Settlement Trust; DII Industries, LLC Asbestos PI Trust; Federal-Mogul Asbestos Personal Injury Trust; Flintkote Asbestos Trust; Owens Corning / Fibreboard Asbestos Personal Injury Trust; Pittsburgh Corning Corporation Asbestos Personal Injury Settlement Trust; United States Gypsum Asbestos Personal Injury Settlement Trust; and WRG Asbestos PI Trust.

[3] The Verus Trusts are ACandS Asbestos Settlement Trust; Combustion Engineering 524(g) Asbestos PI Trust; G-I Holdings Inc. Asbestos Personal Injury Settlement Trust; GST Settlement Facility; Kaiser Aluminum & Chemical Corporation Asbestos Personal Injury Trust; Quigley Company, Inc. Asbestos PI Trust; T H Agriculture & Nutrition, L.L.C. Asbestos Personal Injury Trust; and Yarway Asbestos Personal Injury Trust.

[4] Declaration of Charles H. Mullin, Ph.D., No. 22-mc-303 (JCW) (Dkt. No. 55) (the "Mullin Declaration").

7. If called to testify, I may also explain principles and terminology referred and alluded to in this report, as well as any documents referenced herein. I may also use demonstrative exhibits, animations, and other such testimonial aids in support of my testimony to illustrate the bases of my opinion.

III. DR. MULLIN'S DECLARATION

8. Dr. Mullin's declaration is fundamentally an analysis that compares the costs of sampling (a potential increase in analysis time for recipient of data and loss of accuracy) to its benefits (reduction in privacy risk and lowering of administrative costs for provider). Most of the report is an attempt to downplay the privacy risks and emphasize a potential loss in accuracy, while attempting to downplay the contradictory, pro-samplings arguments made in the *Bestwall* case[5] by his colleague at Bates White, Jorge Gallardo-García, Ph.D., who clearly states that sampling is sufficient. At no point does Dr. Mullin quantify the potential loss of accuracy. He implies the loss is substantial enough to justify the costs without explanation, calculation, or quantification of any kind.

IV. SUMMARY OF MY OPINIONS

9. It is my opinion that a random sample that is large (10%), weighted or stratified towards larger settlement values, would be practically and materially no less accurate than a full census of the approximately 12,000 claimants in the targeted population. Such a sample has already been discussed in the *Bestwall* Declaration, which does not identify any attribute of the population that cannot be accurately studied with a sample. The Debtors have further proposed a

[5] Declaration of Jorge Gallardo-García, PHD, *In re Bestwall LLC*, Bankr. No. 17-31795 (LTB) (Dkt. No. 2183) (the "*Bestwall* Declaration").

variation of that sampling design here, which they acknowledge provides a "reliable cross-section" of the targeted population.[6]

10. Consequently, there would be no practical or material benefit to requiring the production of the full population. In addition, there is a risk of an inadvertent dissemination of highly confidential data. The likelihood of such breach may be small, but the damage would be large if it occurred. If only 10% of the target population is produced, the damage in the resulting data breach to the individual claimants can be expected to be 10 times smaller because it would involve 10 times fewer claimants.

V. DISCUSSION

A. The accuracy of sampling versus a full census

11. Let me begin with an analogy. In the sport of football, it is generally regarded that taller quarterbacks are advantaged over shorter quarterbacks, if all other attributes are the same. Therefore, when drafting a quarterback, an NFL team has to consider height among the many considerations. If they were comparing two potential picks, one who is 6 feet and 1.00 inch (exactly) tall and another who is 6 feet and 0.99 inches tall, they would consider their heights to be practically and materially the same, even though it is technically true that there is a 0.01 inch difference in height. When comparing them, height would not be considered at all and only the other attributes would be discussed and weighed to make the determination. Similarly, when discussing samples of various sizes, it can often happen that there is no practical or material advantage gained with the larger dataset.

[6] Dec. 19, 2022 Email from Morgan R. Hirst (the "December Sampling Proposal"). It is my understanding that, since the Debtors made the December Sampling Proposal, the Debtors nearly reached agreement with the Official Committee of Asbestos Personal Injury Claimants and the Future Claimants' Representative on a sampling proposal. I cannot opine specifically on this sampling proposal as it was not provided to the DCPF Trusts, the Delaware Claims Processing Facility, LLC, the Verus Trusts, or Verus Claims Services, LLC.

12. Dr. Mullin emphasizes that smaller samples can be less accurate than larger samples[7], but he does not address the central question at issue here: *is a large, efficient 10% sample, materially and practically equivalent to a complete census*? As explained below, the answer to this question is yes – a 10% sample, as a practical matter, is just as good as a full census for the purposes described by Dr. Mullin and the Debtors' reasonable needs.

13. The starting point for this analysis requires an understanding of what can make a sample inaccurate. Samples are most familiar in matters that involve polling and surveys. These samples are indeed frequently deficient and inaccurate, but not because they are too small. The typical samples seen and discussed in the media suffer from "sampling bias."[8] They have characteristics that are invariably different from the population in key ways. But sampling bias is not an issue here, since the population is enumerable and identifiable. In other words, all the claimants in the Debtors' database are known.

14. In fact, a trained statistician with access to an enumerated list of individuals in a targeted population can easily create a sample that makes optimal use of the data. Such a design was already proposed in the *Bestwall* Declaration, and a variation of that design was proposed by the Debtors here in the December Sampling Proposal.[9]

[7] Mullin Decl., ¶ 10.

[8] Sampling bias occurs when subjects with different attributes have different and unknown chances of inclusion in the sample.

[9] The sample set forth in the *Bestwall* Declaration and the Debtors' December Sampling Proposal are of a stratified design, where samples of different sizes are taken from a large number of categories (called strata). Another approach, known as weighted sampling, would weight the probability of inclusion in the sample according to a specific attribute. For example, claimants can be included with probability in direct proportion to their settlement value. This "weighted" approach can be highly efficient and simple to analyze. It also requires fewer arbitrary decisions that may go into defining strata.

B. A random 10% sample fulfills all of the Debtors' reasonable needs

15. With an unbiased sample, it is possible to measure the precision of a sample when there is a specific characteristic of the population (called a "parameter") that is the subject and purpose of the data analysis. Dr. Mullin does not specify precisely the parameter that he or the Debtors intend to measure. But he does sketch the general ideas:

> Specifically, the data would allow us to compare exposure allegations to the products of the reorganized entities for which the trusts were established with the exposures those same claimants disclosed in their tort litigation against the Debtors. This would enable us to *quantify the proportion of alternative exposures* disclosed to the Debtors at the time of settlement.[10]

Thus, the first parameter of interest is a proportion of claimants that failed to disclose alternative exposures.

16. When the parameter of interest is a proportion (which is a percentage between 0% and 100%), then the equivalent sample proportion is an "estimate" of the parameter. The accuracy of an estimate is measured using the laws of probability theory, by calculating the "standard error" of the estimate, which is defined to be the typical[11] difference between the sample proportion and the population proportion.

17. For example, if the true population proportion of claimants that have undisclosed alternative exposures is 5%, and the sample proportion of the same quantity is 4% then the difference is called the sampling error, which in this example is 1%. The standard error quantifies this difference in frequency terms. For example, if the true population proportion were 10% and the standard error were 1% then most samples (about 2/3 of samples) would have a sample proportion between 9% and 11% and it would be very unusual (about 5% of samples) for the

[10] Mullin Decl., ¶ 16 (emphasis added).

[11] The standard error is the standard deviation of the difference between the sample proportion and the population proportion, where the variation is caused by sampling.

sample proportion to be greater than 12% or less than 8%. This means that any attribute that the whole population has will be mirrored closely in the population. If the population proportion is 10%, the sample proportion is very likely to be very close to 10%. If the population has a proportion of 2%, the sample proportion will be very close to 2%.

18. One of the most useful formulas in statistics, tells us that, for a simple random sample, the standard error of a sample proportion is at most $\frac{1}{2\sqrt{n}}$, where n is the sample size.[12] Thus, a simple sample of 1,200 drawn from a population of 12,000 (10% of the total) has a standard error that is *less than 1.5%*. This means that, whatever the true percentage of claimants that failed to disclose alternative exposures, the results from a simple random sample of 10% of the population would likely be within 1.5% of the true population proportion.

19. It is common to double the standard error to be extra sure about the range of possible values. So in the case of a simple random sample of size 1,200, we can be nearly certain that the true population proportion is within 3% of the number that is calculated from the sample. If there is a practical purpose for this data that requires more accuracy than this, it has never been disclosed or argued, certainly not by Dr. Mullin.

20. In practice, however, the standard error for a simple sample of 1,200 observations (10% of the total) will usually be a lot smaller than 1.5%. If the true population proportion were 5%, then the standard error would be less than 0.6%. A stratified sample (like the methodologies proposed in the *Bestwall* Declaration and the December Sampling Proposal) can even be more efficient.

[12] The precise formula for the standard error of a sample proportion is $\frac{\sqrt{p(1-p)}}{\sqrt{n}}$ where p = true proportion. This is always less than $\frac{1}{2\sqrt{n}}$.

21. A stratified sample groups the population into different "strata" and samples more frequently from strata with higher variability. This approach is more efficient in the sense that it makes optimal use of each data point. The reason for this has to do with the importance of each observation to the conclusion. In a simple random sample, every claimant has equal likelihood of inclusion. In a stratified sample, like the one in *Bestwall*, claimants that have very low settlements are less likely to be included. This is more efficient since the consequence of any improper disclosure in smaller for smaller settlements so fewer small settlements are needed to estimate their impact. In the end, this means that, with the same sample size, the resulting standard errors can be lower than in a simple random sample.

22. Thus, for purposes of testing the first parameter of interest, the proportion of claimants that failed to disclose alternative exposures, a simple or stratified random sample would provide an exceedingly accurate result. The very small uncertainty in the proportion that remains after sampling will have no practical impact on the claim evaluation process. In fact, as I will explain later, this uncertainty is very much smaller than the modeling uncertainty about claims valuations.

23. Dr. Mullin also discusses a second parameter of interest:

> Further, if full disclosure has not occurred, then variation in disclosure patterns would allow us to model the impact of partial information on settlement amounts. If that information is not communicated to a defendant, a plaintiff can artificially increase settlement amounts in a number of different ways.[13]

Dr. Mullin suggests that he wants to measure the impact of non-disclosure on settlement amounts. The assumption here is that a claimant who fails to disclose their exposure completely would have been owed a smaller settlement value had they in fact disclosed such information. The overall

[13] Mullin Decl., ¶ 17.

average impact of such non-disclosures would be a population parameter of great interest. For this parameter, at issue before the Court is the following question: *If a sample were used to estimate this value, how precise would that estimate be*?

24. Because the *proportion* of non-disclosed claimants has a very small standard error, it follows, if all the settlements were the same size, that the standard error of the overall average impact would also be small. If the settlements are not the same size, a stratified sample can be drawn that oversamples the claims with the highest variation. When this happens an additional "finite sample correction factor" is added to the formula, which reduces the standard error.[14] Applying this here, since we know that the settlement amounts are not the same size for each claimant, a properly stratified sample of 1,200 claimants' data, would allow Dr. Mullin and the Debtors to calculate the average size of the impact of non-disclosure on settlement values with uncertainty that is extremely small.

25. Beyond the two parameters discussed above, Dr. Mullin does not specify precisely or intimate any other parameters of interest. In my review of the relevant materials, I have not encountered any argument or specific identification of any need that cannot be fulfilled by a sample and that would require a full census. As discussed above, a sample would provide an exceptionally accurate result that would be commensurate with a result derived from the total population.

26. It is possible that there may be a desire to do more than accurately and scientifically assess the Debtors' liability. For example, if the Debtors are looking for stories to support their arguments anecdotally, then having a larger pool of claimants would produce a larger pool of

[14] The finite sample correction factor lowers the standard error by an amount $c = \sqrt{(N-n)/(N-1)}$ where n = sample size in given strata and N=strata size. This can be substantial reduction in the standard error if the sample size is large relative to the size of the strata. This is why the sampling proportion will be high for certain strata with large settlements.

stories. To illustrate, if you want to study how much money gamblers lose on average in sports betting in an effort to marshal arguments to illegalize sports betting, then a random sample of sufficient size would be sufficient to accurately and reliably measure the economic losses. If, on the other hand, the best argument requires an example of a losing streak, then a full census will generate more extreme results that could be used to illustrate this point.

C. A full census provides no material benefit

27. What I have demonstrated is that a 10% sample is completely sufficient and not materially worse than a census for the purposes outlined by Dr. Mullin or the Debtors' reasonable needs. So what benefit is there to doing a complete census? Dr. Mullin indicates that there are a few benefits, I will consider them and show that any such benefit is exceedingly minor.

28. Dr. Mullin discusses the "analytical burden" of sampling without defining or explaining it.[15] He does not say what that burden is exactly or how extensive that burden would be. Simple random samples are trivially handled, and unweighted stratified samples are not substantively harder to implement and analyze (for appropriately qualified experts) since there are readily available or derivable formulas that can be applied to stratified or weighted samples.[16]

29. While there are a few extra statistical calculations that are required to compute standard errors (that are not needed when doing a census), this is not hard or particularly burdensome. Data analysis on the full dataset is not substantively easier especially since there will be statistical challenges of all types that will arise, sampling or no sampling. Even if a full census were taken and analyzed, there would still be uncertainty about the parameters at issue. There are

[15] Mullin Decl., ¶¶ 25-31.

[16] *E.g.*, Ken Aho, *Confidence Intervals for Stratified Random Samples*, INST. FOR STATISTICS & MATHEMATICS, https://search.r-project.org/CRAN/refmans/asbio/html/ci.strat.html (last visited Apr. 25, 2023).

other unknowns that would have to be estimated and would require the creation of a statistical model. These will introduce new uncertainty, distinct and irreducible, and **not due to sampling.**

30. For example, it may be quite important to compute what the dollar value of a settlement would have been, under the counterfactual that a full and accurate disclosure had been made. This cannot be known precisely and would have to be estimated using a model for each claimant who failed to accurately disclose. Consequently, even if all the data for every claimant is collected (without sampling), a statistical model would be required to make an estimate of a counterfactual settlement amount. The uncertainty of this can be guessed, but not known. Based on my experience in modeling and statistics, the uncertainty in estimating the counterfactual would far exceed the standard errors caused by sampling. In short, as a practical matter a 10% sample is just as good as a full census.

31. In his Declaration, Dr. Mullin also cites the Internal Revenue Service ("IRS") recommendation that samples should not be used when "it is reasonable to examine 100 percent of the items under consideration."[17] This recommendation is given without any context and is not applicable. The IRS is not tasked with *estimating* the amount of taxes owed. It needs to know the amount exactly, if possible, thus the recommendation. The IRS is tasked with finding every incident of tax avoidance. If they were only interested in estimating the average size of underpayments then a sufficiently large sample can be practically and materially no worse than a complete census. In fact, sometimes a sample can be preferred because samples can sometimes be more carefully checked for inaccuracies. This is particularly important when some of the data fields consist of "narratives" (like descriptions of exposure histories) that require human readers and curation.

[17] Mullin Decl., ¶ 20.

32. Because there is no practical loss in accuracy created by sampling, there is no need for, or material benefit from, taking a full census of the claimants' data, especially when balanced against the significant privacy benefits that sampling provides. It is always possible that a data breach will occur exposing the data and breaking the confidentiality that has been promised. The chance of such a breach can be minimized, but never eliminated. If the entire population of claimants is released than all the claimants private and confidential information is at risk. If a sample of 10% is released, then the size of the at-risk population is 10 times smaller. Since the damage in a confidentiality breach is measured in proportion to the size of the number of individuals that are exposed the potential damage to the individual claimants *is 10 times smaller*.

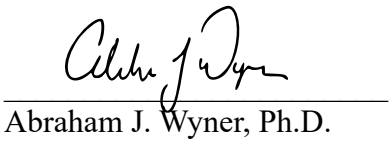
VI. CONCLUSIONS

33. Dr. Mullin has argued that sampling should not be used because a full census is more accurate and the burdens of a full census are not sufficiently large to outweigh the benefits. What Dr. Mullin fails to do is quantify, even approximately, how much less accurate a sample will be. I conclude that a random sample that is large (10%), weighted or stratified towards larger settlement values, would be practically and materially no less accurate than a full census of the approximately 12,000 claimants in the targeted population.

34. A proper stratified random sample can accurately estimate the proportion of claimants that did not consistently disclose their exposure histories and also estimate the average difference in settlement amount if exposures were properly disclosed. With respect to these issues, there would not be a practical or material difference in the information acquired from a large, targeted sample of 1,200 than would be gained from the full census of the entire population of 12,000.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Dated: April 25, 2023
Philadelphia, PA



Abraham J. Wyner, Ph.D.

EXHIBIT A

List of Sources:

1. Motion of the Debtors for an Order Authorizing the Debtors to Issue Subpoenas on Asbestos Trusts and Paddock Enterprises, LLC [*In re Aldrich Pump LLC, et al.*, Dkt. No. 1111];

2. Reply in Support of Motion of the Debtors for an Order Authorizing the Debtors to Issue Subpoenas on Asbestos Trusts and Paddock Enterprises, LLC [*In re Aldrich Pump LLC, et al.*, Dkt. No. 1182];

3. Third-Party Asbestos Trusts' Motion to Quash or Modify Subpoenas [*DCPF Proceeding,* Dkt. No. 3];

4. Delaware Claims Processing Facility, LLC's (I) Motion to Quash or Modify Subpoena and (II) Joinder [*DCPF Proceeding*, Dkt. No. 4-2];

5. Aldrich Pump LLC and Murray Boiler LLC's Brief in Opposition to (A) Third-Party Asbestos Trusts' Motion to Quash or Modify Subpoenas; and (B) Delaware Claims Processing Facility, LLC's (I) Motion to Quash or Modify subpoenas and (II) Joinder [*DCPF Proceeding,* Dkt. No. 4-9];

6. Third-Party Asbestos Trusts' Reply in Support of Motion to Quash or Modify Subpoenas [*DCPF Proceeding,* Dkt. No. 6-2];

7. Delaware Claims Processing Facility, LLC's Reply in Support of its (I) Motion to Quash or Modify Subpoena and (II) Joinder [*DCPF Proceeding*, Dkt. No. 6-5];

8. Transcript for Hearing/Trial Held on November 30, 2022 [*DCPF Proceeding*, Dkt. No. 35];

9. December 19, 2022 Email from Morgan R. Hirst re: In re Aldrich Pump LLC, et al (Case No. 20-30608);

10. Debtors' Motion for Rehearing Concerning the Issue of Sampling on DCPF's Subpoena-Related Motions [*DCPF Proceeding*, Dkt. No. 54];

11. Declaration of Charles H. Mullin, Ph.D. [*DCPF Proceeding*, Dkt. No. 54];

12. Third-Party Asbestos Trusts' Opposition to Motion for Rehearing Concerning the Issue of Sampling on DCPF's Subpoena-Related Motions [*DCPF Proceeding*, Dkt. No. 70];

13. Declaration of Beth Moskow-Schnoll in Support of Third-Party Asbestos Trusts' Opposition to Motion for Rehearing Concerning the Issue of Sampling on DCPF's Subpoena-Related Motions [*DCPF Proceeding*, Dkt. No. 70];

14. Debtors' Reply in Support of Debtors' Motion for Rehearing Concerning the Issue of Sampling on DCPF's Subpoena-Related Motions [*DCPF Proceeding*, Dkt. No. 87];

15. Transcript for Hearing/Trial Held on March 30, 2023 [*DCPF Proceeding*, Dkt. No. 119];

16. Third-Party Asbestos Trusts' Motion to Quash Subpoenas and in Support of Stay [*Verus Proceeding*, Dkt. No. 2-1];

17. Verus Claims Services, LLC's Motion to Quash Subpoenas and to Stay [*Verus Proceeding*, Dkt. No. 2-6];

18. Respondents' Motion to Transfer Subpoena-Related Motions to the Issuing Court, the United States Bankruptcy Court for the Western District of North Carolina [*Verus Proceeding*, Dkt. No. 3-9];

19. Aldrich Pump LLC and Murray Boiler LLC's Opposition to (I) Third-Party Trusts' Motion to Quash Subpoenas and in Support of Stay; (II) Verus Claim Services, LLC's Motion to Quash Subpoenas and to Stay; and (III) Non-Party Certain Matching Claimants' Joinders and Motion to Quash [*Verus Proceeding*, Dkt. No. 5-2];

20. Third-Party Asbestos Trusts Reply in Further Support of their Motion to Quash Subpoenas[*Verus Proceeding*, Dkt. No. 5-10]; and

21. Verus Claim Services, LLC's Reply in Further Support of its Motion to Quash [*Verus Proceeding*, Dkt. No. 6-1].

EXHIBIT B

Expert Testimony in the Last 4 Years:

1. *Grayson v. Gen. Elec. Co.,* No. 3:13-cv-01799 (D. Conn. Feb. 9, 2018) (Deposition Testimony);

2. *United States, ex rel. J. Scott v. Ariz. Ctr. for Hematology & Oncology*, No. 2:16-cv-03703 (D. Ariz. Aug. 21, 2019) (Deposition Testimony);

3. *Arwood v. Broadtree Partners, LLC*, C.A. No. 2019-0904-JRS (Del. Ch. Oct. 2020) (Trial Testimony);

4. *Honeywell Int'l, Inc. v. N. Am. Refractories Co. Personal Inj. Settlement Tr. (In re N. Am. Refractories Co.)*, Adv. No. 21-2097-TPA (Bankr. W.D. Pa. May 2022) (Trial Testimony); and

5. *Mann v. Nat'l Review, Inc.*, 2012 CA 008263 B (D.C. Super. Nov. 2020) (Trial scheduled for June 2023).

EXHIBIT C

Publications in the Last 10 Years:

1. Ryan Brill, Sameer Deshpande, Wyner, "A Bayesian Analysis of the Time Through the Order Penalty," Submitted to the JQAS, Published at https://arxiv.org/abs/2210.06724

2. Elizabeth Walshe EA, Elliott MR, Romer D, Cheng S, Curry AE, Seacrist T, Oppenheimer N, Wyner AJ, Grethlein D, Gonzalez AK, Winston FK, "Novel use of a virtual driving assessment to classify driver skill at the time of licensure," Transp. Res. Part F Traffic Psychol. Behav., 2022 May.

3. Elizabeth A. Walshe, Abraham J. Wyner, Shukai Cheng, Robert Zhang, Alexander K. Gonzalez, Natalie Oppenheimer, Daniel Romer, and Flaura K. Winston, "License Examination and Crash Outcomes Post-Licensure in Young Drivers: Are the youngest drivers most at risk?, 2022. JAMA Network.

4. "Is the Third Time Through the Order Penalty Real?," Abraham Wyner and Russel Walters, To Appear, SABR 2021 Conference.

5. Matthew Olson, Abraham J. Wyner, Richard Berk, "Generalizations of the Random Forest Kernel," KDD 2019.

6. Matt Olson and Abraham Wyner, "Modern Neural Networks Generalize Well on Small Data Sets," NIPS, 2019.

7. Matt Olson and Abraham Wyner, "Do Random Forests Estimate Class Probabilities?," Submitted Journal of Machine Learning Research, 2018.

8. Sameer K. Deshpande, Abraham J. Wyner, "A hierarchical Bayesian model of pitch framing," Journal of Quantitative Analysis in Sports, Volume 13, Issue 2, October 2017.

9. Phillip Earnst. Shepp, L. and Abraham Wyner, "Yule's 'nonsense correlation' solved!," The Annals of Statistics. Volume 45, Number 4 (2017), 1789-1809.

10. Abraham J Wyner, Matthew Olson, Justin Bleich, David Mease, "Explaining the Success of AdaBoost and Random Forests as Interpolating Classifiers," Journal of Machine Learning Research 18 (May, 2017) 1-33.

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EXHIBIT B

UNITED STATES BANKRUPTCY COURT
WESTERN DISTRICT OF NORTH CAROLINA
CHARLOTTE DIVISION

ARMSTRONG WORLD INDUSTRIES, INC. ASBESTOS PERSONAL INJURY SETTLEMENT TRUST, et al.,	Miscellaneous Proceeding
Plaintiffs,	No. 22-00303 (JCW)
v.	(Transferred from District of Delaware)
ALDRICH PUMP LLC, et al.,	
Defendants.	
In re	Chapter 11
ALDRICH PUMP LLC, et al.,	Case No. 20-30608
Debtors.	

DEPOSITION OF CHARLES HENRY MULLIN, PH.D.
Monday, May 8, 2023; 1:06 p.m. EDT

Reported by: Cindy L. Sebo, RMR, CRR, RPR, CSR, CCR, CLR, RSA, NYRCR, NYACR, Remote CA CSR #14409, NJ CCR #30XI00244600, NJ CRT #30XR00019500, Washington State CSR #23005926, Oregon CSR #230105, TN CSR 998, Remote Counsel Reporter, LiveLitigation Authorized Reporter, Notary Public
Job No. 5905066

Deposition of CHARLES HENRY MULLIN, PH.D., held at the law offices of Jones Day, 51 Louisiana Avenue, Northwest, Washington, D.C. 20001, before Cindy L. Sebo, Registered Merit Court Reporter, Certified Real-Time Reporter, Registered Professional Reporter, Certified Shorthand Reporter, Certified Court Reporter, Certified LiveNote Reporter, Real-Time Systems Administrator, California Shorthand Reporter #14409, New Jersey Certified Court Reporter, #30XI00244600, New Jersey Certified Realtime Reporter #30XR00019500, New York Realtime Certified Reporter, New York Association Certified Reporter, Washington State CSR #23005926, Oregon CSR #230105, Tennessee CSR #998, Remote Counsel Reporter, LiveLitigation Authorized Reporter and Notary Public, beginning at approximately 1:06 p.m. EDT, when were present on behalf of the respective parties:

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ALSO PRESENT:

PETER CUMBO, Bates White (Via Zoom)
ALLAN TANANBAUM, Vice President, Deputy General Counsel, Product Litigation at Trane Technologies (Via Zoom)
JOSEPH GRIER, Claimants' Representative

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INDEX OF EXAMINATION

CHARLES HENRY MULLIN, PH.D.

Armstrong World, et al. v Aldrich Pump LLC, et al.

Monday, May 8, 2023

--oOo--

EXAMINATION BY	PAGE
Mr. Kaplan	11
Mr. Guerke	144
Mr. Hogan	207

CERTIFICATE OF REPORTER 217
INSTRUCTIONS TO WITNESS 218
ERRATA 219
ACKNOWLEDGMENT OF WITNESS 221

--oOo--

INDEX TO EXHIBITS

CHARLES HENRY MULLIN, PH.D.

Armstrong World, et al. v Aldrich Pump LLC, et al.

Monday, May 8, 2023

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(Exhibits Provided Electronically to Reporter.)

CM DEPOSITION

EXHIBIT NUMBER	DESCRIPTION	PAGE
Number 1	Declaration of Charles H. Mullin, Ph.D.	17
Number 2	Subpoena to Produce Documents, Information, or Objects or to Permit Inspection of Premises in a Bankruptcy Case (or Adversary Proceeding)	51
Number 3	Expert Report of Abraham J. Wyner, Ph.D.	101

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P R O C E E D I N G S

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Washington, D.C.

--oOo--

Monday, May 8, 2023; 1:06 p.m. EDT

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--oOo--

CHARLES HENRY MULLIN, PH.D.,

after having been first duly sworn by the certified stenographer to tell the truth, the whole truth, and nothing but the truth, testified as follows:

--oOo--

CERTIFIED STENOGRAPHER: Thank you.

The witness is sworn.

MR. KAPLAN: Thank you.

--oOo--

EXAMINATION BY COUNSEL FOR NON-PARTY VERUS TRUST

--oOo--

BY MR. KAPLAN:

Q. Good afternoon, Dr. Mullin. I'm

Michael Kaplan. We met briefly off the record. I represent the nonparty Verus Trust.

And I think I've drawn the short straw of -- of going first today, and maybe the only. We'll see.

You have been deposed before, correct?

A. Correct.

Q. I'd be lying if I told you I didn't know that.

So I'm going to give you the very abbreviated version of today's sort of ground rules so that we can't ever have a disagreement.

You know all of your answers have to be verbal?

A. Correct.

Q. We have to do our best not to talk over one another, right?

A. That's the goal.

Q. Right.

You understand you're testifying under the penalty of perjury, correct?

A. Correct.

Q. You understand that from time to time, maybe in response to every question, your counsel is going to potentially object to something that I'm saying.

Unless he instructs you not to answer, you know you can answer, right?

A. I have the option of answering, yes.

Q. Okay. Lastly and, I think, most importantly is if you don't understand my question, I'd like you to tell me that you don't understand it, and maybe we'll -- and I'll be able to rephrase it for you so that you get a question you understand.

If you answer, I'm going to assume that you understood the question.

Correct?

A. That may be a poor assumption.

If I answer, I had a clear understanding of the question. I have no way of knowing if that aligned with your intent of the question.

Page 14

So it doesn't necessarily mean that your understanding and mine are the same; it just means we both have one.

Q. Well, the benefit will be that if you think there's a problem with the question in any way, you shouldn't answer; you should tell me. Because if you do, I promise you, when, we get to court, I'm going to hold up the deposition transcript and say you answered, so you understood.

All right?

A. And I will tell the judge what I understood, so it will be fine.

Q. Terrific. And we will be off to the races there.

Lastly, if you need a break in this very, very short session, hopefully, that we have -- we'll take one for sure, but please let me know at any time.

And, obviously, if there's any question of privilege, somehow, that came up, we can stop, take a break and get the privilege issue resolved and come back in. But I don't think we're

Page 15

going to have that issue today.

All right.

(Pause.)

BY MR. KAPLAN:

Q. So, Doctor, what is it that you're being -- being proffered as an expert in here?

A. I'm -- the proffer I don't control. I've been asked to really explain the difference between using a 10 percent sample or -- 10 percent sample of what's really about a 3 percent sample of the claims data already or using the 3 percent we asked for in the $12,000 in totality and how that would affect the precision of the ultimate analyses offered in estimation down the road.

Q. Okay. My question was a little more straightforward than that. Let me rephrase it for you because it might be you didn't understand.

What is your expertise in?

A. I'm trained as an economist. I have extensive expertise in statistics, econometrics, economic modeling. I have applied those in a mass tort setting frequently.

Page 16

And probably most germane to this process, I have expertise in estimating future liabilities under various different sets of assumptions and -- which get into the estimation process itself but in terms of the data inputs and how they affect that and the statistical properties and, hence, the precision.

So it's really estimation and statistics are probably the two applications, but there's a lot of underlying training and expertise that underlies those two areas.

Q. Okay. Did anyone assist you in preparing your declaration that was submitted here?

A. Yes.

Q. Okay. And who are those people?

A. I couldn't give you a whole list sitting here. My process -- I work with a team --

Q. Okay.

A. -- and I draft reports with the team. I ultimately review them and edit them to make sure they reflect my opinions. And that work done is under my direction.

Page 17

Q. Okay. And I'm going to mark for you, just so that we have and we can get started with it --

MR. KAPLAN: Can we just call it CM-1? Anyone have a problem with that?

MR. EVERT: Sure, that's fine.

MR. KAPLAN: CM-1.

It is your -- and I apologize for those in Zoom world. I don't have electronic copies to share, but it's Dr. Mullin's declaration at Docket 55, filed on March 9th, 2023.

I do have copies for the room -- some copies for the room.

--oOo--

(CM Deposition Exhibit Number 1, Declaration of Charles H. Mullin, Ph.D., marked for identification, as of this date.)

--oOo--

BY MR. KAPLAN:

Q. Okay. Do you recognize this

Page 18

document, Dr. Mullin?
MR. EVERT: Hang on one second.
I just wanted to make sure, for everybody on the phone, that they know it's -- because he's filed more than one declaration in the case. So it's Docket -- it's -- the declaration at Docket 55 is the declaration filed in association with the -- I believe with the Motion for Reconsideration, although . . .
MR. KAPLAN: Sure hope it is.
MR. EVERT: Yeah, that's right.
MR. KAPLAN: Okay.
BY MR. KAPLAN:
Q. You recognize that document, Dr. Mullin?
A. I do.
Q. Okay. And the team that you talked about in the process you use -- is that what you used to prepare what we're calling CM-1?
A. Correct.
Q. Okay. Do you know how many hours you

Page 19

spent in preparing this?
A. I do not.
Q. Okay. How much time did you spend preparing for your deposition today?
A. Specifically for the deposition?
Probably five to eight hours.
Q. Okay. Did you speak to anyone besides counsel about your deposition today?
A. I spoke with a couple members of my team.
Q. Okay. And what did you talk about there?
A. So, first, I'll clarify what I mean by "prepare," because that will give context, which is I reviewed Dr. Wyner's rebuttal report --
Q. Okay.
A. -- and so I talked to my team about that report and talked to -- principally, that was the main topic of conversation with my team.
Q. It was about Dr. Wyner's report?
A. Correct.
Q. Okay. We'll get to that at some

Page 20

point today.
Did you meet with counsel in advance of the deposition?
A. I did.
Q. Okay. How many hours did you meet with counsel for?
A. In terms of this is the topic?
Around an hour, maybe an hour and a half.
Q. Okay. And when was that?
A. So a meeting on Thursday or Friday of last week and then a little bit of time before the start of the deposition this morning.
Q. Let me just say this: The document which we've showed you as CM-1, this declaration for the motion for reconsideration -- is this the only document that you are planning on relying on in the -- for the June 6th hearing?
MR. EVERT: I'm sorry. Let me ask, when you say "document," do you mean declaration?
MR. KAPLAN: I'm sorry.

Page 21

Declaration. Bad wording. Yes.
THE WITNESS: I don't know the technicalities of it. I had a similar declaration that I think was in response to an action in New Jersey, and I don't know the technicalities of how that transfers over. But there's a lot of overlap in the content of those two. But, really, the content across those would be the focus of that testimony as I see it.
BY MR. KAPLAN:
Q. Okay. Are you preparing any kind of supplemental declaration in response to Dr. Wyner?
MR. EVERT: I'm just going to break in, Michael.
I think we agreed we weren't going to do that, that this was going to be his supplemental declaration.
You weren't part of those discussions, so I apologize for jumping in and answering the question, but -- yeah. So I think, at least from a legal perspective,

Page 22

we would be relying on any declarations Dr. Mullin has filed that are applicable to the Trust discovery issue; but, no, he's not going to file -- his deposition is going to serve sort of as his response.

MR. KAPLAN: Excellent. All right. Good. That will short-circuit some of -- some of those questions.

BY MR. KAPLAN:

Q. I apologize, Dr. Mullin. I was not -- were you present at the March 30th, 2023 hearing that sort of preceded this round of exercises we're doing right now?

A. I was present at a hearing. If that was the date of it --

Q. Yeah.

A. -- probably.

MR. EVERT: Yes, he was.

MR. KAPLAN: He was there.

BY MR. KAPLAN:

Q. Okay. Excellent.

All right. So I want to focus you in

Page 23

on -- on, really, two questions -- two sets of questions today -- others may have other questions, but I want to focus you in on two. The first is that judge's question about why sampling doesn't work for the Debtors' side, and the second is why sampling wouldn't reduce the risk of even human error of missing some PII being disclosed.

Okay?

A. Okay.

Q. All right. By background, have you offered an expert opinion previously on the sufficiency of a sample side?

A. Yes.

MR. EVERT: In any case?

MR. KAPLAN: In any case.

MR. EVERT: Okay.

BY MR. KAPLAN:

Q. How many of the cases?

A. I couldn't give you a count. I know it's a common topic in the insurance coverage work that I've done, so it comes up frequently in that context. So that's going to be the principal

Page 24

context.

I've done sampling in, I guess -- with the Consumers Finance Bureau [sic]. There's probably other cases as well, but I've used sampling in an array of different positions.

Q. How about in any type of mass tort case?

A. Most of those insurance coverage actions involve mass tort claims --

Q. Okay.

A. -- so definitely, in relation to mass torts, I've given opinions on sampling before.

Q. Okay. Can you recall the last time you gave an opinion on sampling in -- in a mass tort case?

A. It's common. I'd have to go look. I don't know the last time I did it.

Q. Okay. And you said in the insurance context.

Who is it that retained you in those contexts -- in those cases -- excuse me, not contexts, cases?

Page 25

A. I've been retained by policyholders; I've been retained by insurance companies; I've been retained by reinsurance companies, whether it's reinsurance and insurers in litigation, and retrocession errors. So it's kind of up and down the line.

Sampling is common regardless of who my clients are in those contexts.

Q. Okay. You were involved in the -- in the Mallinckrodt case, correct?

A. Correct.

Q. What was it that you did there?

A. I was retained relatively late in that case. There was a settlement in place. There were objectors to that plan, and I was brought in to discuss the reasonableness of the settlement --

Q. Okay.

A. -- with regard to opioid claimants in particular was the emphasis of that.

Q. Okay. If you flip to Page 17 of 30, the ECF page numbers on the top of your declaration, there is a list of selected

Page 26

experience.
Does that document help refresh your recollection at all in terms of the case in which you offered an expert opinion on sampling, outside of this case, of course?
A. In general, this is the cases I'm allowed to publicly disclose at this point --
Q. Okay.
A. -- so there's numerous cases on this list where I would have offered opinions on sampling.
Q. Can you give me an example of -- of an opinion -- again, obviously, we can only ask you about publicly available cases and you can only disclose publicly available cases.
So looking at this list, which is the universe we're working off here, can you give me an example of a case which you offered an opinion on sampling in?
A. Some of the analyses that are in the public domain of what I've done on the Aearo bankruptcy originally dealt with the 1 percent

Page 27

sample that had been drawn in the MDL --
Q. Okay.
A. -- so I didn't design that sample, but I utilized that sample.
(Whereupon, the witness reviews the material provided.)
THE WITNESS: Fourth bullet on what's Page 18 of 30 --
BY MR. KAPLAN:
Q. Yeah.
A. -- is the Consumer Finance Protection Bureau case in which I've designed and utilized a sample.
(Whereupon, the witness continues to review the material provided.)
THE WITNESS: I had input in some of the sampling discussions in Bestwall. I was not ultimately the person who signed off, but I had input into those.
(Whereupon, the witness continues to review the material provided.)
THE WITNESS: There was some

Page 28

sampling in the ACE Bermuda Insurance versus 3M arbitration.
(Whereupon, the witness continues to review the material provided.)
THE WITNESS: The General Re-SCOR matter, about two-thirds, three-quarters of the way down Page 19, had sampling.
(Whereupon, the witness continues to review the material provided.)
THE WITNESS: My recollection is there was sampling in the bottom two on that page.
MR. EVERT: That would be the AIU Insurance and the THAN?
THE WITNESS: Yep.
(Whereupon, the witness continues to review the material provided.)
THE WITNESS: I believe the fourth bullet on Page 20, the National Indemnity matter there versus the State of Montana.
I believe the next one, Newco versus Allianz, had sampling.

Page 29

The U.S. Silica versus Ace matter two-thirds the way down the page had sampling.
I think the third from the bottom, Cannon Electric versus Affiliated, had sampling.
The Goodrich matter, penultimate one on the page, had sampling.
I did a lot more insurance work earlier in my career, and we're going to start to get a long list of them if not, we can keep going if that's sufficient.
BY MR. KAPLAN:
Q. Let me stop you there for a second -- no. Let me stop you there, which is -- in -- in the cases that you identified on these first few pages -- and I understand there's potentially more -- were you a proponent or opponent of sampling in those cases?
A. I don't really view it as either.
Q. Okay.
A. I mean, I'm trying to work towards

Page 30

getting sufficiently precise opinions for the parties to resolve a matter. And it's fact-specific as to any given matter whether sampling or a census or some other process is what's going to be most efficient in getting to resolution of the case, in reality.

And so that's really how I approach these. I'm neither pro sampling or against sampling. I'm what's going to work most effectively in a given setting.

Q. So let me understand.

Is it your testimony that different cases can have different outcomes with respect to sampling in terms of whether it's efficient or not efficient?

A. Correct. It's a cost-benefit analysis --

Q. Sure.

A. -- and you're looking at that cost-benefit analysis, which is going to be fact-specific to the case. And sometimes it makes sense to look at the census.

Page 31

In this case, for example, we are using the entire Debtors' historical claims database. We're not saying let's use a 10 percent sample of data already in electronic format. We're saying no, we use all of it because it's all already in electronic form. And that's going to, on a cost-benefit analysis, make sense as opposed to sampling from the historical claims data.

You know, in contrast, when you look at claim files in the case and you say what historical claim files might want to get produced and reviewed, that's an expensive operation; you do sampling.

So in one case, you turn over everything because it's already in electronic format. In the other case, because there's a large volume of manual labor and cost and time, you use a sample.

So even within this case, there's places where my opinions are use all the data, and there's other places where it's use a sample of the data. It's not one or the other; it's what makes

Page 32

sense for the question at hand and the facts at issue.

Q. Let's look at -- see if I can put this into some specifics here.

You said that you offered an opinion on sampling in the Aearo Technologies case, correct?

A. I said I used -- I had opinions that utilized a sample --

Q. Okay.

A. -- and I utilized the 1 percent sample that was preexisting from the underlying MDL proceeding.

Q. All right. And in your opinion, was that sample sufficient for the purpose you were using it for?

A. For the scope of the opinion I was doing, I mean, it was a constraint. It was the only thing available at the time, so it more prescribed the strength of the opinion I was able to offer.

So by construction, it was sufficient

Page 33

for the opinion I offered. With more data, I could have offered a more refined opinion.

Q. Okay. How about in the Consumer Financial Protection Bureau case? You said you offered an opinion -- I don't want to misstate it -- that utilized sampling or on sampling.

Which was it?

A. I designed the sample on that case --

Q. Okay.

A. -- it involves literally millions of phone calls. So it would be completely time prohibitive to have people listen to the millions of phone calls and do something comprehensive. So from a cost-benefit analysis, it was necessary there to use sampling.

Q. I think you said you participated in Bestwall, but I think we all understand you didn't offer the principal opinion there, correct?

A. I haven't filed any declarations or reports in Bestwall.

Q. Okay. Good.

How about -- you said ACE Bermuda --

Page 34

you utilized a sample there?
A. Correct.
Q. And what was the context in that case?
A. Well, it's a Bermuda form insurance action, which I think means it's all confidential --
Q. Okay.
A. -- so I don't think I can really tell you the substance of it outside of it's insurance coverage.
Q. Okay. That makes it a little difficult to -- how about let's go down to the bottom of the page to the AIU versus Philips Electric that's in Delaware Chancery? Public that you can talk about?
A. I know the two -- the general theme -- the two that are there are connected to each other. It's really the same opinion in both. They both stem from the THAN Trust. And AIG and the THAN Trust had coverage litigation, and they were seeking discovery on the underlying records

Page 35

from the THAN Trust itself.
Q. Okay. And what was it -- how did the opinion on sampling work in there?
A. I have a recollection sampling was in it, but I don't recall, sitting here. I haven't reread that even if I have it still. I don't think those are both in the public domain, but I'm not 100 percent certain of that.
Q. It's in the SDNY. Everything is in public there.
Have you ever offered an expert opinion on data privacy before?
A. No.
Q. All right. Do you have any type of specialized training in data privacy?
A. I don't know what you consider specialized. We have an entire technological services department; we have HITRUST certification; we have SOC 2 certification. Part of all of that certification is training for everybody at Bates White, including myself. So I've had all of the training that goes with those certifications.

Page 36

This is where, if you say "specialized," I think HITRUST would say some of that is specialized, but I'm not sure what you mean by that.
So I've gone through the training that goes along with the company getting all of the security credentials.
Q. Okay. Have you taken any -- beyond what the company is -- is offering, any specific type of coursework on data privacy?
A. No.
Q. Do you have any certifications, you, yourself, in data privacy?
A. No.
Q. All right. Have you ever been proffered as an expert in data privacy previously?
A. No.
Q. Okay. And finally -- I'm fairly certain I know the answer to this, but if you tell me "yes," I'm going to be pretty surprised -- which is is you're not a lawyer, correct?
A. No.

Page 37

Q. All right. We're off to a good start.
You're not qualified to offer a legal opinion on the question of law, right?
A. That's a whole different question, but I don't intend to offer any.
Q. Are you qualified to offer a legal opinion on the Federal Rules of Civil Procedure?
A. I don't intend to offer any.
Q. Not my question.
Are you qualified to offer an opinion on the Federal Rules of Civil Procedure, in your view? This is only your view.
A. No.
Q. Okay.
All right. I showed you before -- if we can flip back to the meat of your -- sort of your declaration there, CM-1.
Anything in there that needs to be corrected before we dive into it?
A. Not that I'm aware of.
Q. All right. Excellent.

Page 38

All right. In looking through the declaration, Dr. Mullin, can you point me to which paragraph or paragraphs contain your opinion on why the proposed 10 percent sample is not sufficient for the Debtors?

(Whereupon, the witness reviews the material provided.)

THE WITNESS: I think the core of that starts in Paragraph 15 --

BY MR. KAPLAN:

Q. Okay.

A. -- and probably runs through Paragraph 18 of how the data would be used in broad brush strokes.

Q. Okay. And is it your opinion that a 10 percent sample is not sufficient for the purposes?

A. So it's my opinion that on a cost-benefit assessment, which is how you decide whether you should sample or not, the benefits greatly outweigh the costs here, so it makes sense to get those benefits when they outweigh the costs.

Page 39

So it's going to allow me an estimation to give a much more precise answer and address some questions that otherwise I may not be able to address or quantify reliably, so it -- so, yes, because it passes that cross -- cost-benefit analysis.

Q. Okay. Yeah, the -- is your entire opinion related to the sufficiency tied to just cost-benefit?

A. I mean, that is the fundamental principle of designing a sample and when do you sample and when don't you, so you can't really answer these questions about is sampling appropriate or not in the absence of talking about what it costs.

If there's zero cost to having all the data, you should use all the data because you'll be more precise, and why would you give up the precision? If it's impossible to get all the data, it's a silly exercise to talk about what would happen if we did get it. So the two are -- can't be separated, the -- what are the benefits, what are the things that the data enable you to do

Page 40

and what's the cost of gaining access to that data.

That's the trade-off of sampling always. So to -- you can't answer questions absent that framework about sampling.

Q. Okay. Let me try it this way: Why is -- why is a 10 percent sample not sufficient for the stated purposes?

A. Well, so I think this is a place where we need to clarify. One, the Debtors have over 400,000 historical claims. I have not asked for 400,000 data through counsel as a request to assist in our work. We asked for 12,000; less than 3 percent.

So this isn't like the examples where the Trusts say, Federal-Mogul asked for 435,000 Claimants; they asked for 12,000; 3 percent. So I was prudent. I did take into a sense the costs of this, and I asked for 3 percent through counsel to get data on a very limited set of 3. And now I'm being asked to go, for the sake of the analysis, from 3 percent to .3, 10 percent of 3 percent.

So you're going to say it's

Page 41

10 percent?

I think you're asking me to take .3 percent of the available data, not 10, and move from what was already a request for 3 down to .3.

So if we're going to say 10 percent, let's make sure it's 10 percent of 3 percent, which I think is the intent of your question. But I want to make that very clear, if that's how we're going to use the terms.

Q. Well, let's see -- let's drill down on that because I don't represent the Debtor as, you know; I represent one non-party.

So can you explain to me how it is you're getting from this 10 percent to 3 percent to .3 percent? Because I'm not -- I'm not following.

A. Okay.

So the Debtors have faced hundreds of thousands historical claims in the tort system. Some requests that have gone to the Trusts from prior parties have requested their entire historical data, so hundreds of thousands of claims.

Page 42

I don't think I need that. I have tried to filter this down in how we think about this request. We asked for 12,000. We -- I already said, anything before 2005, it's not going to give me enough information that I need to go after that right now.

I eliminated all dismissed claims. Dismissed claims have been produced in other contexts. They were produced in Garlock. They contain a little bit of information that would help but not a lot. That's -- 80 percent of the mesothelioma claims, for example, against Murray resulted in dismissal. I've already eliminated those. I've constrained it to just mesothelioma claims.

So it's not that I asked for the ocean through counsel in these requests. I'm seeking for estimation a very targeted subset that's going to be most informative. That's about 3 percent of the historical Claimants. I'm seeking information on those three through the subpoenas -- or, really, the Debtors, on my behalf, are seeking

Page 43

that. So that's where I'm saying we're starting at 3 percent. And now others are saying, Let's go from 3 to .3, take 10 percent of that 3 percent.

Q. Okay. So you're talking about the totality of the universe; you aren't being specific to -- for instance, I represent the Verus Trusts.

Are you familiar with those?

A. Yes.

Q. Okay. Your testimony is that in -- in looking at the information the Verus Trusts potentially possess as a whole, that's how you're drilling down from 10 percent to 3 percent to .3 percent, correct?

A. No.

Q. Okay.

Are you only looking for -- what is the limitation on the Verus Trust, then?

A. So the Debtors, Aldrich and Murray, combined have over 400,000 -- received claims on behalf of 400,000-plus Claimants. So if you wanted to collect information on all the historical Claimants that have brought claims against the

Page 44

Debtors, you would be asking a request for over 400,000 people.

That's not what the request was. It was for 12,000, around 3 percent of the universe of historical Claimants that these two Debtors have received claims from.

So it started targeting at 3 percent, 3 out 100, and so it's the universe of Claimants who brought tort claims against the Debtors' prepetition. That's the initial universe.

Q. Is it your testimony that the Verus Trusts possess 400,000 Claimants' worth of information?

A. I think you can look at reports, and they have more than 400,000 Claimants that filed claims against entities by the Verus Trusts, but what's the overlap -- the question of what's the overlap between the 400,000-plus the Debtors faced and which ones are in -- file a Trust claim against Verus. But the Verus entities have received more than -- claims on behalf of more than 400,000 individuals.

Page 45

Q. Let's try it this way: What is it that the Debtors need -- excuse me.

Strike that.

What is it that you need this information for that you asked the Debtors to go get it?

A. So when estimating future liabilities, there's a few different steps in that process. One is, how many future people will develop mesothelioma with the types of characteristics that would make them compensable against these Debtors?

When doing that exercise, the industry and occupational work backgrounds of Claimants matters. That affects the odds that they will be compensable. So when you're doing this forecast, you'd really like to break Claimants down into industry and occupational groups that have different levels of valuation associated with them.

So one of the things that this data provides is, in electronic form already, a rich set of industry and occupational work history

Page 46

information, so you're able, then to forecast by different industry and occupational groups because they have different demographic characteristics. So some of those groups taper off more quickly, so the claims would decrease faster. Some will decrease more slowly.

So to get a more precise estimate of the number of future claims that the Trust would receive, you really want to do the analysis by industry and occupational groups; that both gives you a more precise estimate of the totality of the liability and, probably just as importantly, it helps you better protect future Claimants relative to pending Claimants. Because when you do this type of a forecast, forecasting the number of claims the Debtor would have received one year post petition, that's easy, relative to forecasting the number of claims the Debtor would receive 20 years post petition.

The further into the future you go, the more uncertainty. And so we want to minimize that because we really don't want to be in a

Page 47

position where future Claimants are getting paid less than the pending Claimants, so improving that forecast is important.

Q. Okay. Any other reason the Debtor needs the information?

A. So there's a second piece besides -- that uses that same type of information to help you design a claims resolution process and then, similarly, helps you show that that claims resolution process is feasible at confirmation, so you're using it for those purposes as well.

Depending on the exercise you're doing, but, in particular, under what is often the Plaintiff's theory in these cases, you're trying to do an estimate of what Claimants would have been paid in the tort system; and that's something that varies by both industry, occupation but also law firm, jurisdiction.

And so when you start asking these questions, it may be that only 100 of the 1,200 claims apply to a question of interest, so that's constrained to a 1,200-claim sample, but only one

Page 48

in 12 go to a subpopulation that I need to estimate something on behalf of; now I have only a sample size of 100 to answer that question. And that's not sufficient.

So when you start peeling down, if you really want to ask a question that's just one average for the whole population, 1,200 claims, in general, would be enough. But as soon as you start saying there's a subpopulation of interest, like maybe pipefitters and electricians are different from carpenters, maybe certain jurisdictions are different from others, so you need to look at a subset, I no longer get to look at 1,200 claims, and so I need those subsets to also be big enough to give reliable opinions and accurately estimate the future.

Q. Okay. So let me -- is it -- before we go further, any other reasons why you ask the Debtor to go get this information?

A. There's what's the bulk of Paragraphs 15 and 16, which is really what fraction of a Claimant's exposures were known to the Debtors

Page 49

at the time of settlement. So that's the thrust of Paragraphs 15 and 16 in my declaration, so that's another issue where this information would be important.

Q. All right. Let's start with that one, which is you say, What information was known to the Debtors at the time of settlement?

That is, it's -- how does that help advance the ball of the case?

MR. EVERT: I'm going to object to the form of the question. I'm not sure what you're asking.

THE WITNESS: So little bit of history: Key aspect of the Garlock case was that Judge Hodges found that not all that information had been revealed and concluded that tainted the tort history, so extrapolating historical tort settlements into the future wasn't appropriate.

The Plaintiffs assert -- and it may turn out to be true -- that post Garlock, that behavior stopped.

Page 50

BY MR. KAPLAN:
Q. What behavior specifically?
A. Not revealing the totality -- suppressing information or not revealing --
Q. Okay.
A. -- all the alternative exposure information.
Whether or not that stopped is an empirical question. For mine, maybe that did stop completely. Maybe it's identical to what was in Garlock. I don't have an opinion about that. I want to look at the data and have the data tell me, is that going on or not going on.
That was a very salient fact in the estimation in Garlock. I would expect the outcome of that empirical exercise to be a salient fact here. So that speaks directly to an aspect of what you could potentially rely on a tort system settlement for or not. So that's one spot where answering that question is going to directly enter into an estimation process.
Q. Okay. I want to show you the -- this

Page 51

is just an exemplar subpoena of one. I believe they all were fairly similar, but this was one that was issued to the ACandS Asbestos Trust in connection with the -- when it was grouped in New Jersey.
MR. KAPLAN: We'll mark this as CM-2, and I have copies to share with everybody.
(Sotto voce discussion.)
--oOo--
(CM Deposition Exhibit Number 2, Subpoena to Produce Documents, Information, or Objects or to Permit Inspection of Premises in a Bankruptcy Case (or Adversary Proceeding), marked for identification, as of this date.)
--oOo--
BY MR. KAPLAN:
Q. Take a look at that, and let me know whenever you're ready.
MR. KAPLAN: Just for those on the

Page 52

Zoom world, the cover page is not filed anywhere, but the thrust of what I'm about to talk about is filed at --
MR. EVERT: It's the order granting the subpoenas --
MR. KAPLAN: Yeah, Docket 1240. Yep.
MR. EVERT: -- right, Docket 1240 in the main case.
MR. KAPLAN: Yes.
BY MR. KAPLAN:
Q. All right. Have you seen that document -- again, I want to focus in on the order here, Dr. Mullin.
Have you seen this document before?
A. I believe I've seen the order before.
Q. Okay. Excellent.
I want to focus you in on Paragraph 5 of the order, which is, I believe, what we were just covering a moment ago, which talks about what the subpoenas are seeking evidence for.
Do you see that?

Page 53

A. I do.
Q. All right. And I believe that the first thing you spoke to me about was the -- the estimation of the Debtors' liability for current and future asbestos-related claims and the negotiation, formulation and confirmation of the plan, correct?
MR. EVERT: I'm sorry.
Could you repeat that question?
MR. KAPLAN: Sure. I'm just trying to -- he gave me -- if I recall, there were three areas which he gave me to --
BY MR. KAPLAN:
Q. -- that you needed the data for: One was forecasting; one was -- call it claims resolution and -- and the Trust distribution; and the third I'll generally refer to as the "Garlock problem."
Okay?
Did I get those right, those three -- what -- the three purposes?
A. So estimating liability, of which you

Page 54

have a lot of inputs into, the Garlock problem is a subset of that, if it exists. You know, so there's estimating liability; and there's designing the plan; and then there's showing the plan as feasible in confirmation.

Q. Okay.

MR. ANSELMI: I'm sorry.

Could you repeat that last answer? I couldn't hear.

Or could you repeat it back, what the answer was?

--oOo--

(Whereupon, the certified stenographer read back the pertinent part of the record.)

--oOo.

MR. ANSELMI: Okay.

BY MR. KAPLAN:

Q. So that's what I was trying to drill down on, what this is.

Your testimony is that this -- this -- if we look at the colon past "specifically,"

Page 55

there's a semicolon, and then we get to -- The estimation of the Debtors' asbestos liability is the second phrase or clause there, correct?

A. Correct.

Q. And that's where your testimony is is that the -- determining whether that there was a similar issue in Garlock falls in?

A. Correct. This is broken out a little different, probably the phrase before that semicolon --

Q. The reliable basis --

A. -- in this context, is probably where the Garlock part falls; but yes.

Q. Okay. And this "permitted purposes" term is a defined term that I didn't design, but I'm going to go with it.

You see that term there which talks about the permitted purposes?

A. I do.

Q. Okay. My question is this: With respect to the first permitted purpose, the determination of whether prepetition settlements of

Page 56

mesothelioma claims provide a reliable basis for estimating the Debtors' asbestos liability, is it your opinion that a 10 percent sample would not be sufficient?

A. For most aspects of that, I'm actually constraining myself to a 10 percent sample already.

So for most aspects of that -- like, for example, whether or not all the exposures have been revealed -- there's a comparison of Trust data to underlying Claimant information as collected from the claim files, that's being envisioned as a comparison of claim file sample to the Trust data and would likely be done with approximately 1,200 Claimants.

So for most of the things that I think would fall under that, the 10 percent sample is already being used, because it would be -- that's where the claim file production, which is not already in electronic format so has a different level of expense associated with it, has a different cost-benefit analysis. And so that's the

Page 57

binding constraint on addressing the bulk of what would fall under that first item.

Q. Okay. How about with respect to the estimation of the Debtors' asbestos liability -- is it your opinion that a 10 percent sample would not be sufficient for that?

A. "Sufficient" is probably not the term I would use.

Could I perform an estimate with a 10 percent sample if constrained? Yes. That estimate would have a much broader range of uncertainty about it, and so the Court would have less guidance; the Trust would have a higher risk of not reserving enough funds for future claims.

So this is a question of precision, right? It's -- is it worth gaining the extra precision for whatever costs are associated with producing those data?

It's still feasible to give an opinion, but you're just going to have a lot less precise about that opinion.

Q. Let's stop there for a second with

Page 58

respect to precision.
Can you quantify how much less precise 10 percent would be versus, say, for example, a 12 percent sample size?
A. So there are areas where I was comfortable doing that. You know, I did drop all the dismissed claims from the request. I dropped everything that wasn't a mesothelioma from the request. So there's areas where I felt like I had the information to have confidence that constraining myself to 3 percent of the historical claims that the Debtors have received would still leave me in a position where I hadn't given very much up in terms of precision.
Beyond that, it's very hard to quantify until you have the data, because you don't know what you're going to find.
So, for example, if you take the Garlock-style question, if it turns out that the assertions of the Plaintiffs' bar is validated and all exposures are being revealed in a contemporaneous manner, that issue just drops out

Page 59

of the estimation. So I wouldn't need a large sample size if it turns out -- for that question if it turns out it never happens.
In contrast, if it happens but it only happens in select jurisdictions or for select types of claims, then I need a lot more data, potentially, to address that.
So saying exactly how much data you need and the critique that Dr. Wyner said, if I haven't quantified it, that's because it's not actually quantifiable at the moment, but you're taking a big risk for -- you know, on that front.
On other aspects, like estimating claims by industry and occupation group, I haven't run it in this particular context, but I know the -- for example, the occupational exposure curve for construction claims goes out about 10 years further as a shift from lots of traditional industrial exposures. So having a good understanding of that can move your estimate 5 or 10 percentage points.
And so knowing the breakdown of those in a fulsome manner could easily add, you know, 5

Page 60

or 10 percentage points of precision to the type of estimate you're making, and that would be -- when you're talking hundreds of millions of dollars, 5 or 10 percentage points can be a lot of money.
You know, I haven't done all that work. I don't have the data, so I don't know exactly what it's going to move it. That's something you can't know until after the fact.
Q. Again, I'm trying to understand if there is a way to -- so I think I understand you said it's not quantifiable, but let me just make sure.
The precision of a 10 percent versus a 15 percent sample size -- again, this is all before you have the data -- you're not able to quantify the mathematical difference in terms of how precise they would be?
A. So there are places where you could be concrete.
Q. Okay.
A. So if you took, for example, a law firm that has 400 resolved claims and now we take a

Page 61

10 percent sample of 400 paid claims during the sampling period. Now we take a 10 percent sample; we'd expect to get 40. If it turns out that breaking that law firm out and doing analyses by a law firm is important, I now have a sample size of 40, which is going to have three-and-a-half times the uncertainty of what I would have had with 400. 400 for that law firm probably would be enough; 40 is almost assuredly not. And so now, I'm going to introduce a whole bunch of uncertainty.
Most of the law firms have well under 400, so there's only a handful of law firms that have more than 400 paid claims during this period, so is -- for all but a handful of them, if you needed to do something by law firm, you'd want the totality of the available claims out of the 12,000.
There's a couple that have more than 4- or 500 claims, but it's only a couple. So that's an example where I know which law firms I'll need to break out and treat separately -- I don't know yet. When we do financial reporting work, it's common to break out 10 or 20 law firms in the

analysis to get the most precise estimate of what we would expect in the tort system.

So I expect I have to break it out by law firm. I expect that analysis to matter materially to the precision. And if I only get 10 percent, I'm going to lose an awful lot of information from there and my work is going to be materially less precise.

Q. How much less precise?

A. So at the law firm level, you're going to be, again, more than tripling the amount of uncertainty. The baseline level of uncertainty is unknown. You're tripling the uncertainty, but you don't know the baseline until the data comes in and you do the analysis. So that's not answerable; the relative loss is.

Q. Okay. Let me turn to the sort of last point there, and then I'll take a break for a couple of minutes.

The development and evaluation of Trust distribution procedures for any plan of reorganization confirmed in these cases, the third

purpose.

Okay?

Is a 10 percent sample sufficient for that purpose?

A. It may turn out to be sufficient for some occupational groups you'd want to look at and almost assuredly insufficient for others. So, again, it's similar to law firm. Until you've done the work, you don't know how you're going to bundle those groups together, but it's typical to have multiple groups.

The smallest groups are frequently the most highly paid claims, so you have a very high per-claim value in a CRP for relatively small number of people fitting it, is the typical fact pattern. So you're expecting the place that the precision matters most to be the place exactly where getting a 10 percent sample instead of all the data is going to cause you the biggest problem because it may only be that 5 percent of the claims are in that group; and so then, instead of having 1,200 claims to work with, suddenly I have 60. And

60 is not going to be enough for almost any reasonable statistical analysis.

In contrast, 600 would be.

Q. Is it your testimony here that there is no percentage, in terms of sample size, that would be sufficient?

MR. EVERT: I'm just going to object. I don't think that's what he said. I think the problem is with the word "sufficient," but . . .

THE WITNESS: I think quite to the opposite --

BY MR. KAPLAN:

Q. Okay.

A. -- I didn't -- I asked for 3 percent of the data to start with.

And so the context that's being lost in your questioning is before the Trusts ever received a request, I had already concluded I don't need this for 97 percent of the Claimants to do my work and get to a sufficiently precise estimate.

So quite to the contrary, I'm more

saying 3 percent's sufficient; .3 is not. Taking away 90 percent of the 3 percent request? No, that wouldn't be sufficient; the 3 percent is.

So I did that work up front and constrained the request to only 3 percent of the data.

MR. KAPLAN: Okay. All right. Why don't we take five minutes here? Try to actually make it five minutes, if we can. If not, it will be 10.

We'll go off the record.

--oOo--

(Whereupon, a recess was taken from 1:59 p.m. EDT to 2:10 p.m. EDT.)

--oOo--

BY MR. KAPLAN:

Q. All right. Dr. Mullin, we're back from the break.

Any reason you can't continue?

A. No.

Q. Okay. Not at least this break.

Before we left, you said, a couple

Page 66

different times -- you were talking about you had -- there was a universe of 400,000 claims which you limited to -- which you said was 3 percent of that and then took it down to .3 -- were being asked to take it to .3 percent.

Do you remember we were discussing that?

A. Yes.

Q. Okay. The 400,000 claims that you -- that the claims universe was starting with -- are they all mesothelioma claims?

A. No.

Q. Okay. Approximately how many of the 400,000 are mesothelioma claims?

A. I don't know the exact count.

Q. That's why I asked for an approximation, because I figured you didn't.

A. More than 25,000, less than 50-.

Q. Okay. And were you asked to do an analysis of nonmesothelioma claims?

A. Estimation is currently constrained to mesothelioma claims, but any plan of

Page 67

reorganization will have to address all claims.

So for the purposes of the current scope of estimation, mesothelioma claims is what is needed, but eventually you'll have to design a claims resolution process for all claims.

Q. Okay. And you also talked about claims -- you eliminated claims that were dismissed, correct?

A. Correct.

Q. Were you asked to analyze claims that were dismissed?

A. Yes.

Q. Okay. And how is it that you would be analyzing the claims that were dismissed?

A. A fundamental question when valuing claims is which ones will be dismissed and which ones will be paid. So you often compare the characteristics of dismissed claims to paid claims.

If you only look at characteristics of paid claims and say these characteristics are associated with payment, it may turn out that those exact same characteristics are also associated with

Page 68

claims that don't get paid. So you -- to figure out what subsets of claims would be paid, dismissed claims are relevant.

Q. How about -- where do administrative settlements factor into your analysis?

A. So administrative settlements, in many ways, for estimating liability make the problem more difficult because, frequently, in the context of administrative settlements, underlying Defendants and these Debtors, in particular, have not gone through as exhaustive a discovery process, so they contain less information about the characteristics of those claims. And understanding the characteristics of the actual claims is relevant for projecting the number of future claims.

Q. Okay. So I think you said just a moment ago that you were approximating somewhere between 25- to 50- mesothelioma claims of the universe of 400.

Did I get that right?

A. It's thousands on end of all of those

Page 69

numbers, but yes.

Q. For -- yes. Let's get that right for the record purposes because, otherwise, one of us will try and use it later.

A. Don't know which one that would be.

Q. You can bank on that --

MR. ANSELMI: It depends.

BY MR. KAPLAN:

Q. -- you can bank on -- no, I'm kidding.

Your testimony was, if I'm correct, that of the 400,000 or so claims, you believe that 25- to 50,000 are mesothelioma claims?

A. Claims, yes. Claimants -- it might be a little lower. I'm -- 80 percent of the Murray claims were dismissed; 50 percent of the Aldrich claims are dismissed. So you need more than double the 12,000 because, over half, you have a dismissal rate even for one that's half and 80 percent for the other. So that's really where I got to the lower number of about 25,000.

But it could go -- how much higher

Page 70

than that it goes -- that could go -- I haven't tabulated it. So it's more than 25,000, and I'm confident it's less than 50- but probably closer to 25- than 50-.

Q. And the subpoenas that brought us all together on this lovely spring day in Washington, D.C. -- they are seeking information about mesothelioma -- mesothelioma claims, correct?

A. The request was constrained to 12,000 mesothelioma claims; that's correct.

Q. Okay. So how is it that we get to the 3 percent, .3 percent when you have -- you're looking for information from 12,000 mesothelioma -- mesothelioma Claimants out of 25- to 50,000? That seems like a higher percentage. I'm not a statistician, but . . .

A. I answered this question before, which is there's over 400,000 Claimants. I chose not to -- I chose -- I asked -- I did not ask the client to seek information on nonmesothelioma Claimants despite the fact that those could be relevant for designing claims resolution processes

Page 71

or claim -- or claim feasibility. They could still be helpful in terms of the questions that are relevant, but they are not as important as the mesothelioma.

So I made a choice to constrain and not ask for anything that wasn't mesothelioma.

Q. You would agree with me that if there were, for example, 25,000 mesothelioma Claimants total, 12,000 is just shy of half, right?

A. It would be 48 percent if there were 25,000. I can do that math on the fly.

Q. Thank goodness, because all the lawyers in the room were looking for their iPhones.

All right. That's -- that's 48 percent.

And if it were 50,000, can you do that math on the fly?

A. Just multiply by 2, so 24 percent.

Q. Excellent.

So that's not 3 percent, correct?

A. It's more than 3 percent of the mesothelioma claims. I always said it was

Page 72

3 percent of the approximately 400,000. And I've been clear with you the whole time that that was all diseases.

So if you switch the denominator, the percentage will change no matter -- and you can switch it to anything else, and it will be a new percentage, too. It's not what I was saying before.

I was actually using the universe of claims historically brought against the debts is what's north of 400,000.

Q. Right. And we agree that the universe of mesothelioma claims are lower than that, correct?

A. Correct. They have claims of people without mesothelioma.

Q. Let's turn back -- let's look at Paragraph 15 of your declaration, which is CM 1 for the record purposes.

And certainly feel free to look at whatever, but I want to focus in on the last sentence.

Page 73

Whenever you're ready, Doctor, the last sentence in Paragraph 15.

A. Yes.

Q. Yeah. So what you're talking about here is that -- provide more data that will improve the quality of our estimation and claims forecasting work.

And we've talked a lot about this previously.

Do you see that?

A. I do see that.

Q. The number that we're sort of arguing about in the context of this hearing are somewhere -- a number between 1,200 claim files and 12,000 claim files, correct? Can we agree on that?

A. I think these are electronic records, not claim files. But 1,200 -- 12,000 Claimants -- the information on 12,000 Claimants versus the information on 1,200 Claimants.

Q. Okay. Let's talk -- let's use Claimants, then, so we're both saying the same thing.

Page 74

We're talking about the difference between 1,200 Claimants and 12,000 Claimants, correct?

A. Correct.

Q. All right. How much -- can you quantify for me how much getting the, say, 2,400 Claimant files would improve the estimation in claims forecasting?

A. So -- and what you can do definitively is talk about what's the relative improvement in precision. This is actually a place where Dr. Wyner and I don't disagree. The basic statistical formulas move with the square root of the sample size. So if you quadruple the sample size, you double your precision. You take the square root of the relative movement.

So asking to take a 10th of the sample is asking you to slightly more than triple your level of uncertainty in everything you're doing.

So we're going to present things to the Court that have three times -- a little bit

Page 75

more than three times the uncertainty about them than if we had the 12,000. We know that's going to be the relative impact.

Q. Let's start with the 1,200 out of the 12,000.

What -- can you quantify the level of precision there?

A. Again, it depends on the question. So I don't disagree with what Dr. Wyner put in, where he said, If you're asking the question about a proportion for the totality of the population. He applied that formula correctly.

If, on the other hand, you want a proportion for one law firm, and that law firm has 300 records that now we only sampled 30, you're going to apply that same formula to a population or a sample of 30 and you're going to have very large confidence intervals. You can apply the same mathematical formula. I don't do those in my head. But you will have confidence intervals that are quite broad that -- in my experience, broad enough that most courts would say, that's not very

Page 76

precise; I don't know if we're going to rely on it.

So it's a question of how large of a subpopulation are we able to analyze. And that's, I think, the main difference between what Dr. Wyner was looking at and myself. He's implicitly assumed you always only care about a question for the entire population so you get to use all 1,200 files.

And as soon as you go to questions that involve a subset of the population -- maybe the liability differs by gender, and you want to look at females separately, but they're only 20 percent of the Claimants.

Now, if gender matters, I don't have 1,200; I have 240. I don't have 12,000. I'm already down to a 20 percent sample, in essence, because only 20 percent of the Claimants are female.

So as soon as you start looking at subpopulations of interest, 1,200 within a subpopulation would be sufficient, but there's many subpopulations that would have less than 1,200 if I

Page 77

take a 10 percent sample.

Q. Is there a way to design the sample so that it addresses the subpopulations you're interested in?

A. You could attempt to mitigate. So you could say I want 1,200 females out of the 2,400 or so females, if you were to -- out of the -- yeah, 2,400 out of -- if it's about 20 percent, and then 1,200 males. You could make it bigger, and that might address that question.

But then if you go to law firm -- if there's a law firm that only has 300 claims -- Dr. Wyner and I, I think, agree that 30 claims is not enough. We'll probably learn in his deposition whether he thinks 30 claims is sufficient, but, you know, at 300, we'd probably agree -- I don't want to put words in his mouth, but -- on the statistical formulas, that you'd need all 300.

So for any law firm that has less than somewhere usually in the 3- to 500 range, most statisticians are going to say you really need to look at all of them if you want to be able to use

Page 78

that data to make projections about the future.
Q. Let's talk about -- turning back to the -- the 10 percent sample that is being discussed here, is there a way to design the sample size to address the stated purposes that you're looking for?
A. You can mitigate, right -- you can mitigate the risk. And that is what you do in sample design. Whenever you take a sample, you're always taking a risk that you actually won't have the information you need. It's in -- it's intrinsic to sampling.
And the smaller you make the sample, the greater that risk becomes because the ultimate answer is only known after the fact. You don't know ahead of time.
And so, in this context, yes, you can design things that mitigate that risk, but you can't eliminate it. And the smaller you make the sample, the greater that risk becomes.
Q. And sitting here today, can you give me -- can you quantify what the risk is if the

Page 79

Court were to order just the 10 percent sample, or 1,200 Claimants?
A. As I said, I can't give you a specific number because that's not known until after you have the data and you do the analysis.
That said, in general, if you want to forecast liability, particularly if you want to forecast what Claimants would have received in the tort system, you need to control for law firm and jurisdiction. Those are two things that, when I do financial reporting disclosure work, I will control for. When you're looking at future tort system spend, you control for those two elements.
If you start controlling for those two here and you look at a law firm in a given jurisdiction, there's only a couple law firms and jurisdictions that have more than 400 claims. So in those, maybe you could sample, and you would still end up with more than 10,000 claims, because for the vast majority, this -- you're already at a size where you wish you had more data.
Q. Maybe I just missed it.

Page 80

I guess your testimony -- am I correct your testimony is you cannot quantify the risk sitting here today, put a number on it? If the sample -- what I mean -- by "quantify," I mean it's only 30 percent reliable or 40 percent reliable or 50 percent reliable.
A. So, ultimately, the Court, in my experience, is who tells me whether it's reliable or not. What I tell the Court is what's the uncertainty of the estimate.
And so every time you tell me to triple my uncertainty, I get nervous. If three different inputs all tell me to triple my uncertainty -- this is one input into estimation. Now the uncertainty is 27 times as big.
Going into a court where I might have been able to say, Here's an estimate plus or minus 30 million, you tell me to triple, and now I have to say, Here's an estimate plus or minus 90. But I have another input that also adds uncertainty of threefold. Now, instead of plus or minus 90, it's plus or minus 270.

Page 81

Each uncertainty interacts with the other ones, and they -- it's more multiplicative in nature. So it's not that this is the only parameter that matters and creates uncertainty; there are others. And as you fold them, they start to get larger.
So this is a place where sampling at 10 percent will likely approximately triple the uncertainty for key inputs into the model. Tripling that uncertainty means I'm going to triple my confidence with the uncertainty at the end.
And I don't see the costs as justifying that, given the benefit of being able to triple my precision and the guidance I give a court, when, in the best case, a scenario is already going to be you have tens of millions of uncertainty; so now you're going to triple that. That's adding an awful lot of uncertainty -- tens of millions at least of uncertainty to the estimate.
So you said "quantify." Going to the 10 percent sample will add tens of millions of

Page 82

uncertainty, maybe 100 million. I don't know. I haven't done that work. But it will be at least in the tens of millions based on historical experience.

Q. When you say "uncertainty," can you explain what it is you mean there? There's factors -- is that factors or variables you can't account for? Or what is that?

A. I would have less data to be able to refine an estimate. So that future estimate will have greater statistical -- that will add statistical uncertainty on top of the other types of uncertainty that already exist. And so it's going to expand any level of confidence you have in an estimate; "expand" in the sense of degrade your confidence, expand the uncertainty.

Q. Let's look at Paragraph 16, which is -- again, I'm focusing on the end of it, which is where you say, This would enable us to quantify the proportion of alternative exposure disclosed to the Debtors at the time of settlement.

You see that?

Page 83

A. I do.

Q. Is it your testimony that the 1,200-Claimant sample is not sufficient for that purpose?

A. No.

Q. It is sufficient for that purpose?

A. I'm actually -- the sample of claim files were going to juxtapose that with this currently approximately 1,200. So that compares -- that requires the comparison of the two. So that's already being envisioned for that specific question of only looking at 1,200.

And that's really motivated by the cost of producing and reviewing claim files, because they're not already in electronic format. If all that information was in electronic format, I'd use more data than that, but it's not, so the cost is materially higher.

Q. Paragraph 17, you talk about The variations in disclosure patterns would allow us to model the impact of the partial information on settlement amounts.

Page 84

Do you see that, Doctor?

A. I do.

Q. Is it your testimony that a 10 percent sample of 1,200 Claimants wouldn't be sufficient for that purpose?

A. It may be. And, initially, that's what I'm going to try to do it with because, again, I'm only going to have that quantified for the ones that are contrasted with claim files.

If you learn, for example -- a complete hypothetical -- say Claimants represented by counsel -- or counsel represented by 25- -- let me get it right. I'll start that over.

Let's say there's a subset of law firms that represent 25 percent of the historical Claimants, where a small fraction of the exposures are being disclosed, but for the law firms that represent the other 75 percent of Claimants, almost everything's been disclosed.

I may not have enough data for that 25 percent, but then I would do a targeted follow-up of -- to try to fill that information in,

Page 85

and -- as opposed to asking for it over the whole universe.

So I really view this as a two-step process: the first, which is really Paragraph 16, where, if at all, is full disclosure not occurring, which gets -- so for which claims is the -- Paragraph 17 even a relevant question.

And then not knowing the answer to that, I view this as -- I may be able to do it with 1,200. I may need to supplement at some point to get precision.

Q. Okay. Short of a -- I think you referred to it as a "census" or a "population," when you talk about all the claims.

Correct? That's what you're referring to?

You said in your report a couple times, you know, a census -- a population-level census analysis.

That would be all 12,000, correct?

A. Correct.

Q. Okay. Is there a number -- you know,

Page 86

as you said a moment ago, it's the judge who's going to tell you what ultimately is reliable, and I would probably agree with that statement to the extent that I'm sure you're going to give the judge an opinion on what number he should come out at.

Is there some number short of 12,000 that you are comfortable opining to the judge would be sufficiently reliable for the purposes we discussed?

A. As I said, I went about this really asking that question ex ante and how could I minimize the size of the request counsel would make on my behalf for data. And I already -- the things that I was comfortable eliminating, I've eliminated, which got me down to the 12,000. And so I've gone through that process already.

So I'm not at the point where I'd say I'm comfortable making it smaller. You can do all the analysis with a sample of 1,200; you can do all the analyses with a sample of 6,000. You'll just have less precision.

Whether that precision turns out to

Page 87

be binding on the ultimate reliability in the Court's eyes, one, it's a question for the Court; but, two, it's where those numbers work out at the end.

If you could give an estimate that was plus or minus, you know, a dollar and it became plus or minus $3, the Court would probably be fine with that; but if it was plus or minus 50 million, it became plus or minus 150 million, the Court may really not be okay with that. That may be too broad of a range.

But that's where, when you say "trip" -- when I think of it as tripling my uncertainty, until you've done the work, I don't know if I'm going -- no, I'm not going from $1 to $3; I can't be that precise -- but I don't know if I'm going from 50 to 150 million or if I'm going from 20 million to 60 million. I don't know the answer to those things until I've done the work.

Q. Again, I want to focus you on just the mesothelioma claims, because that's what -- what we're talking about here is -- your testimony

Page 88

is that you are not prepared to offer -- to suggest that any number short of 12,000 is sufficient, correct?

MR. EVERT: Object to the form of the question.

THE WITNESS: Again, "sufficient" I -- I don't think is the right term, which is why I struggle with answering that question. I think you are taking unnecessary risks relative to the cost of data production to reduce it further. And I would advise against it.

BY MR. KAPLAN:

Q. Okay. I'm using "sufficient" because I believe the Judge's words were "doesn't work."

So let me ask it this way, which is: Is it your testimony that only the 12,000 Claimants will work for the Debtors' purposes?

A. I'll try this a different way, see if we can get on the same page.

No statistician can tell you the sample size you need before the data is produced in

Page 89

a discovery exercise like this to say the number of claims at which it will work. What happens is the more claims you get, the higher the probability that it will work becomes.

So it's not -- whether you -- there's almost no difference, right, if you give 12,000 claims or 11,999. The odds that that 12,000th claim was the linchpin to take you from working to not working is almost zero, right? But at the same time, no one can tell if you go from 12,000 to 11,000, that may be what swings it. Going from 11 to 10 may be what does.

But as you shrink, the odds that the analysis you would want to perform to give the Court better guidance would become unfeasible. And it's a statistical probability. It's not a known thing until you have the data and it's after the fact.

It's like default risk in that sense. As somebody becomes riskier, their odds of default goes up. But it doesn't -- you don't know yet if they're going to default or not; you just know the

Page 90

odds are up.
As you shrink the sample size, the odds that you won't be able to give sufficient guidance rise.
Q. Let me just see if we can get on the same page -- I appreciate that -- which is is can you estimate and forecast based on 1,200 Claimants?
A. It is feasible to do all the math, and you will have a broader confidence interval, so you will give up precision. But you -- you will get an estimate with a substantially broader confidence interval of degree of uncertainty about that estimate.
Q. Can you quantify the proportion of alternative exposures disclosed to the Debtors at the time of settlement with the 1,200 Claimants?
A. As we said before, that's what I'm trying to do, is I'm using the 1,200 for which -- the claim files. That sample isn't finalized yet, but that's the size that's being discussed of the claims result for positive payment -- would be using those 1,200 and comparing those to the Trust

Page 91

data to do that.
My intent is to do that. I am optimistic that will work. I can't guarantee it. And if you needed to supplement, you may, for certain law firms, need to supplement additional claim files, but you would already have the Trust data necessary.
Q. Can you create the model you discuss in Paragraph 17 and the impact of partial information on settlement amounts with the 1,200 Claimants?
A. Not as a materially higher probability of not being feasible with the 1,200 than the analysis in Paragraph 16, but it depends on how large of a subpopulation actually is failing to disclose all of the exposures contemporaneously.
It's really going to hinge on the answer to a question that is unknown until we observe the Trust data.
Q. So let me just ask it this way, which is easiest: I know you're talking about the reliability of the model. Can you create the model

Page 92

you're envisioning with the 1,200 Claimants?
A. You can do it mathematically. Will it result in a level of precision -- I'll phrase it differently.
I can always do the math, but if the precision is lacking sufficiently, it should still be thrown out on Daubert because you don't have sufficient guidance. There are standards where you can't just say, Here's an estimate; I have no idea how accurate it is. You actually need to give sufficient precision for someone to rely on it.
The Court ultimately decides what that level of precision is; I don't. But I can do the math. It doesn't mean that the math will produce a number that the Court finds useful.
So the model can mechanically work. But will it provide sufficient guidance to be deemed reliable by the Court? The odds that the answer to that is no go up as you shrink the sample size.
Q. Okay. Turn to Paragraph 19 of your declaration, if we could. You talk about cost and

Page 93

benefits of sampling, which is in a -- I have some -- just specific questions for you here, which is, let's start with, What kind of sample is it that's being proposed here?
Assuming that the 1,200 would be -- is how the Court -- what they stick with, what kind of sample is being proposed?
A. Stratified random sampling.
Q. Is there a different type of sample that would be more or less reliable -- or let's just stick with more reliable.
A. So ex post, again, once you know the answer, you can always go back and design a better sample than the one you did ex ante because you have more information.
So when you design a sample, you use historical experience to guide you on where there's likely to be more information or what types of Claimants are more important to the questions that you're asking, so the stratification is imposing certain assumptions. If those assumptions turn out to be directionally correct, then the sample

Page 94

stratifying will be more efficient than taking a simple random sample.

There's really good reasons to believe that, for example, oversampling the high-value claims will lead to more precision. It could turn out not to be true, but in almost every case like this in the past, almost every case I've ever done that's involved a mass tort, that produces greater efficiency than not doing it.

Q. Okay. Let's skip ahead a couple minutes here, and I want to talk to you a little bit about the Court's second question, which is the -- why sampling wouldn't reduce the risk of even just human error, missing some of the PII being disclosed.

Where in your declaration is it that you're discussing that?

MR. EVERT: While he's looking, Andrew and Michael, I was going to say earlier, the declaration sort of says what it says, so I'd object. It's something that limits the paragraph he picks, but I hear --

Page 95

I hear the fair point of your question.

(Whereupon, the witness reviews the material provided.)

THE WITNESS: The bulk of that information expands Paragraphs 23 to Paragraph 30.

BY MR. KAPLAN:

Q. And these are the paragraphs that talk about the process in place to scrub the PII, correct, as well as the base and what's the ability to maintain that information, or are we looking at different ones?

A. That is part of the content.

Q. Outside of what is contained in -- and, again, I certainly appreciate counsel's point -- outside of what is contained in this -- in these paragraphs, are you going to offer any other opinion as to why the proposed 10 percent sample, or 1,200 Claimants, doesn't reduce the risk of PII being disclosed?

A. So for the Claimants themselves -- I mean, I don't know -- I don't think this is

Page 96

inconsistent with what's in here in any way, but for the Claimants themselves, Bates White already possesses the PII. If we don't have the PII, it's not in the request. It's only people where we know the name and we know the Social Security number.

We're never asking the Trust to send us PII. So the only PII that's at risk that would be incremental would be information that Bates White actually doesn't want. It's information that was in an exposure field that, as I understand it, the Delaware facility is going to take a pass at redacting that. Bates White has its own obligation to redact that. So it has to be in the field to start with, failed to get redacted by the Delaware facility, failed to get redacted by Bates White, and then have a data breach.

So if we had 12,000 Claimants, if 5 percent of the Claimants had a field with some additional PII, 99 percent of it gets redacted by Delaware, 99 percent of what they gets missed gets redacted by Bates White, you're talking .01 incremental piece of PII, when you would have

Page 97

already 12,000 people's PII in a data breach.

So going from 12,000 people to 12,001, I don't want to be trivial about anybody's PII, but it's one more out of 12,000. So when you say, is this materially increasing the risk that already exists, going from 12,000 to 12,001, that's not a particularly material increase.

So this process, this specter that's being put out there for this, is so remote that, no, I don't put a lot of weight on it, because by the time you go through two levels of redaction and you need a data breach on top of it, you know, this is not going to produce a material number of people relative to the PII that is already out there.

Q. When you say "out there," you mean already in Bates and White's system?

A. Well, it's in Bates White; it's in the Debtors', it's in Verus; it's in the Delaware facility --

Q. Sure.

A. -- it's with, you know, Ankara, if they downloaded the claims database; it's with LAS.

Page 98

I mean, all the various parties working in the case who have the Debtors' database or have the same Claimants in a different context also all have that PII, so all of these parties, in general, possess the PII to start with. You're not fundamentally changing that risk.

Q. You talked a moment ago about a data breach.

Are Bates and White's systems infallible?

A. I don't think there's any system that's infallible.

Q. Okay. Are you aware of whether Bates and White's systems have ever been breached prior to today?

A. They have not.

Q. In any form at all? No hacks? No phishing? No nothing?

I'm not talking about the Claimant files.

A. So my technical services people will tell me people attempt to breach our systems

Page 99

multiple times every day. That's probably the training that all of you get, too, right?

We've never had a data loss.

A breach, has somebody ever clicked on a link somewhere, but there's so many layers of security, it doesn't go anywhere.

We've never had a data loss.

You know, what you call a "breach," depending on how you define that, every single entity in the world has. If you say, Did any of your employees ever click on a false link, then every organization has. So -- but did it result in anything?

Bates White has never had a data loss.

Q. Okay. And when you say -- I want to make sure that we're talking about the same thing because this would be a scenario where we -- we would talk past each other.

Are you aware of proprietary information on Bates White's system ever being accessed by an external actor?

Page 100

A. No.

Q. Okay. Your testimony is not that Bates and White's -- Bates and White cannot be hacked, correct?

A. As I said, I don't think there's any system out there --

Q. Right.

A. -- that it's impossible for a sufficiently motivated party to potentially hack.

MR. EVERT: If the Russian government wants your data, they can get your data.

MR. KAPLAN: I'm fairly certain they have mine, so I'm okay with it already, just to be clear.

MR. EVERT: We heard that, but --

(Laughter.)

MR. KAPLAN: Yeah. It's because I'm a Philadelphia fan; they have everyone's.

BY MR. KAPLAN:

Q. You agree with me, Doctor, that you can't be 100 percent certain that the data will not

Page 101

be improperly accessed, correct?

A. I agree. I don't think anybody in any -- I mean, I don't think the data sitting at Verus or the Delaware facility can be 100 percent certain. There's no such system.

Q. Thankfully, they're not sitting here for your deposition today, so I'll ask them another time, maybe.

All right. Let's turn now, as promised much earlier, to Dr. Wyner's report.

MR. KAPLAN: And we'll mark this as -- I think we're up to 3, correct -- to 3.

I was able to keep track of that, look at that.

--oOo--

(CM Deposition Exhibit Number 3, Expert Report of Abraham J. Wyner, Ph.D., marked for identification, as of this date.)

--oOo--

MR. KAPLAN: I don't know how many I printed so . . .

Page 102

(Sotto voce discussion.)
BY MR. KAPLAN:
Q. Given that -- you've seen this before, correct, Dr. Mullin?
A. Correct.
Q. I believe you said you were discussing it with your team in advance of today.
Which part or parts of Dr. Wyner's opinion is it that you take issue with?
MR. EVERT: I object to the form of the question.
Is that really fair?
Do you want to walk him through each paragraph, or do you want to --
MR. KAPLAN: I just want to know what he disagrees with. You told me he's not going to produce a rebuttal report, so I'm not going to get an opportunity to hear -- to get it on a line-by-line. I want to know what he's got an issue with here.
MR. EVERT: Do you think you can do that?

Page 103

THE WITNESS: I'm going to be talking for a while. That's a very broad, open question. I'm happy to answer it, but I'm going to ask you not to ask follow-up questions until I finish, because I need to give a complete answer if we're going to do that. I don't want to get segued halfway through by a follow-up and then be told that, no, you didn't finish and so that's it.
BY MR. KAPLAN:
Q. You have my absolute word. I'm ready for you to tell me what it is you have an issue with.
A. Start on Paragraph 6.
Q. Okay.
A. He says, As described in detail below, it is my opinion that a random sample -- a random 10 percent sample of 1,200 Claimants would fulfill all of the Debtors' reasonable needs.
He never defines "reasonable needs." He never defines "all." So he's made this blanket statement with a universal qualifier. And at no

Page 104

point he -- does he -- he covers two specific questions in his report, two. He entirely ignores the question that the 90 percent of the data that the Trusts are requesting that not get produced would be used. He only addresses two questions, where my intent was to only use the 10 percent of the data that would be produced in the sample.
So if -- and the critique is, On the questions where Dr. Mullin's already only going to use a 10 percent sample, a 10 percent sample suffices; ergo, it suffices for everything.
The latter doesn't follow. He addressed the two places where I'm already constraining myself to a 10 percent sample and saying, There, it's enough.
He doesn't talk anything outside of that scope anywhere. Yet it doesn't even define what those other reasonable uses would be, yet has this universal statement with no backing anywhere in the report.
So at its highest level, you can put almost every complaint I have under that category.

Page 105

I don't think he has any idea how I'm going to use the data. I don't know how he could.
I'm going to go forward and do an estimation report. I've given broad categories of how I would use that. And he's made a statement that "all reasonable" ways.
As we talked through earlier, I expect to have to condition things on law firm and jurisdiction because that's frequently very important.
It may turn out not to be here, but it's much more likely that it would be than not. And he has no opinions about what happens as soon as you need to address the subpopulation. All of his opinions are assuming I'm only looking at the entire universe at once, that he's disclosed here at least.
And so I expect to have to look at subpopulations. Jurisdiction, law firm would be a key one. Gender could easily come up as one, you know, and industry and occupational groups. I expect to use that data to put people into

Page 106

clustered groups that behave similarly and then do extrapolations based on each of those subgroups.

So he has entirely ignored what happens when only a subset of the sample is applicable to the question of interest.

And if you look at simple tabulations in the data, like paid mesothelioma claims by law firm, paid mesothelioma claims by gender, paid mesothelioma claims by jurisdiction, you see really quickly that if you sample, you're not going to have enough data to answer those questions.

You know, so at a big level, that's the overarching problem with his whole report.

He very much mischaracterizes the testimony of my partner, Dr. Jorge Gallardo-Garcia. He asserts in Paragraph 8 that Dr. Gallardo-Garcia clearly states that sampling is sufficient.

He does not state that. If you go read his report, he makes it clear that there's a court order that constrains him to 10 percent, and within that, he's going to design the most sufficient sample -- the most efficient sample he

Page 107

can -- but he actually is explicit that that's not what he believes is best, but he's got an external constraint forcing him.

To that point, I speak with Dr. Gallardo-Garcia on a regular basis. His office is a few doors from mine. I know that is not his opinion. So I don't know how he's reaching that when you read that report in totality, but it is explicitly wrong.

There's an irony. Well, he complains that At no point does Dr. Mullin quantify the potential loss of accuracy.

I think he very much knows that is an exercise you can't do ex ante when the very data you're seeking is fundamental to what subpopulations you need to analyze later. That's an impossibility.

The irony is, he reaches a conclusion that the 10 percent sample is enough in a cost-benefit without ever quantifying the cost. So if he's going to complain that you have to quantify an element of it and he's reaching the opposite

Page 108

conclusion without ever quantifying the loss, the cost, and his -- one of his clients has done this exercise, so one of his clients has already redacted information for a different request.

So instead of all of us sitting here in the dark and saying, How often does this PII show up in these exposure fields, there's one -- one of his clients knows the answer to that in the context of DPMP. He either didn't ask him for that, they didn't disclose it to him, but he could know, oh, that occurs in one in a thousand records, one in 100 records, one in two records, which could greatly inform this question.

He could also ask them, when they did their redaction process and their quality control on it, did they think they eliminated half of them? Ninety-five percent? Ninety-nine percent? So how many do you think slipped through?

He's silent even though his client actually has done this exercise once and has the data. So the person who could actually quantify the cost whose client has access to know exactly

Page 109

how many records have this information and presumably has done quality control on that process to know what their rate of eliminating it is, he stays silent on, you know, that information. Yet he concludes at the same time, even though his client has this data, that the cost-benefit analysis isn't justified.

So if we had that information, you would be able to be much more precise. I gave a hypothetical; 5 percent of the fields have it; 99 percent get cleaned up by the facility; 99 percent get cleaned up of what was missed by Bates White to get to 0 or 1.

The first two numbers in that, they actually know. So those are knowable. So are we really looking at a handful of PII coming through? Thousands? I hope not thousands of records, given they went through that process. But he doesn't access any of that even though his client has it.

As an expert, if my client has information directly on point and doesn't share it with me -- you should ask for it; hopefully, they

Page 110

volunteer it. So I'm -- that part confuses me as to why that's not in his report, given he has access. As I said, there's an irony because he has the ability to quantify and stays silent.

Going back to Paragraph 9, the second sentence, Such a sample has already been discussed in the Bestwall declaration, which does not identify any attribute of the population that cannot be accurately studied with a sample.

The purpose of that declaration is not to answer that question. The purpose of that declaration is to say, What's the most efficient sample we can get, given a third-party constraint that it's at 10 percent?

It wasn't a declaration intending to say, And these are the things that we can't do accurately with that.

So its absence drawing inference from that, when that's not the topic of the declaration, is misleading.

So Paragraph 10, I think I've largely already covered.

Page 111

And his NFL analogy, in 11, is really quite misleading. We're talking about a tenfold difference in sample size, and he's talking about a .0 -- .01 difference in inches of height.

So the right analogy there is the one I gave you before, where if you said -- if you told me I can't have 12,000 claims, I get 11,999, we would probably just all go home. Right? That's the analogy to that. It's not -- you know, the proper analogy here would be more like, Oh, you have one that's 6-foot, 1 inches tall, and the other is 5'4". You're talking about a very large difference, a tenfold difference, not a very small difference. So while the -- I think the proper conclusion from that is actually in the exact opposite direction.

Paragraph 12 suffers the same flaw of him saying, for the purposes described by Dr. Mullin and the Debtors' reasonable needs.

He never says what that's meant to cover. He doesn't define "reasonable needs." I don't know how, you know -- without specifying what

Page 112

he's putting in that bucket, how he can reach that conclusion.

His premise in Paragraph 13 is actually incorrect. He -- we actually do have a potential problem of sampling bias. We're using the historical Claimants to draw inferences about future Claimants. The demographics of Claimants is not constant through time. And so if you take -- if you erroneously conclude that I'm going to have the same ratio of men to women, the same age distribution over the next 30 years of Claimants as I have in the last 10, you'll be very wrong. Those things shift through time.

So we have a historical sample where we're not actually trying to value the historical claims; we're trying to use information about the historical Claimants to draw inferences about future claims.

So while the group I have to sample is fixed, that group has different characteristics than the future claims, and I need to control for those differences or I will have bias.

Page 113

So it's actually very much in the opposite direction of his conclusion. If he understood that, it reverses the point from what he is making.

That same flaw in logic really applies throughout.

So while I don't disagree with any of his math on Paragraphs 15 through 20, he bases it all on examples where the undisclosed alternative exposures is either 5 percent of what was available or 10 percent, and then he ends up concluding that this will, in percentage points, create a really small confidence interval amount. If he just assumed that it never happened, then he would say it's 0 and his confidence interval would be, I know that with virtual certainty and it's 0.

So when you push a probability towards 0 or 1, you actually minimize the impact of these factors.

So if you ran the exact same math but it turned out there's a subpopulation where half of the alternative exposures are not being disclosed,

Page 114

it's not in Paragraph 20, 1.5 percentage points any longer. It gets dramatically bigger, and the difference is about fivefold. So you would be saying, instead of 1.5 percent, 7.5 percent.

So he's chosen an example that skews things low in the direction of the outcome that his client desires as opposed to choosing the example that's more -- that could go in the other direction, but it's not the -- you know, so this idea that, in practice, however, the standard error for a simple sample of 1,200 observations will usually be a lot smaller than 1.5 percent, that's -- you know, you can get to certain things -- if you're not looking at a subpopulation, you're looking at certain scenarios, that may be the outcome, but you may have a very large confidence interval if you end up with there's a subpopulation of interest and you need to get it for that.

And so his mathematical formulas are right, but he's really assuming throughout you only care about the whole population, which, of course, gives you no ability to change for changing

Page 115

demographic characteristics because you have an estimate for one mix of demographics only, and you really need the estimates for each of the demographic groups to know how to remix that going forward to match the future population. And he's completely ignoring that fact through this whole process.

So Paragraph 24, he gets into estimating impact of potential nondisclosure of alternative exposures. His first sentence, Because the proportion of nondisclosed Claimants has a very small standard error, it follows, if all the settlements were the same size, that the standard error of the overall average impact would also be small.

Not only does it follow that; under that assumption, the impact is zero and you don't need to estimate anything. So if you assume the problem away, because everybody gets the same settlement amount whether they disclosed or not -- so he's assumed there's no impact -- if we assume that it can't happen and has no impact, then we are

Page 116

very precise when under that assumption, our estimate is no impact.

So that -- it's a complete misrepresentation of the real world. He's literally assumed it has no impact. It's like assuming it never occurs and then estimating that you don't need a lot of data for things that never occurred to get -- get the probabilities very low.

So he's really in a corner solution that makes no sense. If settlements are not the same size, so now we're, at least, in the relevant framework, a stratified sample can be drawn that over-samples the claims with the highest variation.

You really can't. This, again, shows a fundamental misunderstanding.

What we're trying to get is the connection between the amount of disclosed exposures, which is unknown at the time of designing the sample. So he's saying, Let's look at a parameter that we don't know right now and stratify on it.

This is not a classic statistics

Page 117

exercise. It also has discovery in it.

You're learning about one of these variables. You can't stratify on the variable that you don't know yet. And that's what he's telling me to do in this paragraph, is to stratify on a variable that I won't know until after I get the data in the sample.

So that's actually completely infeasible, but it shows a fundamental lack of understanding that this is a discovery exercise and I don't know that. If I already knew it, I wouldn't need a sample, right? I would already have the information.

So that's a place that it's just disconnected from the exercise that's going on. He's suggesting something that's completely infeasible.

There is no finite sample correction factor, which he has in Paragraph 14, because we aren't trying to estimate the impact for the historical Claimants. We're trying to use the historical Claimants to talk about pending and

Page 118

future claims. So we are always estimating.
The finite sample correction factor applies to people you want to estimate that you don't need to estimate now because the sample told you the answer for those people.
We don't have any of those. These are all historical claims.
We're not estimating what they get paid. They've been paid. They've been released. So, again, it shows that fundamental misunderstanding of what we're actually trying to accomplish.
If you don't understand how the data is being used, you don't know how to design the sample, you don't know what sample size you need, and he's just repeatedly displaying his ignorance as to how the data are actually being used in estimations.
And, you know, it's things like this that are huge red flags that he doesn't actually know the facts of the situation, so he's applying the wrong statistical tools to the question.

Page 119

Paragraph 25 is just wrong. He says, Beyond the two parameters discussed above, Dr. Mullin doesn't specify precisely or intimate at any other parameter of -- parameters of interest.
We can go back, where -- this is where he has entirely ignored Paragraph 15 of my report. He chose to do an example for Paragraph 16, an example for Paragraph 17. But Paragraph 16, where you're really talking about the need to control maybe for industry and occupational groups, the need -- all the uses beyond is where all the composure is revealed, he's ignored that entire discussion in my report.
And, apparently, according to him, I didn't even intimate any other parameters of interest. So he seems to have skipped certain paragraphs in the reading of my report to reach that conclusion.
He talks, in Paragraph 26, about anecdotes. In my experience, it's common for both sides in a litigation to use anecdotes. They're not necessarily statistically representative, but

Page 120

developing anecdotes is frequently done by both defendants and plaintiffs in cases. So I don't know if he's trying to insinuate that's bad or good. It's a little unclear. But he at least acknowledges that, to the degree anecdotes by either side are important, a larger sample would enable that better.
So it seems to be the one place where he acknowledges that that's something where a larger sample may be worthwhile.
So when we get into Paragraph 27, again, he doesn't define "reasonable needs." He doesn't appear to understand how it's being used. So I don't know what he actually knows, but based on what's -- he's written, you know, he makes statements that are inconsistent with how the data would be used. So I don't know, without him stating what he believes the reasonable needs are -- either his list is incomplete or his conclusion is wrong.
It's wrong either way, but whether it's because he has an incomplete list of the

Page 121

reasonable needs or he actually does know the full list, hasn't specified them, then the data is important for that list.
So Paragraph 28 makes me suspicious that Dr. Wyner has not spent much time in a litigation environment. The analytical burden of sampling, I do discuss. When you sample in a discovery process, so you learn more information after having seen it, it is not uncommon for experts to assert some form of ex post stratification on the data to improve the efficiency of an extrapolation.
There is lots of room for experts to disagree about that. And I have been in many cases where months, if not more, have been spent on parties litigating over what is the proper way to extrapolate.
If you're in the pure ivory tower academic, prespecified population and I'm not extrapolating outside of that population but I'm going right back to the population I sampled from, those problems don't exist, and then it's

Page 122

relatively straightforward mathematically.
But in a litigation setting, where you need to control for differences going forward, this can become a very expensive and drawn-out process, and so steps to minimize that, I would advise clients on, because it -- otherwise, you can get into a lot of gamesmanship in that phase.
So Paragraph 29, I agree that if you used statistical calculations that are required to compete with the standard errors is not particularly burdensome, that's correct, if all the experts agree on which methodology to use to do it in the first place. So it's a methodological fight, not a computational fight. The computations are straightforward. The methodology is not necessarily straightforward.
He is correct -- and he nods a little bit to this in the next sentence -- data analysis on the full data set. He says, It's not substantial -- substantively easier, especially since there will be statistical challenges of all types that will arise, sampling or no sampling.

Page 123

It's an interesting sentence because most of his opinions are based in the framework where that doesn't happen, so acknowledging that, you're exacerbating that if you sample from this group. So he's correct that many of the problems will still exist, but you will exacerbate those problems and you will get likely more litigation around it as opposed to -- if you exacerbate the issue.
He's definitely correct at the end of that paragraph that he puts in bold. The sentence before it defines the "these," but These will introduce new uncertainty, distinct and irreducible, and not due to sampling.
That is correct, but that emphasizes the need for as much precision as you can get through the sampling exercise. If I have two sources of error, they compound each other; so the gain in precision, knowing that I have other irreducible error of improving my precision through this sampling exercise, gets larger. That means there's a bigger return having a larger sample size

Page 124

than if there wasn't irreducible error for other sources.
So the fact that those other things are irreducible and you can't reduce them dramatically increases the return for reducing them in the places where you can, because these interact with each other.
That's really the same critique of Paragraph 30.
The IRS critique in Paragraph 31, I don't agree with. The IRS does not have the resources to do what he is asking them to do, as he says is their charge, so they definitely, because they are resource-constrained, can't do that. So they do at times use sampling. Other times, they use a census.
They're making the point that when it's all available electronically, a census doesn't cost particularly more, so, okay, when it's all available electronically, we'll take a much broader review than if it's not available electronically.
They are resource-constrained. The

Page 125

cost of doing nonelectronic records is higher, so we take fewer. The cost of electronic records is lower, so we take more. That's the only point of citing to it. It's no different than the Debtors here who said, Our historical claims database will produce the entirety of it; you can have all of it; it's in electronic form; no need to sample.
Underlying claim files, there's a need to sample. Those aren't already in electronic form.
So the main point is, things in electronic form are low cost to produce and you take dramatically more, potentially all, than things not already in electronic form.
Paragraph 32, he says, Because there's no practical loss in accuracy created by sampling -- and he goes on -- there's no need for, draws other conclusions.
He appears to be focused entirely on estimating a proportion for the entire universe of 12,000 historically paid claims. And on that, there isn't really a practical loss in accuracy.

Page 126

And if that was the only thing you needed, I, too, am already only using 1,200 claims for that because that's what the claims file sample is. But to go broader, if you're using it to estimate the number of future claims and you want to do that by industry and occupational groups, again, if you're going to value by law firm or by jurisdiction, that no longer applies.

So, again, it shows -- it just goes back to that lack of fundamental understanding of what is the exercise.

His last part about a data breach, in Paragraph 32, there's already 12,000 people whose PII is at risk. We're going to add a small number to that, a number that were in the data field -- in the exposure fields that the Trusts failed to redact and Bates White fails to redact.

So we're not really getting -- if there were a data breach, we aren't going from -- we don't get a 90 percent reduction. The 12,000 is the same 12,000. So you're going to have the 12,000 and you're going to add a few more, or

Page 127

instead of saying adding 10 more, maybe add one more; instead of adding one more, maybe add 0, but the 12,000 is still there.

So the real risk of the data breach is the 12,000 we already have, not the handful that are going to make it through all the screenings that come along first. So saying this is fundamentally changing the risk of data breach is ignoring the amount of data that's sitting at risk. You know, and there's lots of things being done to minimize the odds of that. I don't disagree that you can't drive it to 0, but it's a very low possibility.

Q. Excellent.

I kept my bargain that I wasn't going to interrupt you in the middle of it, so --

MR. EVERT: That, you did. Thank you very much, Michael.

MR. KAPLAN: Yes.

BY MR. KAPLAN:

Q. Let me ask you a couple of questions, then I think it's time for another break, which is,

Page 128

you discussed very early on -- and I wrote this down -- this fundamental misunderstanding of the subpopulation that you would like to study and work off of. I think you said it in response to almost the first paragraph, Paragraph 6, where you were talking about -- when we were discussing reasonable needs.

Do you recall that?

A. Yes.

Q. Where in your declaration, Dr. Mullin, do you talk about the subpopulations that you want to study?

(Whereupon, the witness reviews the material provided.)

THE WITNESS: So this is in Paragraph 15. In particular, if you go to the middle of that paragraph, there's a sentence, Further, the relationship of exposures alleged to the various occupations and trades of the Debtors' historical Claimants and the extent to which the full range of the alleged exposures is changing

Page 129

over time are important to estimating a Defendant's legal liability share.

So that's talking specifically about industry and occupation and being able to do things at that level to control for those changes through time.

BY MR. KAPLAN:

Q. You agree with me that sentence doesn't talk about various law firms, though, correct?

A. That does not. The reference to -- if you're familiar with the Garlock record, I didn't try to rehash the entire Garlock record. There's a paragraph on that.

In Garlock, Claimants represented by about -- or law firms who represented about 25 percent of the Claimants are the ones where there appeared to be -- you know, not all the exposures were being revealed, and for the other 75 percent, they were.

So I wrote this assuming you had some knowledge of the case. I understand from this that

Page 130

you, personally, do not, in terms of these details in the background, but with the -- with that knowledge, I didn't try to give the whole history again.

But if you're familiar with the process and you're an expert in this field: Controlling by law firm, controlling by jurisdiction are fundamental things. It's done routinely.

So I didn't state things that, to any expert or person who does this regularly, would seem obvious --

Q. You assumed?

A. -- it's very much in the Garlock record.

I didn't -- I didn't write it for a complete layperson who knew nothing about the context of estimation. That is correct. I did not write it for a person completely ignorant about that entire process.

MR. KAPLAN: All right. Let's take -- I don't know -- five or so minutes,

Page 131

same as we did last time, and we'll come on back.

--oOo--

(Whereupon, a recess was taken from 3:26 p.m. EDT to 3:39 p.m. EDT.)

--oOo--

BY MR. KAPLAN:

Q. Dr. Mullin, I just have a few more questions, and then I'm going to switch -- pass and -- and move on, which is, we were -- before the break, we were talking about the -- the subpopulations, and you pointed me to Paragraph 15. And then you spoke about Garlock and the assumptions you would make.

Where is it in your report that you talk about the gender subpopulations that you wanted to analyze?

A. I don't think I call out gender specifically. There's numerous subpopulations that could turn out to be relevant. It's not intended to be an itemized list of everything.

Q. All right. Let's turn to the --

Page 132

the -- one of the questions you -- one of the areas you do talk about is Claimants that have multiple areas of exposure -- multiple potential exposure sources, correct? That's one of the issues, you said, and you talk about it in the context of Garlock also.

Am I right?

A. I'm in the wrong report. Give me a second.

Q. I'm sure Dr. Wyner's report has a lot of excellent information for you.

MR. ANSELMI: If you want to adopt his findings, we'll be fine.

(Laughter.)

THE WITNESS: I'm going to have to ask you to repeat your question.

BY MR. KAPLAN:

Q. Yeah. It's not a problem. I'm just trying to bring us into -- in Paragraph 15, one of the things you talk about is the alternative exposure allegations. And that was one of the things you -- I believe that you criticized

Page 133

Dr. Wyner for not talking about, was the alternative exposure sources.

Correct?

A. He talks about that in the sense of what proportion of them are disclosed, right.

What I was making reference to, in particular, was to the fact that the occupational industrial mix changes through time. So you actually need to estimate those by industry or occupational groups, and you can't just have one answer for the whole population.

So industry and occupation is going to create subpopulations of interest where you're going to need to estimate parameters for each of those subpopulations.

Q. I want to focus on something a little more narrow, which is we can agree, correct, because -- although I'm not an expert in this particular field -- that a mesothelioma Claimant likely has multiple sources of exposure?

A. Many do --

Q. Okay.

Page 134

A. -- those that have material exposure to gaskets typically do. In other settings, that may not be true, so I don't want to overgeneralize. But for these Debtors, I think, typically, a Claimant would have exposure to a multitude of products.

Q. Okay. And one of the -- you've made the point of highlighting the Garlock matter, which is where, you know, as you stated, certain Claimants did not disclose all of their alternative sources of exposure, correct?

A. That was ultimately the findings of Judge Hodges.

Q. Sure.

Let's -- I want to understand with this subset of data that you -- this set of data that we're looking at here with the 12,000 Claimants, which is, how is it that you're counting it? And let me break that down for you, which is that if one Claimant has five sources of exposure, we agree that's five potential separate claims they could make, right?

Page 135

A. It could be more than that depending on what the exposure is to.

Q. I agree. I'm using five because that's how many fingers I have on one hand.

Okay?

A. Okay.

Q. It looked good when I held it up.

How is it that you are counting that? Because -- is that five separate claims for estimation, or is that one Claimant?

A. So the unit of analysis is going to be the Claimant. You're ultimately evaluating a future Claimant or a pending Claimant's claim against these Debtors. So it may be two claims in that sense that you may value: one, their claim against Aldrich; and, two, their claim against Murray.

But you want to know what are the totality of exposures for that one individual. And the breadth of alternative exposures is directly relevant to the strength of their claim against Aldrich or Murray.

Page 136

Q. Okay. So we're -- the unit, then, is Claimant and not claim for estimation purposes?

A. To be clear, it's two distinct Debtors in a consolidated action. But as I understand my charge, I don't say, Here's their combined liability at the end of the day. At the end of the day, I may be asked to have one estimate for Aldrich and an alternative estimate for Murray.

So there's -- it's not -- if there's an individual that claimed against Aldrich but never filed a claim against Murray, that Claimant is not going to be informative about estimating Murray's future liability.

So I won't have all -- that's probably your most obvious two-set populations of interest, the two Debtors. Some Claimants sued -- named both. Many Claimants named one but not the other.

Q. Where is that discussed in your report?

A. In the report?

Q. Yeah.

Page 137

A. That's -- that's not discussed. I mean, many things in this report -- this declaration is filed within the context of the case to the benefit of the judge, who actually confirmed the Garlock plan and has seen prior filings.

So I'm not writing, as I said, to a lay audience that has zero context or knowledge. I'm writing to an individual that has a lot of context and knowledge. So many of those things aren't stated for a second time here.

Q. How is it, then, that parties -- excuse me -- nonparties to the case who aren't the judge, who didn't confirm the Garlock plan -- how are they supposed to know what the basis of your opinion are, then, if they're not stated?

MR. EVERT: I'm going to object to the form of the question.

THE WITNESS: Again, it's done within the context. There's a lot of other filings in the case. I think the -- the two -- I don't -- I would never assume -- I don't know why a party would assume you

Page 138

estimate one number for two Debtors. That's a strange assumption, in my mind.

So if you're saying that's -- to me, that's obvious. So if that's not obvious to a reading audience, okay. I didn't call out that particular item. I don't really view that as fault, although it may be beneficial to some parties.

But, typically, I think you hire somebody who's familiar with the context who can fill you in on context. That's, in my experience, what my clients do. If something comes in their lap that they don't have firsthand knowledge of, they gain that knowledge through who they hire to advise them.

BY MR. KAPLAN:

Q. Okay. You've talked a few times today about tripling your uncertainty or quadrupling your uncertainty or doubling your uncertainty.

We've had a few of those exchanges,

Page 139

correct?

A. Correct.

Q. When you say "tripling your uncertainty," what number is it that you're starting from?

A. So we've gone around this barn two or three times now, at least.

Q. I'm aware. Yeah.

A. Do you want me to say asked and answered, or -- I mean, you're saying you're aware --

MR. ANSELMI: That's his --

THE WITNESS: -- okay. I don't understand your question because it seems to be identical to what you've already asked me three times. And if you are asking me the same thing again, I stand by my answer.

If you intend a different meaning than what you asked me before, I don't understand your question, and please clarify.

BY MR. KAPLAN:

Q. Excellent. I enjoy when experts play

Page 140

lawyer. It looks great.

The -- my question for you is this: If you start with an uncertainty of, let's say, for instance, 1 percent uncertainty and you're tripling that, you're now at 3 percent uncertainty, correct?

A. Correct.

Q. So my question for you is -- and you have said -- you have said 50 million, 100 million, 150 million. You've said 400,000 today. You've said a lot of big numbers, but what -- what you haven't said to me is what level -- what is the -- the uncertainty associated with using 1,200 Claimants for this sample.

MR. EVERT: I think this is when I'm supposed to say asked and answered.

MR. KAPLAN: Okay. That's fine. That's good. You say whatever you want. You're fine.

BY MR. KAPLAN:

Q. You answer the questions.

MR. EVERT: I think he's said, Michael, a number of times --

Page 141

MR. ANSELMI: Let him say it.

MR. EVERT: Okay.

THE WITNESS: Again, I believe I've addressed this at least two if not three times. I believe those answers were complete. I will try this one more time for you.

You can't know the answer to how much uncertainty you have before you have the data in front of you. That is impossible. So nobody can tell you -- and this is true of every single sampling exercise that's done when it has a discovery component leading to an analysis not estimating a proportion for the historical population but an actual estimation component to it, particularly out of sample, like this would be done. You don't know that ahead of time. It's -- it's an infeasible question to give a precise number to.

That said, based on my experience doing this, if I'm going to look at something

Page 142

like but-for tort spend, which is typically the plaintiff theory in these cases -- and I'm probably going to have to address that at some point -- the uncertainty -- if we had -- the baseline uncertainty is very likely initially in the tens of millions. Whether that's 15 million, 30 million, I don't know, but it's -- it's very likely in the tens of millions, not single-digit millions, not hundreds. That's just based on having done this exercise across numerous entities through time.

Now, if I triple that, I'm adding 30 to maybe 200 million of uncertainty, depending on where we are initial -- our initial uncertainty may be 20. If our initial uncertainty was 10 -- I don't think we're going to be that low -- you would be adding plus or minus 20 million. If the initial uncertainty was 70 million, now you're at plus or minus 210 million.

It's going to have an effect in

Page 143

that range. I don't know where, but it's almost assuredly going to fall somewhere in that range, based on historical experience.

But I can't give you a precise number. I can only give you that kind of general guidance because no one can answer the question you're actually asking.

BY MR. KAPLAN:

Q. Okay. Last question is, Is the sort of mathematical extrapolation we did from the 400,000 down to the 12,000 -- where is that in your declaration?

You can phone a friend, and he's shaking his head.

MR. EVERT: Yeah. I'm just going to interrupt. You're thinking of your earlier declaration -- it was in your initial declaration; it wasn't in this the sample declaration.

THE WITNESS: I was going to say that information is in the record; it's not in this declaration. So that information has

Page 144

been provided and at least -- I guess not the Trust, but the FCR, the ACC have all had access to that underlying database for a long time.

MR. KAPLAN: Okay. That's all the questions I have for now. I'm going to step aside to whoever -- Mr. Guerke.

MR. GUERKE: I will go next.

--oOo--

EXAMINATION BY COUNSEL FOR DCPF

--oOo--

BY MR. GUERKE:

Q. Good afternoon, Dr. Mullin.

A. Good afternoon.

Q. My name is Kevin Guerke.

I represent the Delaware Claims Processing Facility, sometimes referred to as "DCPF."

Are you familiar with that?

A. I am.

Q. If -- if I ask you questions and refer to "DCPF," will you know what I'm talking

Page 145

about?

A. Yes.

Q. You just were discussing that 400,000 Claimants with -- with counsel.

And I think, earlier today, you testified that there were roughly 400,000 Claimants that submitted claims to the two Debtor entities; is that correct?

A. I said there's more than 400,000.

Q. More than 400,000?

A. Claimants?

Q. Yeah. Is that your testimony?

A. Across the two, that's my recollection, sitting here. I think there's an exact tabulation somewhere.

Q. And of those 400,000 or so, roughly 25- to 50,000 were mesothelioma Claimants, correct?

A. That was -- I hadn't looked at the exact number, but it's likely in that range.

Q. How many of those 25- to 50-mesothelioma Claimants also submitted claims to one of the DCPF Trusts?

Page 146

A. I don't know the answer to that. It's a high proportion, I think, as we've gone through the reconciliation -- we've done some of the claims reconciliation process, but I don't remember what the number is, sitting here.

Q. Can you quantify any better what you mean by "high proportion"?

MR. EVERT: I'm sorry. I want to make sure -- he's asking, of the 25- to 50,000 mesothelioma Claimants in total, what proportion. I just want to make sure -- that is the question, right?

MR. GUERKE: I mean, the question is what I asked him, and he gave an answer.

BY MR. GUERKE:

Q. Did you understand my question, and was your answer responsive to my question?

A. I was answering with regard to the 12,000 because those are the only ones I directly see any information on that were in the request. Any claims outside of that request, I could make inferences or draw from experience and other

Page 147

places, but I don't have knowledge of within this case.

Q. Are there more than 12,000 Claimants who have submitted claims to the Debtor entities and also have submitted claims to DCPF Trusts?

A. Yes.

Q. So there's more than 12,000?

A. Who have submitted claims to the Debtor entities and submitted a claim to one or more of the Trusts, yes, there's more than 12,000.

Q. Are there more than 12,000 mesothelioma claims that both submitted claims to the Debtor entities and also one of the DCPF Trusts?

A. Almost assuredly, but I haven't read an exact number. But almost assuredly.

Q. In relation to the 12,000 that have been requested, how many more, roughly?

A. It's going to double or triple the number because there's all the dismissed claims. And just because they were dismissed against Aldrich or Murray doesn't mean they would be

Page 148

dismissed against all the predecessor entities that could file against the Trust.

There would also be a number of mesothelioma claims that predate 2005 that could have submitted claims against those Trusts. I haven't sought discovery on those, so there's no reconciliation process. I can't -- I haven't seen data that will give a precise qualification for those.

But those two populations of claims would produce a material number of additional mesothelioma Claimants against the two Debtors that would file one or more claims against entities in the Delaware facility.

Q. I'm eliminating dismissed claims, focusing only on mesothelioma claims.

Do you know how many more than the 12,000 Claimants submitted claims to the Debtor entities and also the DCPF Trusts?

MR. EVERT: Object to the form of the question because I don't understand -- there are dismissed mesothelioma claims you

Page 149

said you're eliminating, right?

THE WITNESS: I ask a couple of clarifying questions.

BY MR. GUERKE:

Q. Sure.

A. There's two Debtors --

Q. Two Debtors.

A. -- one fact pattern is Aldrich paid a claim. The same Claimant had a claim against Murray, and the claim against Murray was dismissed. So they both have a paid claim against one Debtor and a dismissed claim against the other Debtor.

When you say I can differentiate the two claims -- but the Claimant was paid by one Debtor, right? So the Claimant's neither dismissed nor paid; they're both, right? We have two individual claims.

So when you say "dismissed," I need a little more clarity as to what you mean because I have two Debtors involved, when you asked the questions, to be precise, so we don't commingle terms.

Page 150

Q. The subpoena that's directed at DCPF seeks information on 12,000 Claimants, correct?
A. Yes.
Q. What I'm trying to get at is -- is, for the subject of the subpoena, how many more Claimants are out there beyond the 12,000?
A. Well, the subpoena constrains itself to a Claimant who was paid by one or both Debtors where that payment occurred 2005 or later, all right -- it's got a date cutoff for the date of the payment -- and it has to be mesothelioma. All the mesothelioma Claimants that don't fit one of those three criteria have been excluded.
So that's if you were dismissed against -- if neither Debtor paid you, if you were paid earlier in time than the temporal cutoff or if you were not nonmesothelioma, you've been excluded from the data request.
Q. So the 12,000 Claimants -- the entire population has been included?
A. Well, it's got a definition --
Q. Using that definition --

Page 151

A. -- so the definition -- it is the -- it is a census or the total population of Claimants who resolved after the cutoff date, who had mesothelioma and one or both Debtors made a positive payment. That's the definition of what went in. So by construct, it's 100 percent of that definition.
Q. All right. When did you start working on this bankruptcy case?
Based on -- and I'll just tell you, based on the docket, Bates White was formally retained August 18th, 2020.
A. I mean, we were working for the Debtors as of the petition date. I think the retention went through subsequent to that. There's a lag between when -- typically in a bankruptcy when you first start doing work for a client and when all the paperwork goes through the bankruptcy court.
Q. How about you, personally? When did you, personally, start working on this bankruptcy case?

Page 152

A. For the Debtors as clients, it would have been roughly contemporaneous with that.
Q. Bates White is also involved in Bestwall and DBMP, correct?
A. Correct.
Q. What's your personal involvement in those two cases?
A. I advise on those at times. There's select issues where my colleagues, counsel or client seek me out on certain topics.
I don't think I'm at liberty to disclose what those topics are at the current time, particularly in the context of this case, but it's been constrained to advising on select issues at the moment.
Q. Do you anticipate using sampling in either Bestwall or DBMP?
A. At the moment, I don't anticipate testifying in either of those cases. So if you're asking am I, personally, going to do that, I don't anticipate testifying in either of those cases.
Q. Do you know if Bates White

Page 153

anticipates using sampling in either Bestwall or DBMP?
MR. KAPLAN: Kevin, I'm going to object.
Is that appropriate for this setting? He said he's not a testifying expert in those cases or the fact that his firm is.
Do you know?
THE WITNESS: I mean, I'm going to stick to what's in the public record, because it's -- I don't think I should talk in the context of Aldrich/Murray about anything that's not in the public record for Bestwall or DBMP.
There's been back-and-forth in Bestwall about what sample of historical claim files to take. The fact that there's back-and-forth on that is in the public record. So the fact that they're looking at various samples of claim files in the same way that that issue is being looked at in

Page 154

this case, that's true.
I don't know the DBMP public record well enough to know what's in it or not, so I'm not going to say anything because I just don't have confidence as to what's in the public domain.
BY MR. GUERKE:
Q. You testified earlier that you -- you anticipate that sampling will be used in the Aldrich Pump case, in some respect, right?
A. With regard to the historical claim files, I suspect that's correct. It's also -- I mean, with regard to Trust data, I would say that's exactly what we're doing here, too. We didn't ask for all the claims; we asked for a subset. So it's a version of sampling.
Q. That's what I was getting at earlier about the -- the 12,000 Claimants.
What's the -- what are the 12,000 Claimants that you seek in the subpoena -- or your -- your attorneys seek in the subpoena -- what is that a sample of?

Page 155

A. The over 400,000 historical claims.
Q. But modified based on the parameters of the -- of the subpoena, correct?
A. Well, I -- I did not feel I needed all 400,000 claims to do my work, information from the Trusts. I reduced that down. So it's -- we're not requesting a census from the Trusts of every historical claim to merge to the claims database of all of the Claimants. That's not what we're doing.
We're taking a very select subpopulation that's about 3 percentage of the total population of Claimants and asking for the data for that 3 percent of the subpopulation -- that subpopulation. We're asking for 100 percent of that subpopulation.
So it's a census of that subpopulation, which is 3 percent of the total data.
Q. And other than sampling for historically -- historical claim files, do you anticipate any other sampling in the Aldrich Pump or Murray bankruptcy case?

Page 156

A. We're likely to rely on various historical samples. So, for example, prior to 2001, there's not a census of historical mesothelioma diagnoses in the United States. So what's available is a sample by the Survey of Epidemiological End Results.
2001 forward, we have census. So we use the census for 2001 forward, but when we're looking at things of forecasting future disease incidents in the population, we'll rely on samples, but we're not -- that's because it's a constraint; it's what's -- the only thing that was available. You can't go back to 1995 and complete that sample any longer.
Q. The subpoena that was issued to DCPF and, I think, all of them go back to 2005 -- seek data that goes back to 2005; is that correct?
A. Correct.
Q. Why do you need data going back to 2005?
A. So part of this is you do have changing demographics through time. So, ideally,

Page 157

you don't just look at a snapshot of the most current. You want to be able to see if there's trends or changes, and you want to be able to model those changes.
So for questions such as Dr. Wyner focused on are all the disclosures being revealed. 2005 is not particularly important to my analysis. The more recent data is going to be much more important because it's really what's happening more recently in the tort system.
In contrast, for controlling for industry and occupational group mixes and seeing how those are evolving through time, you need a time series of data. So the reason to reach back further is so, as opposed to getting a snapshot at a moment in time, you can see the underlying trends in data, line that up with large government datasets that are informative and create a more reliable forecast.
So the reaching back further has a lot more to do with accurately estimating the number of future Claimants than the questions

Page 158

related to are the totality of exposures being contemporaneously revealed.

Q. Doesn't Bates White already have the Garlock database?

A. So there's a public version of the Garlock database that any party who cares to get, can have it. And Bates White has a copy of those data.

Q. Does Bates White have a copy of a nonpublic version of the Garlock database?

A. No. That was destroyed at the conclusion of the bankruptcy, which is why I made the distinction. There was another version of that database that had more information in it than the public version, which no longer exists.

Q. Garlock filed bankruptcy in 2010, right?

A. June 2010.

Q. Why wouldn't going back only to 2010 be sufficient for your purposes, considering Bates White already has the Garlock database?

MR. EVERT: I'll just object to

Page 159

the form of the question because no sample back to 2010 has been proposed.

Go ahead.

THE WITNESS: The Garlock database is constrained to individuals -- at least on Trust discovery aspect of it, is Claimants against Garlock who were resolved prior to their bankruptcy. So in all the pending claims, that database -- there's not the Trust discovery on -- it's similar to this one, resolved claims.

And not every Claimant who names Aldrich or Murray named Garlock back then. So that would be a nonrandom subset of the data.

And then you'd introduce all sorts of questions about what biases have you brought in by using this nonrandom subset, requiring it to be in the Garlock data and be resolved by Garlock prior to bankruptcy, as opposed to being able to take the universe of claims and not have any of those biases enter

Page 160

the analysis.

BY MR. GUERKE:

Q. Couldn't -- wouldn't it be sufficient for your purposes to use the -- the Garlock database -- the information you have and supplement it with the subpoenaed information from 2010 forward?

MR. EVERT: Objection: asked and answered.

THE WITNESS: So there's going to be a few issues with that. You could potentially make some progress on that route with regard to the Delaware facility. There was no discovery on the Verus facility in the Garlock matter, so there is no data in the Garlock record of Trusts related to that facility. So any of this would apply only to the Delaware facility as a starting point.

Two, to the degree Claimants in Garlock have filed Trust claims post the Garlock discovery, because not all of those claims were resolved at the time -- there's a

Page 161

number of claims that were pending -- you would want to learn the status of those pending claims.

So you would need to go back and -- if there was a single pending claim to figure out what was the resolution of that. So it's not as simple as if you got the discovery before, what's the ultimate resolution.

BY MR. GUERKE:

Q. Can you use for your purposes the data that was produced in Bestwall and DBMP from DCPF and the DCPF Trusts?

A. I believe that would violate numerous confidentiality orders and be illegal for us to do. So I don't think, legally, we could do that.

If that issue were solved, statistically, it has a similar issue. DBMP is a fundamentally different product than Aldrich. You could see Claimants who were dismissed against DBMP who might be a high-value claim against Aldrich, or vice versa.

Page 162

So -- and they won't be in Claimants who named Aldrich that never named one of those two entities.

So, again, you would have these selection effects you're layering over. It wouldn't be a representative sample. And that's going to create potential biases, and then we would be litigating over those biases.

Q. I don't want to go through all the questions and answers you gave prior counsel on this subject. And I -- am I correct that -- strike that.

In your declaration in Paragraph 9, you discuss the decrease in precision. You had several questions with Mr. Kaplan about decrease in precision.

My question is, Specifically, what is the decrease in precision referenced in Paragraph 9? And if -- if your answer is, I already explained that for half an hour, that's fine.

But is there a way for you to answer

Page 163

that question?

A. You're asking specifically about kind of Romanette i, Decreased precision of the ultimate analysis?

Q. Yes.

A. I believe -- that's focusing probably on the most salient issue, which is the ultimate -- the final design of the CRB, the final estimate of liability in an estimation proceeding.

When I say "the ultimate," it's not what's the precision of an intermediate number that then feeds in, but "the ultimate" in that is referring to the final opinions of interest of which the sample is providing inputs into.

Q. And -- and the final opinion, is that -- is what you mean the value -- the estimated claim value that you would present to the Court of the ultimate analysis you were referring to?

A. It could be the final claim -- the estimate of total value of pending and future claims against Aldrich. It could be the final TDP that's filed where you've used these data to help

Page 164

you structure that TDP. So as opposed to intermediate steps that are building up to something like that, it's these final documents or these final high-level opinions.

Q. But a final high-level opinion on estimating present and future claim value, not TDPs, can you tell us specifically what the decrease in precision is that you're referencing in Paragraph 9?

A. So one issue in the case, as I understand it, is the parties disagree about what it is we're supposed to be estimating there, which if you want me to get into that, I can, but I'm not really intending to in this answer.

The Plaintiffs' theory of what would the Claimants have received in the tort system is likely to have a larger aggregate estimate than the Defendant theory of what's kind of the intrinsic or underlying legal liability. Those two numbers are going to differ.

So while the percentage of uncertainty may be the same, suppose they're both

Page 165

plus or minus 15 percent, clearly that's going to be more dollars of uncertainty on something that's at a higher baseline number.

So it's going to have a bigger dollar impact under the Plaintiffs' theory than under the Debtors' theory. It's going to approximately, on many of the parameters, triple the uncertainty.

But the rest is similar to the answer I gave before, right? I think that uncertainty is probably on the order of tens of millions of dollars as a baseline. Until I do the work and I've seen the data, I can't tell you something more precise than that.

Q. Do you expect your final estimated claim number, present and future claims, the ultimate analysis that you're referencing in Paragraph 9 -- will that be in the form of a range?

A. These have been presented in different ways in different estimation proceedings, so I don't know if we're at that point.

There's -- many times, that's presented as a scenario and a point estimate, but

Page 166

then analyses around that to describe the amount of uncertainty -- you could present that as a range, but likely, if you were to present a range, you would give the Court some indication about what area within that range you find more likely.

So I don't view those as too different, but the one may not go all the way to a point estimate. You may say, I'm very confident it's in this $50 million or most confident it's most likely in a $50 million range, but maybe it has this broader range that's feasible for uncertainty.

So which of those is a better form of exposition depends a little bit on the types of uncertainty and what you learn as you go through the process.

Q. You don't anticipate providing the Court with a single final number, correct?

A. If I concluded there was a scenario that I found most likely, I will probably present that number but then characterize the uncertainty about that number. If I don't have one scenario

Page 167

that I think is more likely, there may be a range that I think is most likely but within that range, I can't differentiate, and then there's uncertainty about that range.

You know, until you do all the analysis, which of those is going to be where I ultimately present opinions, I don't know, sitting here today.

Q. You reference in your declaration the legal liability analysis that you're performing in this case.

Are you familiar with that?

A. Yes.

Q. The legal liability analysis that you will go through includes multiple steps, correct?

A. It does.

Q. Do you agree that legal liability is not a mathematical equation?

MR. EVERT: Let me ask, How is that relevant to sampling?

MR. GUERKE: It's a foundational question.

Page 168

MR. EVERT: Okay. If you know the answer, if you can answer it.

THE WITNESS: So as an empirical exercise, you ultimately reduce these questions to a mathematical model. Whether you're doing legal liability, but-for tort spend, ultimately these become reduced to mathematical models of every expert I've ever seen do it. So the model, like all models, is a simplification of the real world. Every single model simplifies that on some dimension. But, ultimately, they will be expressed as a form of mathematics.

BY MR. GUERKE:

Q. Along the way in the legal liability process, there will be subjective determinations that are made by Bates White, correct?

MR. EVERT: Object to the form of the question.

THE WITNESS: There may be. Again, I haven't done all that work.

As much as possible, I try to root

Page 169

things in data and empirical analyses, but, at times, there are -- things can arise where that's not feasible. And then you start -- you invoke some assumptions and usually do scenario analysis.

BY MR. GUERKE:

Q. Some of the steps in the legal liability analysis include estimates, right?

A. Every estimate of future liability includes estimates. That's correct.

Q. And also includes forecasts, correct?

A. I don't know what distinction you're drawing between the word "estimate" and "forecast." If you intend those to mean something different, tell me.

Q. For the legal liability analysis that you're going through, the -- the end game is for the Debtors to estimate the value of claims, correct?

A. Correct, the value of pending and future claims. That's correct.

Q. Why is estimating sufficient for the

Page 170

analysis but sampling within the analysis is not?
A. I don't agree with the predicate. I am sampling. So certain -- there's a cost-benefit analysis as to when you should sample and when you should use the totality of the available data.
So on certain aspects where the cost of producing the data is relatively small, I use the -- I intend to use the totality of the data, like, I will use the entire claims history from the Debtor. I won't take a 10 percent sample of the Debtors' claim history in their settlements.
Okay?
So things that are already in electronic format, you tend to use all the data; things that aren't already in electronic format, you tend to use the sample.
It doesn't always have to work out that way. I've done cases where we took a census of everything that was not in electronic format, too, so it -- it's a cost-benefit analysis that's specific. And I've done ones where I've taken a sample where everything was in electronic format

Page 171

because it was still too large to work with.
So it's -- there's no absolutes there, but that's how it generally breaks down. So I'm using the census at times for certain questions; I'm using a sample for other questions, and it's that cost-benefit analysis.
Q. Whether DCPF produces 100 percent of the information requested or 10 percent of the information requested, will Bates White review every single document that DCPF produces?
A. We will use the totality of the electronic information to the degree that it's populated, so we will review it, but if -- if a record was produced and all the fields were empty, we probably wouldn't incorporate that record into our analysis, because it actually had no data. But we -- the intent is to pull all of that into the analysis. Which of it will ultimately be germane at the end is an empirical question, but I'm expecting in terms of these trends for future Claimants to use all of it.
Q. And how will Bates White go about its

Page 172

review of the DCPF-produced information to fulfill its obligation to redact PII that's in the subpoena?
A. So I'm not personally in charge of doing that review at the moment, but the -- we do a lot of document review in different settings. This really isn't documents. It's electronic.
So I would have to go and ask to see the exact specifics. But we've done similar exercises in the past. We typically will do a review conceptually. There will be a first pass. We'll see what it flags. There will be a second pass to get an error rate. That second pass may not be for the totality of the claims. It may be for a subset to see what the error rate is, how many claims are you missing, if at all, right?
And you're really assessing are you getting the vast majority of them, as you're going on, and will determine some acceptable error rate at the end of the day in the same sense that the data being produced to us probably, despite DCPF going through it, will still have missed a few. So

Page 173

we will go through a similar process of quality controlling, quantifying our error rate and then being able to say what's the maximum number of claims statistically where there is remaining PII.
Q. Forgive me if this was embedded in your answer, but that first pass and the second pass you just testified about, is that -- is that 100 percent review of all the data on a first pass and then a 100 percent review of all the data on a second pass?
A. The second pass is likely to be a subset where you're doing a quality control. If you determine that your error rate is too high, you would actually do a full second pass, because you've determined your error rate is too high.
So it's -- when you do the quality control pass, if you learn you're missing -- you're getting 99.9 percent of them, you would probably say, We've done a good job, and we're done.
If you found that you're only getting 80 percent of them, you would probably do a second pass on all the data, because missing 20 percent is

Page 174

not an acceptable error rate.
So it's -- the extent of the second pass is a function of what is your effective rate of capturing the information.
Q. If a sample is ordered, a 10 percent sample, Bates White would end up reviewing 90 percent fewer claims that were produced from DCPF, right?
A. I think, yes.
Q. That's the extent of my math right there.
(Pause.)
BY MR. GUERKE:
Q. Forgive the pause. I'm trying not to ask you questions that have been asked.
MR. EVERT: Much appreciated.
BY MR. GUERKE:
Q. Can you take a look at the subpoena that I believe is --
MR. EVERT: CM-2, I think.
BY MR. GUERKE:
Q. -- which is Exhibit 2?

Page 175

Paragraph 10 of the subpoena lists data fields that's being requested from the recipient of the subpoena.
Do you agree with that?
A. It's a list of the requested information; that's correct.
Q. And this isn't the DCPF subpoena, but they're all very similar, with the same paragraph and the same request.
Part g, 10, requests information for all exposure-related fields.
Do you see that?
A. I do.
Q. Why does Bates White need all exposure-related fields for its analysis?
A. That's going to enter the analysis in a couple different ways: One, it's going to allow us to get a much more complete picture of people -- the nature of Claimants' exposure. So that will go directly to, for example, what share of their exposure would be derivative of Aldrich or Murray as opposed to alternative exposures.

Page 176

It will also be directly relevant to what type of actuarial curve the claim should be mapped to for projecting the number of future claims, so doing this industry/occupation, what trades are they in, what industries are they in for figuring out how to extrapolate to get the best estimate you can of the number of future claims.
So it's going to enter into that type of analysis. It will also be direct in terms of what exposures were disclosed at the time -- by the time of the Debtors' settlement versus what had been disclosed in totality across the multitude of Trusts.
Q. Is it the -- is it this all-exposure related fields where Bates White will use to compare claims information submitted to the Debtors?
A. On the questions that were, if I'm remembering right, Paragraphs 16 and 17 in my declaration, yes.
Q. Do you intend to look at every historical claim submitted to the Debtors in the

Page 177

tort system for that comparison process?
A. No. We're intending to use a sample for that comparison, but to the extent we can, the totality of claims in terms of these industry and occupational trends for forecasting the counter future claims, so it depends on the -- which analysis you're referring to.
Q. And that sample is what you're referring to earlier that's being negotiated with the ACC and the FCR; is that right?
A. Correct.
Q. So for the -- the 12,000 Claimants that are being requested in the subpoena directed to DCPF, are the Debtors providing Bates White with all the claim files?
A. No.
Q. Why not?
A. So producing a claim file -- it's a set of documents that are typically not in electronic format, and even if the documents themselves are in electronic format, the information you want out of, say, an answer to an

Page 178

interrogatory or out of the deposition haven't been culled from that.

So turning a claim file into usable data for analyses is very expensive on a file-by-file basis because it's not already in electronic format to be used, so the cost associated with each datum that you want to pick up is relatively high. And so in the cost-benefit analysis, we have gotten comfortable that looking at the 1,200 claims for that will be sufficient for some of these questions from a cost-benefit perspective.

That's around the point benefit where the cost benefits are, as best you can tell -- you don't know for sure -- but as best as you can tell, getting close to even.

In contrast, the Trust data is already in electronic format, so the -- compared to a claim file, the ability to turn that exposure history into a -- basically combining that information across Trusts to characterize an exposure history for a Claimant is relatively

Page 179

inexpensive compared to reviewing a claim file and trying to review depositions and Answers to Interrogatories and pull all of that information out. So it goes back to that fundamental cost-benefit analysis.

Q. So for that comparison or that evidence suppression analysis, don't you need to have the same Claimants from the Debtors' sample matched up with the same Claimants in the DCPF subpoena?

A. Yes.

Q. And how are you doing that?

A. So for the 1,200 that are in the paid claims sample, those same 1,200 would be in the -- would be in the Trust data because it's a subset of the 12,000. So for those 1,200, we can make that comparison.

If we were constrained to a 10 percent sample from the Trusts, we would want that sample to be identical to the claim file sample so you can make the comparison on all 1,200.

For the other aspects, like

Page 180

controlling for industry and occupations to forecast the number of future claim counts, that's about getting the totality of the exposure history and that, we would use all 12,000 Claimants for. So there's certain exercises where we would only use the 1,200 Claimants' information that overlaps with the 1,200 for which we went through the claim file exercise. And for other aspects of the estimation, we would use all 12,000 Claimants' information.

Q. So if you're ultimately constrained to a 10 percent sample in this case for Trust information, you don't know yet whether that 10 percent sample will match up with the sample that you're working on right now with the ACC and the FCR, right?

A. So there's no agreement at the moment as to what the sample of claim files will be. There's been back-and-forth. The concept is that it will be the same. If they weren't the same and they were both 10 percent samples, then you would only have on average 1 percent; you would be down

Page 181

to 120 claims which would be in both, which would be insufficient to do almost anything with.

Q. You can't use it for the intended purpose unless the two samples line up, right?

MR. EVERT: Object to the form of the question.

THE WITNESS: If I want to look at a comparison, I need both points in the comparison, for when -- for that exercise, I need both sets of data.

BY MR. GUERKE:

Q. So before you can determine a sufficient sample for the Trust information, you would first need to know what the agreement is on the sample for the -- the Debtor historical files, right?

A. No.

Q. What -- why is that "no"?

A. So the fact that the historical files are not already in an electronic format means that each Claimant you sample there comes at a materially higher cost, thousands of dollars, if

Page 182

not 10,000, to collect all that information and process it.

So there's a substantial cost for each data point you're taking in.

So that data, the review of the claim file data and the cost associated with it becomes the binding constraint for doing the comparison because it's the higher cost source of data. So what I need to determine for this comparison is the higher cost source, which is the claim files.

I'm using the Trust data for multiple purposes, not just that comparison. The other purposes are what apply to the 90 percent of the sample that doesn't overlap with the 10 percent that would line up with the claim files.

So when I'm talking about asking for the 12,000 and constraining myself to 100 percent of that subpopulation, it's because that's the subpopulation that's going to inform me about, in particular, future claim counts, controlling for industry and occupation, potentially controlling for gender, controlling for different demographic

Page 183

characteristics as we go forward.

So they're serving -- the binding constraint differs between the two, so in that sense, they don't overlap. I'm going to have a broader sample ideally of Trust data because it's less expensive to produce than claim files, and I'm going to have the claim file sample be a strict subset of the Trust sample.

Q. In Paragraph 21 of your declaration, you state that DCPS -- DCPF has already produced the same or substantially similar information for similarly sized and likely substantially overlapping claims population in response to nearly identical subpoenas from DBMP and Bestwall.

Do you see that part of your declaration?

A. Which paragraph?

MR. EVERT: Twenty-one.

BY MR. GUERKE:

Q. Twenty-one.

A. Yes.

Q. So what of the 12,000 Claimants' data

Page 184

in this case overlap with the -- the Bestwall and DBMP case?

A. I'm not allowed to nor have I merged those databases. They're two separate cases.

What I know about each of them that I am allowed to use is that each of them receives about three-quarters of the claims that are filed in the tort system. So if I have two defendants that each are receiving 75 percent of the claims, 50 percentage points of that has to overlap because there's only 25 percent left that could go to the other Debtor that's not in the prior one.

So I know there's substantial overlap. I know it's at least 50 percent of their claims. It might be much higher. I don't know the exact number. That's why it's written the way it is. I'm not allowed to merge those. They're two separate cases.

You know, if parties waived and said, Go ahead and merge them, we could give you an exact answer. But that's not the status. They're -- each case is in its own silo. And so I know it's

Page 185

substantial, but I don't know the exact number.

Q. In Paragraph 22 of your declaration, you state that retrieving information for any specified Claimant should involve a relatively straightforward automated extraction of data as the match Claimants have already been identified.

Do you see that in Paragraph 22?

A. I do.

Q. What is your basis for that statement?

A. Well, as I understand the nature of the databases, there's a Claimant identifier. The crosswalk process of identifying which Claimants in the 12,000 actually filed a claim against any of the Trusts -- as I understand it, that process has been completed, because we've gone through a reconciliation process on the matches that were uncertain.

So there's already a mapping from that matching key to the records or at least the key identifier of each Claimant in the Trust data.

So now you're extracting specific

Page 186

data fields from a data fact -- a database that's just a query from a database.

Any redaction the Trust wants to do after that query is a different question. All right? But the actual extraction of those fields is just a database query at this point.

Q. And the review-and-redaction process that DCPF goes through is separate and apart what you're saying in this paragraph, correct?

A. Correct.

This is just retrieving from the information from the field is straightforward. There is a redaction process that the Trust has stated it wants to do before producing the data.

Q. Do you -- do you dispute the fact that the -- that DCPF will do a review-and-redaction process for whatever information is required to be produced in response to these subpoenas?

A. They state they will do it. They did it in DBMP. I have no reason to question it.

Q. You have no firsthand knowledge of

Page 187

DCPF's business, do you?

A. No.

Q. You don't know specifically what DCPF has to do in that review-and-redaction process, correct?

A. No, I don't know the specifics.

Q. And, similarly, you don't know the inner workings of DCPF, correct, on the business side?

A. No.

Q. And you don't know -- you don't have personal knowledge of DCPF's burden in responding to the subpoena, correct?

A. No.

Q. "No," you don't have personal knowledge, correct?

A. I don't have -- I've seen the bill from other cases. I don't have personal knowledge.

Q. Are you offering an expert opinion on DCPF's burden in responding to the subpoena?

MR. EVERT: I'll object to the form, actually, because I think that's a

Page 188

legal question, are we offering him to have an opinion. So to the extent, yes, he's going to testify about the fact of what it costs DCPF to do it and DBMP, then I think, yes, we are offering him.

BY MR. GUERKE:

Q. You can answer.

A. The opinions in my report, if I'm asked, I'm going to give. Whether they fall under that definition, I don't know.

Q. What are your qualifications for offering an opinion on DCPF's burden?

A. I think if the opinions in the report talk about doing an extract from a relational database, once you've completed the matching, that is simple. That takes almost no time to write a query, to take an extract from a relational database.

I work with relational databases all the time. You know, that -- if you consider that as following as an expert opinion on their burden, it's one aspect of looking at what's the actual

Page 189

cost, given they've already done the matching exercise, to extract the fields. That's minimal.

Otherwise, in terms of the redaction, the evidence I have as an economist to look at is the bill that got in the public for what that cost in DBMP, so that gives us a benchmark of what it may cost here to put a dollar figure on that burden.

Q. Is there anything else -- any other information you're relying on to offer an opinion on DCPF's burden in this case?

A. Not beyond anything that's in my report.

Q. You rely on the Richard Wyner declaration in your declaration, correct?

A. On the -- if you can point me to where.

Q. The Richard -- Richard Wyner is the DCPF COO, and there was a declaration submitted. It's cited in your report.

I can --

A. I'm just asking you to reference --

Page 190

where in my report do I rely on it?
I'm not -- I don't have that mapping at the tip of my fingertips.
If you point me to where, that's --
Q. Sure.
It's Footnote 16 -- 13 and 16.
A. Okay.
Q. You are relying on the Richard Wyner declaration in forming your opinions related to DCPF's burden in this case, correct?
A. I'm relying on the specific statement that the data all resides in electronic format.
Q. Any other part of the declaration that you're relying on?
A. I'm looking at these two sentences in the footnotes therein and that it's organized by Claimant.
Q. Anything else?
A. Without reviewing the totality, I'm not sure it relates to anything else. The two sentences of those two footnotes -- that's what the footnotes are supporting.

Page 191

Q. Have you reviewed the entirety of Richard Wyner's deposition -- declaration submitted in this case?
A. I did read that at one point in time.
Q. Do you dispute any part of it?
A. I don't recall, one way or the other, sitting here.
Q. Sitting here today, do you dispute any statement made in Mr. Wyner's declaration?
A. I don't -- to the degree he has a statement that any of my opinions are contradictory of, then the answer to that would be yes, but I haven't tried to map specifically his statements to my opinions.
Q. In Paragraph 22 of your declaration, you state, In fact, I would expect the Aldrich/Murray data production process would be even less burdensome than the Bestwall and DBMP process because DCPF -- DCPF has already developed applicable algorithms through responding to similar requests for the Bestwall and DBMP Debtors.
Did I read that part of your

Page 192

declaration correctly?
A. You did.
Q. Specifically, what are the algorithms DCPF has already developed that are referenced in that declaration?
A. Extracting the data fields would be an almost identical query to the query that was run in the other, particularly DBMP. The review for looking for whatever protocols -- I don't know what protocols they used -- but whatever protocols they developed to review and remove any PII or PHI that might be in the fields. They've already developed those protocols and applied them before. So they have the benefit of that experience to work on when they do it again. And so almost always, your second time doing that exercise is less expensive than your first time because you have the benefit of that experience.
Q. So -- so the benefit of the experience, is that what you're referring to as an algorithm?
A. Writing the algorithm and then the

Page 193

protocols, the processes they put in place. They had to develop some process for reviewing and redacting. And the other piece that's in there because of the likely overlap, if they chose to cross-reference with the records that they already produced in DBMP in their production process, the ones that had information that needed to be redacted from DBMP, they could bring over the redacted field and not have to redo the redaction.
So the overlap should make it less expensive because they've already done it for subpopulation, and the fact that they have the experience of having done it before and they aren't developing the protocols should make it less expensive.
Q. Do you have any firsthand knowledge of the process that DCPF employs to review and redact these records?
MR. EVERT: Objection: asked and answered.
THE WITNESS: No.

Page 194

BY MR. GUERKE:
Q. Even though the subpoena doesn't specifically request personal identifying information, you agree that it would capture certain personal identifying information, right?
A. That is the allegation by the Trusts. I understand their allegation. You know, it is not -- there's traces when you build a database and the exposure fields. If they've chosen to include that type of information in an exposure field, then it could be there.
They assert that some of those exposure fields contain that information. So that's -- their position is it does.
You could imagine a database about exposure that doesn't have PII in because that's really not relevant to the exposure.
So if you had a clean exposure field, then you wouldn't have that issue. Right? So it's the fact that their exposure field isn't clean, it's contaminated with PII, that creates this issue. It wasn't obvious at the time of issuing,

Page 195

seeking the data that that would be the case.
Q. But you don't dispute that that is the case, right?
A. I -- I don't dispute the assertion.
Q. Are you measuring DCPF's burden by using the $86,000 billed in production costs in DBMP?
A. I view it as a relevant data point. I don't think they're going to be at the exact same number next time.
I mean, from a burden perspective, it's more about the hours, because that's -- ultimately, that was paid by the Debtors and DBMP, as I understand it. So the financial burden was borne by the Debtors, but it's the scope of the exercise.
Q. You don't know what the per record review costs for these Debtors' subpoenas will be for DCPF, right?
A. So you can get a rough estimate. And if -- you can look at things like the Garlock data and estimate how many Trusts a typical Claimant

Page 196

goes -- would file a claim against. You can take the $86,000, the number of claims that were reviewed, divide, and you're going to be on the order for that of about ten cents a record.
Now, that doesn't mean we will come in at exactly ten cents a record here, but it was kind of if you do that back-of-the-envelope math, you'll see it more on that order.
Q. You're speculating what -- what -- it would be speculation to try to determine what DCPF's costs would be to respond to these Debtors' subpoena, right?
A. I wouldn't go and say it's speculation. You have an estimate. You can look at what did it cost them to respond to the DBMP subpoena, which was substantively identical in nature. And so you have a very good benchmarking exercise.
It's not pure speculation. That would be -- you know, it is an estimate, but I wouldn't call that pure speculation. You know, the -- almost perfect comparable to gauge what the cost

Page 197

would be.
Q. DBMP included roughly 9,000 Claimants, right?
A. Correct.
Q. Aldrich and Murray include roughly 12,000 Claimants, correct?
A. Correct.
Q. So there are 3,000 more Claimants in play in this case, right?
A. Correct.
Q. So you would expect the costs of production in this case to be greater than in DBMP, correct?
A. I don't think you can draw that conclusion. If there was zero overlap in the Claimants and your exercise is one-third larger, rough order, you would probably expect it to cost one-third more.
There may be some start-up costs, and so the start-up costs you have once, and then the per-claim file review. So maybe it's a little less than one-third more, because you don't have to do

Page 198

the start-up costs an extra time. You still have that once, but that's ignoring the overlap in the Claimants.

So if, hypothetically, 6,000 of the Claimants overlapped and that redaction had already been completed, maybe you only have to look at 6,000 Claimants, because those are the ones that haven't been done. And then you would expect it would be less expensive.

If only 2,000 overlapped and so you had to look at 10,000, you would expect it to be a little more expensive. I don't know the exact overlap, but I would think they would take advantage over that overlap because they could materially reduce their cost.

Q. Whatever the review costs would be, it would be less with a sample, correct?

A. Correct.

MR. EVERT: Kevin, let me interrupt you for a second.

He's available from 1:00 to 5:00, and it will be 5:00 -- it's four minutes to

Page 199

5:00. We -- I know you got a little more to go, but I'm just wondering would it assist things if we can try to expedite to take five minutes and get organized, or are you close to finishing or just trying to get a sense --

MR. GUERKE: I'm using the 5:00 p.m. as where I'm trying to finish. It's up to you. I will take five minutes and try to streamline it --

MR. EVERT: No. If you think you're there --

MR. GUERKE: -- I will go until you tell me to stop.

So you -- when are you going to tell me to stop?

MR. EVERT: I'm not going to tell you stop at dead 5:00 -- is he last? Anybody else?

MR. HOGAN: I have one -- I had one series of questions about Paragraph 16, and that will take me probably 10 minutes.

Page 200

MR. GUERKE: Let me just go through --

MR. EVERT: You want to try to make it to 5:00, and then Dan will take it from there?

MR. GUERKE: I will go through this series of questions and hand it off. Thank you.

BY MR. GUERKE:

Q. Are you aware that November 30th, the Court ruled on DCPF and the DCPF's Trusts motion to quash?

A. I know there was such a ruling. I couldn't tell you the date.

Q. And it was a 10 percent sample ruling, right?

A. There -- I'm aware that -- his decision for 10 percent sample, yes.

Q. In December, after that -- that decision was rendered, the Debtors proposed a stratified random sampling protocol to the parties involved in -- in this case.

Page 201

Are you familiar with that?

A. I'm very familiar with that.

Q. Were you involved in preparing that stratified random sample?

A. Yes.

Q. Were you in charge of that -- that process? Is that your work product?

A. I directed all the work on that; that's correct.

Q. The proposed sample that was circulated December 19th was sufficient for your purposes in this case, correct?

MR. EVERT: Object to the form of the question.

THE WITNESS: I would not describe it that way.

So given there's now external constraint, the most data you can have is 10 percent. I want all 10 percent. That's the most I'm allowed to have, and I'm going to try to design a sample that will get me the greatest level of efficiency I can out of

Page 202

those data.
All right. But it's a constraint now. If the Court orders it, whether you like it or not, whether you think it's the right decision or not, you live with it.
So it was going -- I just accepted that things weren't going to be as precise and I'd give less guidance to the Court than I believe was optimal given the cost-benefit analysis here.
BY MR. GUERKE:
Q. And the sample that you prepared would have worked in your analysis, correct?
MR. EVERT: Object to the form of the question.
THE WITNESS: So the question I gave before to work could be the same answer now -- the answer I gave to the similar question would be the same now.
BY MR. GUERKE:
Q. The -- are you finished with your answer? I didn't mean to interrupt you.

Page 203

A. Yes.
Q. The proposed stratified random sample that -- that the Debtors circulated is a representative and efficient sample.
You would agree with that, correct?
A. That is its intent, is to be as efficient -- it is definitively representative. It's trying to squeeze as much efficiency out of the sample of 1,200 as one can.
Q. And the -- the -- the proposed stratified random sample would provide a reliable cross-section of Debtors' mesothelioma claims settlement history, correct?
A. Reliable? I can't go to that point at this. I haven't done the analysis.
This is where it goes back to the same as does it work. For certain questions, that is very likely to turn out to be enough. And for other questions, I think there's a very high probability that it's not sufficient and will end up with very broad confidence intervals.
Q. The sample that you prepared and was

Page 204

circulated to the parties was seeking information for the period 2014 to the present, right?
A. Well, part of that negotiation was if we are going to be constrained to just 1,200 Claimants, the more recent Claimants are -- answer more questions than the ones further back. I gave some answers before about the further back ones are to get demographic trends. The more recent ones contribute both to the demographic trends and to this question of were all the exposures disclosed. So there's more information for the purpose of estimation.
So I made the determination that dropping all the earlier claims and losing that information on trend was better than risking not being able to answer the questions on full disclosure. It's a trade-off. It may render, being able to control for the trends properly, impossible. But I'm now facing an external constraint, and I'm trying to do the best I can within that constraint.
Q. And you could have performed your

Page 205

analysis with Trust data from 2014 to the present, right?
MR. EVERT: I object.
And, Kevin, I've got to say I object to this entire line of questioning, because that was a 408 effort to compromise a disputed issue in the case. And I think it's inappropriate to use an e-mail that a lawyer wrote to cross-examine him about what -- about what the lawyer's intent was in trying to get the case settled.
MR. GUERKE: This was after the ruling --
MR. EVERT: I understand, but we still had a disputed issue about how to draw the sample.
But I just -- I'm sorry. Note -- note for the record my objection to the -- to the entire line of questioning. I think it's inappropriate.
But you're welcome to have the question read back or ask it again.

Page 206

THE WITNESS: I, as a person who is going to ultimately potentially file an estimation report, made the judgment call that I'd rather risk not being able to -- I'd rather risk not being able to control for the industry and occupation mix of Claimants and those trends demographically than not being able to reliably quantify the number of exposures that were being disclosed.

I was forced into having to make a trade-off I would not want to make that I don't think the cost-benefit analysis supports. But I'm very much putting at risk being able to properly control for the demographic trends by constrained 2014.

But I had to give something up. I had a Court order. So I decided what would create an expectation the least harmful within that month.

MR. GUERKE: Based on the time, Dr. Mullin, I'm going to pass the witness. Thank you very much.

Page 207

THE WITNESS: Thank you.

--oOo--

EXAMINATION BY COUNSEL FOR CERTAIN MATCHING CLAIMANTS

--oOo--

BY MR. HOGAN:

Q. Good afternoon, Dr. Mullin. It's Daniel Hogan on behalf of the Certain Matching Claimants. I will try not to take too much of your time, but I appreciate your time today.

A. Good afternoon.

Q. I'd ask you to direct your attention to Paragraph 16 of your declaration. I'm going to attempt to endeavor to limit it -- my questions to this paragraph.

If you would, the first sentence provides that The Trust data are also needed to assess whether the Debtors entered into settlements aware of the totality of alternative exposures.

Would you agree with me that that's a temporal exercise?

A. What do you mean by "temporal exercise"?

Page 208

Q. Well, the statement, in -- in and of itself, is a statement about what the Debtors were aware of.

An awareness is a state of mind.

Would you agree?

A. "Knowledge" in this sense is probably the word I would use.

Q. Okay. And from a temporal aspect, there's a point in time at which somebody is either aware or has knowledge of something or they don't have knowledge of something.

Would you agree?

A. Correct.

Q. Okay. And so from -- from this statement's standpoint, at some point in the Trust -- or in -- in the Debtors' database, there is a determination about what the Debtor knew and when they knew it.

Would you agree?

MR. EVERT: Object to the form of the question.

Page 209

THE WITNESS: I don't think, in their database, that information is there. I think that's something, generally, you have to go to underlying claim records for. That's not, in general, available in their claims database in electronic form.

BY MR. HOGAN:

Q. Okay. So your statement is that the Trust data from DCPF from Verus is needed to assess whether the Debtors entered into settlements aware of the totality of alternative exposures.

So let's just break it down.

At some point, there's a -- there's a state of mind of the Debtors about what they knew about alternative exposures. And if you look at that on a timeline, there's some point at which they didn't know it. And somewhere along that continuum up till now, they became aware.

Would you agree?

MR. EVERT: Object to the form of the question.

THE WITNESS: I don't agree with

Page 210

the temporal part. I don't know if they're, even as of today, aware of the totality of the exposures. So I don't -- I can't agree that as of -- at some point in time, they became aware of the totality.

This sentence is very much looking at the time of settlement.

BY MR. HOGAN:

Q. At the time of what settlement? Maybe that'll help.

A. When the Debtors entered into a settlement with a given Claimant.

Q. Okay. So you would agree with me, I hope, that at the time that the Debtors entered into a settlement with any particular matching Claimant or any Claimant that they settled with, that they -- they either knew or didn't know of alternative exposures?

A. There would be a set of alternative exposures they would be aware of, typically, and there may be zero or multiple exposures they're not aware of.

Page 211

Q. Okay. And how they came to that awareness is critical.

Yes or no?

MR. EVERT: Object to the form of the question.

Critical to what?

BY MR. HOGAN:

Q. Critical to their understanding and determination about whether to make the settlement.

A. So it's -- the -- that is not the only determinant that goes into a settlement decision --

Q. I understand that --

A. -- so --

Q. -- but it is --

A. -- context --

Q. -- but it is one -- pardon me.

A. -- it is one -- it is one element that goes into a settlement. It's not the only element. So context of many other things could matter.

Q. But you state that, Specifically, the

Page 212

data would also allow us to compare exposure allegations to the products of the reorganized entities for which the Trusts were established with exposure -- with exposure those same Claimants disclosed in their tort litigation against the Debtors.

Is that a fair statement?

Did I read that correctly?

A. Pretty close, I think.

Q. You had testified earlier that you largely have a mathematical model for everything; isn't that right?

A. Ultimately, you're going to reduce things to computations if you're doing a damages analysis, which is what I'm doing.

Q. So have you reduced the Debtors' knowledge as it relates to settlements about what their knowledge of other alternative exposures were?

MR. EVERT: Object to the form of the question.

THE WITNESS: Not at this stage.

Page 213

BY MR. HOGAN:

Q. Will you?

A. Ultimately, my task is to give a numerical quantification, so I have to reduce everything to numbers eventually. So that's mathematics. So, ultimately, I will be doing that through mathematics.

Q. So the answer is yes, you will be doing that? You will be reducing the Debtors' knowledge of alternative exposures at the time of settlement?

MR. EVERT: Object to the form of the question.

BY MR. HOGAN:

Q. Is that a correct answer -- is that a correct question -- do you understand the question?

A. No. I think you needed another phrase at the end of it for it to make sense.

Q. My apologies. I'll rephrase the question. I'll strike that.

You testified that there is a mathematical model that you will reduce information

to.

And I'm asking you about -- with regard to settlements that the Debtor entered into, you're going to make a determination in a mathematical model which will address whether or not they were aware of alternative exposures when they made that settlement?

A. Well, there's a factual question of what fraction of them they're aware of. That's a ratio --

Q. Sure.

A. -- so the impact of that on the settlement is really going to Paragraph 17.

So if we're transitioning to Paragraph 17, which I didn't think we were doing, we're getting into the impact. The -- Paragraph 16 is just if you're exposed to 38 products and the Debtor only knew about three of those at the time they settled or maybe the Debtor knew about 38 at the time they settled, that's a factual question --

Q. Sure.

A. -- that's all Paragraph 16 is talking

about, that factual question.

How that enters into an estimate -- estimate of future liability becomes a modeling question, which is moving into Paragraph 17.

Q. Okay. Before we do that, let's talk about what you just said about the mathematical aspect of that.

If I take that calculus that you just undertook and overlay an administrative settlement on top of it, how does that factor into that calculation?

MR. EVERT: Object to the form of the question.

THE WITNESS: It depends on the nature of the administrative settlement. It becomes fact-specific.

BY MR. HOGAN:

Q. Okay. And you understand generally how administrative settlements work?

A. There's a whole range of them --

Q. I --

A. -- I understand generally the range

of administrative settlements in the asbestos environment.

Q. Okay. So you understand that in a large share of those administrative settlement constructs, that there weren't questions asked about alternative exposures.

Do you understand that?

A. I am aware that there are administrative settlements where that information is not exchanged.

Q. You're aware that there's administrative settlements where that information is not requested?

A. I believe that's true as well.

MR. HOGAN: All right. I don't have anything else. Thanks for your time.

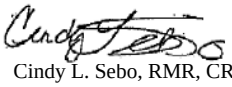
MR. EVERT: All right. Thanks, everybody.

(Witness excused.)

(Deposition concluded at approximately 5:11 p.m. EDT.)

C E R T I F I C A T E

I, Cindy L. Sebo, Nationally Certified Court Reporter herein do hereby certify that the foregoing continued deposition of CHARLES HENRY MULLIN, PH.D. was taken before me pursuant to notice, at the time and place indicated; that said witness was previously duly sworn remotely by a certified stenographer to tell the truth, the whole truth, and nothing but the truth under penalty of perjury; that the testimony of said witness was correctly recorded to the best of my ability in machine shorthand and thereafter transcribed under my supervision with computer-aided transcription; that the deposition is a true and accurate record of the testimony given by the witness; and that I am neither of counsel nor kin to any party in said action, nor interested in the outcome thereof.



Cindy L. Sebo, RMR, CRR, RPR, CSR, CCR, CLR, RSA, NYRCR, NYACR, CA CSR #14409, NJ CCR #30XI00244600, NJ CRT #30XR00019500, Washington CSR #23005926, Oregon State #230105, TN #CSR 998, Remote Counsel Reporter, LiveLitigation Authorized Reporter

C. Michael Evert, Jr., Esq.
cmevert@ewhlaw.com
May 9, 2023.
RE: Armstrong World Industries, Inc., et al. v. Aldrich Pump LLC, et al.
5/8/2023, Charles Henry Mullin , Ph.D. (#5905066)

The above-referenced transcript is available for review.

Within the applicable timeframe, the witness should read the testimony to verify its accuracy. If there are any changes, the witness should note those with the reason, on the attached Errata Sheet.

The witness should sign the Acknowledgment of Deponent and Errata and return to the deposing attorney. Copies should be sent to all counsel, and to Veritext at cs-ny@veritext.com.

Return completed errata within 30 days from receipt of testimony.

If the witness fails to do so within the time allotted, the transcript may be used as if signed.

Yours,
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E R R A T A
WITNESS: CHARLES HENRY MULLIN, PH.D.
DATE: May 8, 2023
CAPTION: Armstrong World Industries v. Aldrich, et al., In Re; Aldrich Pump, LLC

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E R R A T A
WITNESS: CHARLES HENRY MULLIN, PH.D.
DATE: April 28, 2023
CAPTION: Armstrong World Industries v. Aldrich, et al., In Re; Aldrich Pump, LLC

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DATE CHARLES HENRY MULLIN, PH.D.

ACKNOWLEDGMENT OF WITNESS

I, CHARLES HENRY MULLIN, PH.D., do hereby certify that I have read the foregoing pages herein, and that the same is a correct transcription of the answers given by me of the proceedings taken remotely to the questions therein propounded under penalty of perjury, except for the corrections or changes in form or substance, if any, noted in the attached errata sheet.

_____ _____
DATE SIGNATURE
Subscribed and sworn to before me
this _____ day of_____, 20____.

My Commission expires:

_____

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Notary Public

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0 109:13 111:4 113:15,16,18 127:2,12
01 96:21 111:4
02108 3:6
07068 8:6
07102 7:17

1

1 10:9 17:5,7 17:16 18:20 20:15 26:22 32:11 37:18 72:18 87:15 109:13 111:11 113:18 140:4 180:22
1,200 47:20,22 48:7,13 56:14 63:22 73:14,17 73:19 74:2 75:4 76:7,15 76:20,22 77:6 77:9 79:2 83:3 83:9,12 84:4 85:10 86:19 90:7,16,18,22 91:10,13 92:1 93:5 95:19 103:18 114:11 126:2 140:12 178:10 179:13 179:14,16,21 180:6,7 203:9 204:4
1.5 114:1,4,12
10 15:9,9 31:3 38:4,16 40:6 40:21 41:1,3,5 41:6,14 43:3 43:12 56:3,6 56:17 57:5,10 58:3 59:17,20 60:1,4,13 61:1 61:2,22 62:6 63:3,18 65:10 77:1 78:3 79:1 81:8,22 84:4 89:12 95:18 103:18 104:6 104:10,10,14 106:20 107:19 110:14,21 112:12 113:11 127:1 142:17 170:10 171:8 174:5 175:1,10 179:19 180:12 180:14,21 182:14 199:22 200:15,18 201:19,19
10,000 79:19 182:1 198:11
100 7:16 35:8 44:8 47:20 48:3 82:1 100:22 101:4 108:12 140:8 151:6 155:14 171:7 173:8,9 182:17
1000 6:5
10013 8:14
101 8:12 10:18
10th 74:17
11 1:10 9:9 89:11 111:1
11,000 89:11
11,999 89:7 111:7
110 7:6
1100 3:18
111 5:11
1152 4:7
11th 6:13
12 48:1 58:4 111:17
12,000 15:12 40:12,16 42:3 44:4 61:16 69:18 70:9,13 71:9 73:15,17 73:18 74:2 75:2,5 76:15 85:20 86:6,15 88:2,17 89:6 89:10 96:17 97:1,2,4,6 111:7 125:21 126:13,20,21 126:22 127:3,5 134:17 143:11 146:19 147:3,7 147:10,11,17 148:18 150:2,6 150:19 154:18 154:19 177:12 179:16 180:4,9 182:17 183:22 185:14 197:6
12,000th 89:7
12,001 97:3,6
120 181:1
1240 52:6,8
13 112:3 190:6
1311 4:15
1372 217:18
14 117:19
144 9:10
14409 1:19 2:9 217:19
15 38:9 48:21 49:2 60:14 72:18 73:2 113:8 119:6 128:16 131:12 132:19 142:7 165:1
150 87:9,17 140:9
1550 5:5
15th 4:7

16 48:21 49:2 82:17 85:4 91:14 119:8,9 176:19 190:6,6 199:21 207:13 214:16,22
1650 3:11
17 10:10 25:20 83:19 85:7 91:9 119:8 176:19 214:13 214:15 215:4
1735 6:19
18 27:8 38:13
18th 151:12
19 28:7 92:21
1910 5:11
19103 3:12
19103-7599 6:20
19801 6:6
19801-3034 6:14
19806 4:16
1995 156:13
19th 201:11
1:00 198:21
1:06 1:15 2:16 11:6
1:59 65:14

2

2 10:12 35:19 51:7,11 71:18 174:20,22
2,000 198:10
2,400 74:6 77:6 77:8
20 28:19 46:18 61:22 76:13,16 76:17 77:8 87:18 113:8 114:1 142:16 142:19 173:22 221:14
20-30608 1:11
200 142:14
20001 2:3
20005 3:19
20005-1706 4:8
2001 156:3,7,8
2005 42:4 148:4 150:9 156:16,17,20 157:7
2010 158:16,18 158:19 159:2 160:6
2014 204:2 205:1 206:15
202.339.8567 4:9
202.862.5069 3:20
2020 151:12
2023 1:15 9:5 10:5 11:6 17:12 22:11 218:3 219:3 220:3
207 9:11
21 183:9
210 142:21
212.308.0070 8:15
21202 5:12
215.398.0554 3:13
215.864.8265 6:21
217 9:15
218 9:16
219 9:17
22 185:2,7 191:15
22-00303 1:5
221 9:18
23 95:5
23005926 1:20 2:13 217:20
230105 1:20 2:13 217:20
24 71:18 115:8
240 76:15
25 68:19 69:13 70:4,14 84:12 84:15,21 119:1 129:17 145:17 145:20 146:9 184:11
25,000 66:18 69:21 70:2 71:8,11
26 119:19
26th 3:5
27 80:15 120:11
270 80:22
28 121:4 220:3
29 122:8
2:10 65:14

3

3 10:17 15:10 15:11 40:13,16 40:18,19,21,21 40:21 41:3,4,4 41:6,14,15 42:20 43:2,3,3 43:3,12,13 44:4,7,8 58:11 64:15 65:1,1,2 65:3,5 66:3,4,5 70:12,12 71:20 71:21 72:1 77:20 87:7,16 101:12,12,16 140:5 155:11 155:13,17
3,000 197:8
30 25:20 27:8 75:15,17 77:13 77:15 80:5,18 95:6 112:11 124:9 142:7,14 218:16
300 75:15 77:12,16,18
302.252.4447 6:15

302.571.6616 6:7
302.656.7540 4:17
3030 3:11
30326 5:6
30th 22:11 200:10
30xi00244600 1:19 2:10 217:19
30xr00019500 1:19 2:11 217:20
31 124:10
312.782.3939 7:8
32 125:15 126:13
3455 5:5
38 214:17,19
3:26 131:5
3:39 131:5
3m 28:2

4

4 61:18
40 61:3,6,8 80:5
400 60:22 61:1 61:7,8,12,13 68:20 79:17
400,000 40:10 40:11 43:19,20 44:2,12,15,18 44:21 66:2,9 66:14 69:12 70:18 72:1,11 140:9 143:11 145:3,6,9,10,16 155:1,5
408 205:6
435,000 40:15
443.573.8507 5:13
48 71:10,15
4800 7:6

5

5 52:18 59:20 59:22 60:3 63:20 96:18 109:10 113:10
5'4 111:12
5/8/2023 218:5
50 66:18 68:19 69:16 70:3,4 80:6 87:8,17 140:8 145:20 166:9,10 184:10,14
50,000 69:13 70:14 71:16 145:17 146:10
500 61:18 77:20
51 2:2 10:16
51st 6:19
55 17:11 18:7
5905066 1:22 218:5
5:00 198:21,22 199:1,8,18 200:4
5:11 216:22

6

6 103:14 111:11 128:5
6,000 86:20 198:4,7
60 63:22 64:1 87:18
600 64:3
60606 7:7
617.557.5916 3:7
678.651.1250 5:7
6th 20:18

7

7.5 114:4
70 142:20
75 84:18 129:20 184:9

8

8 1:15 9:5 10:5 11:6 106:16 219:3
80 42:11 69:15 69:19 173:21
86,000 195:6 196:2
8th 8:13

9

9 110:5 162:13 162:19 164:9 165:17 218:3
9,000 197:2
90 65:2 80:19 80:21 104:3 126:20 174:7 182:13
919 6:13
97 64:20
973.597.2302 8:7
973.849.4181 7:18
99 96:19,20 109:11,12
99.9 173:18
998 1:20 2:14 217:21
9th 8:13 17:11

a

aanselmi 8:16
abbreviated 12:12
ability 95:10 110:4 114:22 178:19 217:11
able 13:12 32:20 39:3 46:1 60:15 76:3 77:22 80:17 81:13 82:9 85:9 90:3 101:13 109:9

129:4 157:2,3 159:21 173:3 204:16,18 206:4,5,8,14
above 119:2 218:6
abraham 10:17 101:17
absence 39:13 110:18
absent 40:3
absolute 103:11
absolutes 171:2
academic 121:19
acands 51:3
acc 3:2 144:2 177:10 180:15
acceptable 172:19 174:1
accepted 202:6
access 40:1 108:22 109:19 110:3 144:3
accessed 99:22 101:1
accomplish 118:12
account 82:8
accuracy 107:12 125:16 125:22 218:9
accurate 92:10 217:14
accurately 48:15 110:9,17 157:21
ace 28:1 29:1 33:22
acknowledges 120:5,9
acknowledging 123:3
acknowledg... 9:18 218:12 221:1
acllp.com 8:16
action 21:5 34:6 136:4 217:16
actions 24:9
actor 99:22
actual 68:14 141:15 186:5 188:22
actually 56:6 59:11 65:9 72:9 74:11 78:10 83:7 91:15 92:10 96:9 107:1 108:20,21 109:15 111:15 112:4,4,15 113:1,18 117:8 118:11,17,20 120:14 121:1 133:9 137:4 143:7 171:16 173:14 185:14 187:22
actuarial 176:2
add 59:22 81:22 82:11 126:14,22 127:1,2
adding 81:18 127:1,2 142:13 142:19
additional 91:5 96:19 148:11
address 39:2,3 59:7 67:1 77:10 78:5 105:14 142:3 214:5
addressed 104:13 141:4
addresses 77:3 104:5
addressing 57:1
adds 80:20
administrative 68:4,6,9 215:9 215:15,19 216:1,4,9,12
administrator 2:8
adopt 132:12
advance 20:2 49:9 102:7
advantage 198:14
adversary 10:16 51:15
advise 88:11 122:6 138:15 152:8
advising 152:14
aearo 26:21 32:6
affect 15:13 16:6
affects 45:15
affiliated 29:5
afternoon 11:22 144:13 144:14 207:7 207:11
age 112:10
aggregate 164:17
ago 52:20 68:18 86:1 98:7
agree 71:7 72:12 73:15 77:13,16 86:3 100:21 101:2 122:8,12 124:11 129:8 133:17 134:21 135:3 167:17 170:2 175:4 194:4 203:5 207:20 208:6 208:13,20

209:19,22 210:3,13
agreed 21:16
agreement 180:17 181:14
ahead 78:16 94:10 141:18 159:3 184:20
aided 217:12
aig 34:20
aiu 28:14 34:14
al 1:5,8,11 9:4 9:4 10:4,4 218:4,4 219:4 220:4
aldrich 1:8,11 5:2 9:4 10:4 43:18 69:16 135:16,22 136:8,10 147:22 149:8 153:13 154:10 155:21 159:13 161:19,21 162:2 163:21 175:21 191:17 197:5 218:4 219:4,4 220:4 220:4
algorithm 192:21,22
algorithms 191:20 192:3
aligned 13:21
allan 8:20
allegation 194:6,7
allegations 132:21 212:2
alleged 128:19 128:22
allianz 28:22
allotted 218:19
allow 39:1 83:20 175:17 212:1
allowed 26:7 184:3,6,17 201:20
alternative 50:6 82:20 90:15 113:9,22 115:10 132:20 133:2 134:10 135:20 136:8 175:22 207:19 209:11,15 210:18,19 212:18 213:10 214:6 216:6
amanda 3:4
americas 8:12
amount 62:11 113:13 115:20 116:17 127:9 166:1
amounts 83:22 91:10
analogy 111:1 111:5,9,10
analyses 15:13 26:20 61:4 86:20 166:1 169:1 178:4
analysis 30:17 30:20 31:7 33:14 39:5 40:20 46:9 56:22 62:1,4 62:15 64:2 66:20 68:5 79:5 85:19 86:19 89:14 91:14 109:7 122:18 135:11 141:14 157:7 160:1 163:4,18 165:16 167:6 167:10,14 169:5,8,16 170:1,1,4,20 171:6,16,18 175:15,16 176:9 177:7 178:9 179:5,7 202:10,13 203:15 205:1 206:12 212:15
analytical 121:6
analyze 67:10 76:3 107:16 131:17
analyzing 67:14
andrew 8:11 94:19
anecdotes 119:20,21 120:1,5
ankara 97:21
anselmi 8:10,11 54:7,17 69:7 132:12 139:12 141:1
answer 13:7,7 13:15,19 14:6 36:19 39:2,12 40:3 48:3 54:8 54:11 78:15 85:8 87:19 91:18 92:19 93:13 103:3,6 106:11 108:8 110:11 118:5 133:11 139:17 140:20 141:8 143:6 146:1,14 146:17 162:19 162:22 164:14 165:8 168:2,2 173:6 177:22 184:21 188:7 191:12 202:17 202:18,22 204:5,16 213:8 213:15

answerable 62:15
answered 14:9 70:17 139:10 140:15 160:9 193:20
answering 13:8 21:21 50:20 88:8 146:18
answers 12:14 141:5 162:10 179:2 204:7 221:6
ante 86:11 93:14 107:14
anticipate 152:16,18,21 154:9 155:21 166:17
anticipates 153:1
anybody 101:2 199:18
anybody's 97:3
apart 186:8
aphillips 3:8
apologies 213:19
apologize 17:8 21:20 22:10
apparently 119:14
appear 120:13
appeared 129:18
appears 125:19
applicable 22:2 106:5 191:20 218:8
applications 16:9
applied 15:21 75:12 192:13
applies 113:6 118:3 126:8
apply 47:21 75:16,18 160:17 182:13
applying 118:21
appreciate 90:6 95:15 207:10
appreciated 174:16
approach 30:7
appropriate 39:13 49:19 153:5
approximately 2:16 56:14 66:13 72:1 81:8 83:9 165:6 216:22
approximating 68:18
approximation 66:17
april 220:3
arbitration 28:2
area 166:5
areas 16:11 53:12 58:5,9 132:1,3
arguing 73:12
armstrong 1:3 9:4 10:4 218:4 219:4 220:4
array 24:5
asbestos 1:4 51:3 53:5 55:2 56:2 57:4 216:1
aside 144:7
asked 15:8,12 40:10,12,15,16 40:18,20 42:3 42:16 45:5 64:15 66:5,16 66:19 67:10 70:19 136:7 139:9,15,19 140:15 146:14 149:20 154:15 160:8 174:15 188:9 193:19 216:5
asking 41:2 44:1 47:19 49:12 74:17,18 75:10 85:1 86:11 93:20 96:6 124:12 139:16 143:7 146:9 152:20 155:12,14 163:2 182:16 189:22 214:2
aspect 49:14 50:17 159:6 188:22 208:9 215:7
aspects 56:5,8 59:13 170:6 179:22 180:8
assert 49:20 121:10 194:12
assertion 195:4
assertions 58:20
asserts 106:16
assess 207:18 209:9
assessing 172:17
assessment 38:19
assist 16:12 40:12 199:2
associated 45:19 56:21 57:17 67:21,22 140:12 178:7 182:6
association 2:12 18:8
assume 13:15 115:18,21 137:21,22

assumed 76:5 113:14 115:21 116:5 130:13
assuming 93:5 105:15 114:20 116:6 129:21
assumption 13:18 115:17 116:1 138:2
assumptions 16:4 93:21,21 131:14 169:4
assuredly 61:9 63:7 143:2 147:15,16
atlanta 5:6
attached 218:11 221:9
attempt 77:5 98:22 207:14
attention 207:12
attorney 218:13
attorneys 3:2 4:2,12 5:2 6:2 6:10 7:2,12 8:2 8:9 154:21
attribute 110:8
audience 137:7 138:5
august 151:12
authorized 1:20 2:15 217:21
automated 185:5
available 26:14 26:15 32:19 41:3 61:16 113:10 124:18 124:20,21 156:5,12 170:5 198:21 209:5 218:6
avenue 2:3 4:15 8:12
average 48:7 115:14 180:22
aware 37:21 98:13 99:20 139:8,10 200:10,17 207:19 208:4 208:11 209:10 209:18 210:2,5 210:20,22 214:6,9 216:8 216:11
awareness 208:5 211:2
awful 62:6 81:18

b

b 7:4
back 14:22 37:17 54:10,14 65:17 72:17 78:2 93:13 110:5 119:5 121:21 126:10 131:2 153:16 153:19 156:13 156:16,17,19 157:14,20 158:19 159:2 159:13 161:4 179:4 180:19 196:7 203:16 204:6,7 205:22
background 23:10 130:2
backgrounds 45:14
backing 104:19
bad 21:1 120:3
ball 49:9
ballard 6:11
ballardspahr.... 6:16,22
baltimore 5:12
bank 69:6,9
bankruptcy 1:1 10:15 26:22 51:15 151:9,16 151:18,21 155:22 158:12 158:16 159:8 159:20
bar 58:20
bargain 127:15
barn 139:6
base 95:10
based 82:3 90:7 106:2 120:14 123:2 141:21 142:10 143:3 151:10,11 155:2 206:20
baseline 62:12 62:14 142:5 165:3,11
bases 113:8
basic 74:12
basically 178:20
basis 55:11 56:1 107:5 137:14 178:5 185:9
bates 8:19 35:21 96:2,9 96:12,16,21 97:16,17 98:9 98:14 99:14,21 100:3,3 109:13 126:17 151:11 152:3,22 158:3 158:7,9,21 168:17 171:9 171:22 174:6 175:14 176:15 177:14
bberens 7:9
beginning 2:15
behalf 2:17 42:22 43:20 44:21 48:2 86:13 207:8

behave 106:1
behavior 49:22 50:2
believe 18:9 28:18,21 51:1 52:16,19 53:2 69:12 88:15 94:4 102:6 132:22 141:3,5 161:14 163:6 174:19 202:9 216:14
believes 107:2 120:18
benchmark 189:6
benchmarking 196:17
beneficial 138:8
benefit 14:4 30:16,20 31:7 33:14 38:19 39:5,8 56:22 81:13 107:20 109:6 137:4 170:3,20 171:6 178:8,11,13 179:5 192:14 192:17,19 202:9 206:12
benefits 38:20 38:22 39:21 93:1 178:14
bermuda 28:1 33:22 34:5
best 12:17 81:15 107:2 176:6 178:14 178:15 204:20 217:10
bestwall 27:17 33:17,20 110:7 152:4,17 153:1 153:14,17 161:12 183:14 184:1 191:18 191:21
beth 6:12
better 46:13 89:15 93:13 120:7 146:6 166:13 204:15
beyond 36:8 58:15 119:2,11 150:6 189:12
bias 112:5,22
biases 159:17 159:22 162:7,8
big 48:14 59:12 80:15 106:12 140:10
bigger 77:9 114:2 123:22 165:4
biggest 63:19
bill 187:17 189:5
billed 195:6
binding 57:1 87:1 182:7 183:2
bit 20:12 42:10 49:13 74:22 94:12 122:18 166:14
blanket 103:21
boiler 5:2
bold 123:11
borne 195:15
boston 3:5,6
bottom 28:11 29:4 34:14
brad 7:4
breach 96:16 97:1,12 98:8 98:22 99:4,8 126:12,19 127:4,8
breached 98:14
breadth 135:20
break 14:15,21 21:15 45:17 61:20,22 62:3 62:18 65:18,21 127:22 131:11 134:19 209:12
breakdown 59:21
breaking 61:4
breaks 171:3
brian 6:18
briefly 12:1
bring 132:19 193:8
broad 38:13 75:21,21 87:11 103:2 105:4 203:21
broader 57:11 90:9,11 124:20 126:4 166:11 183:5
broken 55:8
brought 25:15 43:22 44:9 70:5 72:10 159:18
brush 38:14
bucket 112:1
build 194:8
building 164:2
bulk 48:20 57:1 95:4
bullet 27:7 28:19
bunch 61:10
bundle 63:9
burden 121:6 187:12,20 188:12,21 189:8,11 190:10 195:5 195:11,14
burdensome 122:11 191:18

bureau 24:3 27:12 33:4
business 187:1 187:8

c

c 3:1 4:1 5:1,4 6:1 7:1 8:1 11:2 217:1,1 218:1
ca 1:19 217:19
calculation 215:11
calculations 122:9
calculus 215:8
california 2:8
call 17:4 53:15 99:8 131:18 138:5 196:21 206:3
calling 18:20
calls 33:11,13
calvert 5:11
cannon 29:5
capdale.com 3:21
caplin 3:16
caption 219:4 220:4
capture 194:4
capturing 174:4
care 76:6 114:21
career 29:10
cares 158:6
carolina 1:1
carpenters 48:11
carvelli 8:10
case 1:11 10:15 18:6 23:14,15 24:7,15 25:10 25:14 26:3,5 26:18 27:12 30:6,21 31:1 31:10,14,16,19 32:6 33:4,8 34:4 49:9,14 51:15 52:9 81:15 94:7,7 98:1 129:22 137:3,12,20 147:2 151:9,22 152:13 154:1 154:10 155:22 164:10 167:11 180:12 184:1,2 184:22 189:11 190:10 191:3 195:1,3 197:9 197:12 200:22 201:12 205:7 205:11
cases 23:18 24:4,21,22 26:6,9,14,15 29:16,19 30:13 47:14 62:22 120:2 121:14 142:2 152:7,19 152:21 153:7 170:18 184:4 184:18 187:18
categories 105:4
category 104:22
cause 63:19
ccr 1:18,19 217:18,19
census 30:4,22 85:13,18,19 124:16,18 151:2 155:7,16 156:3,7,8 170:18 171:4
center 4:6 7:15
cents 196:4,6
certain 35:8 36:19 48:11 91:5 93:21 100:13,22 101:5 114:13 114:15 119:16 134:9 152:10 170:3,6 171:4 180:5 194:5 203:17 207:4,8
certainly 72:20 95:15
certainty 113:16
certificate 9:15
certification 35:18,19,20
certifications 35:22 36:12
certified 2:5,6 2:6,7,9,10,11 2:12 11:10,14 54:13 217:2,7
certify 217:3 221:4
challenges 122:21
chancery 34:15
change 72:5 114:22 219:5,7 219:9,11,13,15 219:17,19,21 220:5,7,9,11,13 220:15,17
changes 129:6 133:8 157:3,4 218:10 221:8
changing 98:6 114:22 127:8 128:22 156:22
chapter 1:10
characteristics 45:11 46:3 67:18,19,20,22 68:13,14 112:20 115:1 183:1
characterize 166:21 178:21

charge 124:13 136:5 172:4 201:6
charles 1:14 2:1 9:3 10:3,9 11:9 17:17 217:4 218:5 219:2 220:2,22 221:3
charlotte 1:2
chicago 7:7
choice 71:5
choosing 114:7
chose 70:18,19 119:7 193:4
chosen 114:5 194:9
cindy 1:18 2:4 217:2,18
circle 3:18
circuit 22:7
circulated 201:11 203:3 204:1
cited 189:20
citing 125:4
civil 37:8,12
claim 8:9 31:10 31:11 44:19 47:22 56:12,13 56:19 63:14 71:1,1 73:14 73:15,17 83:7 83:14 84:9 89:8 90:19 91:6 125:8 135:13,15,16 135:21 136:2 136:11 147:9 149:9,9,10,11 149:12 153:18 153:21 154:11 155:8,20 161:5 161:21 163:17 163:19 164:6 165:15 170:11 176:2,22 177:15,18 178:3,19 179:1 179:20 180:2,7 180:18 182:5 182:10,15,20 183:6,7 185:14 196:1 197:21 209:4
claimant 56:11 74:7 83:3 98:19 133:19 134:5,20 135:10,12,13 136:2,11 149:9 149:14 150:8 159:12 178:22 181:21 185:4 185:12,21 190:17 195:22 210:12,16,16
claimant's 48:22 135:13 149:15
claimants 4:2 4:12 8:22 25:18 40:16 42:20 43:20,22 44:5,8,12,15 45:15,17 46:13 46:14 47:1,2 47:15 56:15 64:20 69:14 70:14,18,21 71:8 73:17,18 73:19,21 74:2 74:2 76:13,17 79:2,8 84:4,11 84:16,18 88:17 90:7,16 91:11 92:1 93:19 95:19,21 96:2 96:17,18 98:3 103:18 112:6,7 112:7,11,17 115:11 117:21 117:22 128:21 129:15,17 132:2 134:10 134:18 136:16 136:17 140:13 145:4,6,11,17 145:21 146:10 147:3 148:12 148:18 150:2,6 150:12,19 151:2 154:18 154:20 155:9 155:12 157:22 159:6 160:19 161:20 162:1 164:16 171:21 175:19 177:12 179:8,9 180:4 180:6,9 183:22 185:6,13 197:3 197:6,8,16 198:3,5,7 204:5,5 206:6 207:4,9 212:4
claimed 136:10
claims 15:11 24:9 31:2,8 40:10 41:18,22 42:7,8,12,15 43:19,22 44:6 44:9,16,21 46:5,8,16,18 47:8,9,21 48:7 48:13 53:5,15 56:1 57:14 58:7,12 59:6 59:14,17 60:22 61:1,13,16,18 63:13,20,22 66:2,9,10,11,14 66:20,22 67:1 67:3,5,5,7,7,10 67:14,16,18,18 67:20 68:1,2,3 68:13,14,16,19 69:12,13,14,16 69:17 70:8,10 70:22 71:22

72:10,13,15 73:7 74:8 77:12,13,15 79:17,19 85:6 85:14 87:21 89:2,3,7 90:21 94:5 97:22 106:7,8,9 111:7 112:16 112:18,21 116:13 118:1,7 125:5,21 126:2 126:3,5 134:21 135:9,14 144:16 145:7 145:21 146:4 146:21 147:4,5 147:8,12,12,20 148:4,5,10,13 148:15,16,18 148:22 149:14 149:17 154:15 155:1,5,8 159:9,11,22 160:20,22 161:1,3 163:21 165:15 169:18 169:21 170:9 172:14,16 173:4 174:7 176:4,7,16 177:4,6 178:10 179:14 181:1 183:13 184:7,9 184:15 196:2 203:12 204:14 209:6

clare 5:10

clarify 19:13 40:9 139:20

clarifying 149:3

clarity 149:19

classic 116:22

clause 55:3

clean 194:18,20

cleaned 109:11 109:12

clear 13:19 41:8 72:2 100:15 106:19 136:3

clearly 106:17 165:1

click 99:11

clicked 99:4

client 70:20 108:19,22 109:6,19,20 114:7 151:17 152:10

clients 25:8 108:2,3,8 122:6 138:12 152:1

close 178:16 199:5 212:9

closer 70:3

clr 1:19 217:19

clustered 106:1

cm 10:8 17:5,7 17:16 18:20 20:15 37:18 51:7,11 72:18 101:16 174:20

cmevert 5:8 218:2

cmmaisano 5:14

cole 3:3

colleagues 152:9

collect 43:21 182:1

collected 56:11

colon 54:22

columbia 4:6

combined 43:19 136:6

combining 178:20

come 14:22 86:5 105:20 127:7 131:1 196:5

comes 23:21 62:14 138:13 181:21

comfortable 58:6 86:7,14 86:18 178:9

coming 109:16

commingle 149:21

commission 221:17

common 23:20 24:16 25:7 61:22 119:20

companies 25:2 25:3

company 7:12 36:6,9

comparable 196:22

compare 67:17 176:16 212:1

compared 178:18 179:1

compares 83:9

comparing 90:22

comparison 56:10,13 83:10 177:1,3 179:6 179:17,21 181:8,9 182:7 182:9,12

compensable 45:11,16

compete 122:10

complain 107:21

complains 107:10

complaint 104:22

complete 84:11 103:6 116:3

130:17 141:6 156:13 175:18
completed 185:16 188:15 198:6 218:16
completely 33:11 50:10 115:6 117:8,16 130:19
component 141:13,16
composure 119:12
compound 123:18
comprehensive 33:13
compromise 205:6
computational 122:14
computations 122:14 212:14
computer 217:12
conaway 6:3
concept 180:19
conceptually 172:11
conclude 112:9
concluded 49:16 64:19 166:19 216:21
concludes 109:5
concluding 113:11
conclusion 107:18 108:1 111:15 112:2 113:2 119:18 120:20 158:12 197:15
conclusions 125:18
concrete 60:19
condition 105:8
confidence 58:10 75:18,20 81:11 82:14,16 90:9,12 113:13 113:15 114:16 154:5 203:21
confident 70:3 166:8,9
confidential 34:7
confidentiality 161:15
confirm 137:13
confirmation 47:10 53:6 54:5
confirmed 62:22 137:4
confuses 110:1
connected 34:18
connection 51:4 116:17
consider 35:16 188:20
considering 158:20
consolidated 136:4
constant 112:8
constrain 71:5
constrained 42:14 47:22 57:10 65:5 66:21 70:9 124:14,22 152:14 159:5 179:18 180:11 204:4 206:15
constraining 56:6 58:11 104:14 182:17
constrains 106:20 150:7
constraint 32:18 57:1 107:3 110:13 156:11 182:7 183:3 201:18 202:2 204:20 204:21
construct 151:6
construction 32:22 59:17
constructs 216:5
consumer 27:11 33:3
consumers 24:3
contain 38:3 42:10 68:12 194:13
contained 95:14,16
contaminated 194:21
contemporan... 58:22 152:2
contemporan... 91:16 158:2
content 21:7,8 95:13
context 19:14 23:22 24:1,19 34:3 55:12 59:15 64:17 68:9 73:13 78:17 98:3 108:9 130:18 132:5 137:3,7 137:9,19 138:10,11 152:13 153:13 211:16,20
contexts 24:21 24:22 25:8 42:9
continue 65:19
continued 4:1 5:1 6:1 7:1 8:1 217:4
continues 27:14,20 28:3

28:8,16
continuum 209:18
contradictory 191:11
contrary 64:22
contrast 31:9 59:4 64:3 157:11 178:17
contrasted 84:9
contribute 204:9
control 15:7 79:9,11,13 108:15 109:2 112:21 119:10 122:3 129:5 173:12,17 204:18 206:5 206:14
controlling 79:14 130:7,7 157:11 173:2 180:1 182:20 182:21,22
conversation 19:19
coo 189:19
copies 17:10,13 17:14 51:7 218:14
copy 158:7,9
core 38:8
corner 116:9
correct 12:7,8 12:16,22 13:1 13:17 18:21 19:21 25:10,11 30:16 32:7 33:18 34:2 36:21 43:13 53:7 55:3,4,8 67:8,9 69:11 70:8,10 71:20 72:14,15 73:15 74:3,4 80:2 85:15,20,21 88:3 93:22 95:10 100:4 101:1,12 102:4 102:5 122:11 122:17 123:5 123:10,15 129:10 130:18 132:4 133:3,17 134:11 139:1,2 140:5,6 145:8 145:17 150:2 152:4,5 154:12 155:3 156:17 156:18 162:11 166:18 167:15 168:17 169:10 169:11,19,20 169:21 175:6 177:11 186:9 186:10 187:5,8 187:13,16 189:15 190:10 197:4,6,7,10,13 198:17,18 201:9,12 202:13 203:5 203:13 208:14 213:15,16 221:5
corrected 37:20
correction 117:18 118:2
corrections 221:8
correctly 75:12 192:1 212:8 217:10
cost 30:16,20 31:7,17 33:14 38:19 39:5,8 39:15 40:1 56:22 83:14,18 88:10 92:22 107:20,20 108:2,22 109:6 124:19 125:1,2 125:12 170:3,6 170:20 171:6 178:6,8,11,14 179:5 181:22 182:3,6,8,10 189:1,5,7 196:15,22 197:17 198:15 202:9 206:12
costs 38:21,22 39:14 40:17 57:17 81:12 188:4 195:6,18 196:11 197:11 197:19,20 198:1,16
counsel 1:20 2:14 8:20 11:19 13:4 19:8 20:2,6 40:11,18 42:17 84:12,12 86:12 144:10 145:4 152:9 162:10 207:3 217:15 217:21 218:14
counsel's 95:15
count 23:19 66:15
counter 177:5
counting 134:18 135:8
counts 180:2 182:20
couple 19:9 61:17,18 62:19 65:22 79:16 85:17 94:11 127:21 149:2 175:17
course 26:5 114:21
coursework 36:10
court 1:1 2:4,7 2:9 14:8 57:12

74:22 79:1 80:7,9,16 81:15 87:2,7,9 89:15 92:12,15 92:18 93:6 106:20 151:19 163:17 166:4 166:18 200:11 202:3,8 206:17 217:2
court's 87:2 94:12
courts 75:22
cover 52:1 111:21
coverage 23:20 24:8 34:11,21
covered 110:22
covering 52:20
covers 104:1
crb 163:8
create 91:8,22 113:12 133:13 157:18 162:7 206:18
created 125:16
creates 81:4 194:21
credentials 36:7
criteria 150:13
critical 211:2,6 211:8
criticized 132:22
critique 59:9 104:8 124:8,10
cross 39:5 193:5 203:12 205:9
crosswalk 185:13
crp 63:14
crr 1:18 217:18
crt 1:19 217:19
cs 218:15
csr 1:18,19,20 1:20,20 2:13 2:13,13 217:18 217:19,20,21
culled 178:2
cumbo 8:19
current 53:4 67:2 152:12 157:2
currently 66:21 83:9
curve 59:16 176:2
custom 4:12
cutoff 150:10 150:16 151:3

d

d 11:2
d.c. 2:3 3:19 4:8 11:4 70:7
damages 212:14
dan 200:4
daniel 4:14 207:8
dark 108:6
data 15:11 16:5 31:4,8,20,22 33:1 35:12,15 36:10,13,16 38:13 39:16,16 39:19,22 40:1 40:11,19 41:3 41:21 45:20 50:12,12 53:14 56:10,13 57:18 58:16 59:6,8 60:6,15 62:14 63:19 64:16 65:6 73:5 78:1 79:5,21 82:9 83:17 84:20 86:13 88:10,22 89:17 91:1,7 91:19 96:16 97:1,12 98:7 99:3,7,14 100:11,12,22 101:3 104:3,7 105:2,22 106:7 106:11 107:14 108:21 109:6 116:7 117:7 118:13,17 120:16 121:2 121:11 122:18 122:19 126:12 126:15,19 127:4,8,9 134:16,16 141:10 148:8 150:18 154:13 155:13,18 156:17,19 157:8,14,17 158:8 159:15 159:19 160:15 161:12 163:22 165:12 169:1 170:5,7,8,14 171:16 172:21 173:8,9,22 175:2 178:4,17 179:15 181:10 182:4,5,6,8,11 183:5,22 185:5 185:21 186:1,1 186:14 190:12 191:17 192:6 195:1,8,21 201:18 202:1 205:1 207:17 209:9 212:1
database 31:3 97:22 98:2 125:5 144:3 155:8 158:4,6 158:10,14,21 159:4,9 160:5 186:1,2,6 188:15,18 194:8,15 208:17 209:2,6

databases 184:4 185:12 188:19
datasets 157:18
date 17:19 22:15 51:17 101:19 150:10 150:10 151:3 151:14 200:14 219:3 220:3,22 221:12
datum 178:7
daubert 92:7
day 2:2 7:3 70:6 99:1 136:6,7 172:20 221:14
days 218:16
dbmp 152:4,17 153:2,15 154:2 161:12,18,20 183:14 184:2 186:21 188:4 189:6 191:18 191:21 192:8 193:6,8 195:7 195:13 196:15 197:2,12
dcpf 6:2,10 144:10,18,22 145:22 147:5 147:13 148:19 150:1 156:15 161:13,13 171:7,10 172:1 172:21 174:8 175:7 177:14 179:9 183:10 186:8,16 187:3 187:8 188:4 189:19 191:19 191:19 192:4 193:17 195:19 200:11 209:9
dcpf's 187:1,12 187:20 188:12 189:11 190:10 195:5 196:11 200:11
dcps 183:10
dead 199:18
dealt 26:22
debra 4:5
debtor 41:11 46:16,18 47:4 48:19 145:7 147:4,9,13 148:18 149:11 149:12,15 150:15 170:10 181:15 184:12 208:18 214:3 214:18,19
debtors 1:12 5:2 7:2,2 23:5 31:2 38:5 40:9 41:17 42:22 43:18 44:1,5,9 44:18 45:2,5 45:12 48:22 49:7 53:4 55:2 56:2 57:4 58:12 68:10 82:21 88:18 90:15 97:18 98:2 103:19 111:19 125:4 128:20 134:4 135:14 136:4 136:16 138:1 148:12 149:6,7 149:20 150:8 151:4,14 152:1 165:6 169:18 170:11 176:11 176:17,22 177:14 179:8 191:21 195:13 195:15,18 196:11 200:20 203:3,12 207:18 208:3 208:17 209:10 209:14 210:11 210:14 212:6 212:16 213:9
debts 72:10
december 200:19 201:11
decide 38:19
decided 206:17
decides 92:12
decision 200:18 200:20 202:5 211:12
declaration 10:9 16:13 17:11,17 18:6 18:7,8 20:15 20:21 21:1,4 21:13,18 25:22 37:18 38:2 49:2 72:18 92:22 94:16,20 110:7,10,12,15 110:19 128:10 137:3 143:12 143:17,18,19 143:22 162:13 167:9 176:20 183:9,16 185:2 189:15,15,19 190:9,13 191:2 191:9,15 192:1 192:5 207:13
declarations 22:1 33:19
decrease 46:5,6 162:14,15,18 164:8
decreased 163:3
deemed 92:18
default 89:19 89:20,22
defendant 164:18
defendant's 129:2

defendants 1:9 5:2 68:10 120:2 184:8
define 99:9 104:17 111:21 120:12
defined 55:15
defines 103:20 103:21 123:12
definitely 24:11 123:10 124:13
definition 150:21,22 151:1,5,7 188:10
definitively 74:10 203:7
degrade 82:15
degree 90:12 120:5 160:19 171:12 191:10
delaware 1:6 4:15,16 6:6,14 34:15 96:11,15 96:20 97:18 101:4 144:16 148:14 160:13 160:18
demographic 46:3 115:1,4 182:22 204:8,9 206:15
demographic... 206:7
demographics 112:7 115:2 156:22
denominator 72:4
department 35:18
depending 47:12 99:9 135:1 142:15
depends 69:7 75:8 91:14 166:14 177:6 215:14
deponent 218:13
deposed 12:6
deposing 218:13
deposition 1:14 2:1 10:8 14:8 17:16 19:4,5,8 20:3,13 22:4 51:11 77:14 101:7,16 178:1 191:2 216:21 217:4,13
depositions 179:2
deputy 8:20
derivative 175:21
describe 166:1 201:15
described 103:16 111:18
description 10:8
design 27:3 47:8 55:15 67:4 77:2 78:4 78:9,18 93:13 93:16 106:21 118:14 163:8 201:21
designed 27:12 33:8
designing 39:10 54:3 70:22 116:19
desires 114:7
despite 70:21 172:21
destroyed 158:11
detail 103:16
details 130:1
determinant 211:11
determination 55:22 204:13 208:18 211:9 214:4
determinations 168:16
determine 172:19 173:13 181:12 182:9 196:10
determined 173:15
determining 55:6
develop 45:10 193:2
developed 191:19 192:4 192:11,12
developing 120:1 193:14
development 62:20
dfelder 4:10
diagnoses 156:4
differ 164:20
difference 15:8 60:16 74:1 76:4 89:6 111:3,4,13,13 111:14 114:3
differences 112:22 122:3
different 16:3 24:5 30:12,13 37:5 45:8,19 46:2,3 48:10 48:12 55:9 56:20,22 66:1 80:13 88:19 93:9 95:12 98:3 108:4 112:20 125:4 139:18 161:19

165:19,19 166:7 169:14 172:6 175:17 182:22 186:4
differentiate 149:13 167:3
differently 92:4
differs 76:11 183:3
difficult 34:13 68:8
digit 142:9
dimension 168:12
direct 176:9 207:12
directed 150:1 177:13 201:8
direction 16:22 111:16 113:2 114:6,9
directionally 93:22
directly 50:17 50:20 109:21 135:20 146:19 175:20 176:1
disagree 74:12 75:9 113:7 121:14 127:11 164:11
disagreement 12:13
disagrees 102:16
disclose 26:7,15 91:16 108:10 134:10 152:12
disclosed 23:7 82:20 84:17,19 90:15 94:15 95:20 105:16 113:22 115:20 116:17 133:5 176:10,12 204:10 206:9 212:5
disclosure 79:11 83:20 85:5 204:17
disclosures 157:6
disconnected 117:15
discovery 22:3 34:22 68:11 89:1 117:1,10 121:8 141:13 148:6 159:6,10 160:14,21 161:8
discuss 25:16 91:8 121:7 162:14
discussed 78:4 86:9 90:20 110:6 119:2 128:1 136:19 137:1
discussing 66:6 94:17 102:7 128:6 145:3
discussion 51:9 102:1 119:13
discussions 21:20 27:17
disease 156:9
diseases 72:3
dismissal 42:13 69:18
dismissed 42:7 42:8 58:7 67:8 67:11,14,16,18 68:2 69:16,17 147:20,21 148:1,15,22 149:10,12,15 149:18 150:14 161:20
displaying 118:16
dispute 186:15 191:5,8 195:2 195:4
disputed 205:7 205:15
distinct 123:13 136:3
distinction 158:13 169:12
distribution 53:16 62:21 112:11
district 1:1,6
dive 37:20
divide 196:3
division 1:2
dkhogan 4:18
dkhogan.com 4:18
docket 17:11 18:6,7 52:6,8 151:11
doctor 15:5 73:1 84:1 100:21
document 18:1 18:15 20:14,17 20:20 26:2 52:13,15 171:10 172:6
documents 10:12 51:12 164:3 172:7 177:19,20
doing 22:13 32:18 45:13,16 47:13 58:6 61:4 74:20 94:9 125:1 141:22 151:17 154:14 155:9 168:6 172:5 173:12 176:4 179:12 182:7 188:14 192:16 212:14,15 213:6,9 214:15

dollar 87:6 165:4 189:7
dollars 60:3 165:2,11 181:22
domain 26:21 35:7 154:6
doors 107:6
double 69:17 74:15 147:19
doubling 138:20
downloaded 97:22
dpmp 108:9
dr 11:22 17:10 18:1,16 19:15 19:20 21:13 22:2,10 38:2 52:14 59:9 65:17 74:12 75:9 76:4 77:13 101:10 102:4,8 104:9 106:15,16 107:5,11 111:19 119:3 121:5 128:11 131:8 132:10 133:1 144:13 157:5 206:21 207:7
draft 16:19
dramatically 114:2 124:5 125:13
draw 112:6,17 146:22 197:14 205:15
drawing 110:18 169:13
drawn 12:3 27:1 116:12 122:4
draws 125:18
drill 41:10 54:19
drilling 43:12
drive 7:6 8:5 127:12
drop 58:6
dropped 58:7
dropping 204:14
drops 58:22
drysdale 3:16
due 123:14
duly 11:10 217:7

e

e 3:1,1 4:1,1 5:1 5:1 6:1,1 7:1,1 8:1,1,11 11:2,2 205:8 217:1,1 219:1 220:1
earlier 29:10 94:20 101:10 105:7 143:17 145:5 150:16 154:8,17 177:9 204:14 212:10
early 128:1
easier 122:20
easiest 91:21
easily 59:22 105:20
easy 46:17
ecf 25:21
econometrics 15:20
economic 15:21
economist 15:19 189:4
edit 16:20
edt 1:15 2:16 11:6 65:14,14 131:5,5 216:22
effect 142:22
effective 174:3
effectively 30:10
effects 162:5
efficiency 94:9 121:12 201:22 203:8
efficient 30:5 30:14,15 94:1 106:22 110:12 203:4,7
effort 205:6
eight 19:6
either 29:20 108:9 113:10 120:6,19,21 152:17,19,21 153:1 208:10 210:17
electric 29:5 34:15
electricians 48:10
electronic 17:9 31:4,6,15 45:21 56:20 73:16 83:15,16 125:2,7,9,12,14 170:14,15,19 170:22 171:12 172:7 177:20 177:21 178:6 178:18 181:20 190:12 209:6
electronically 10:7 124:18,20 124:21
element 107:22 211:18,20
elements 79:13
eliminate 78:19
eliminated 42:7 42:13 67:7 86:15 108:16
eliminating 86:14 109:3 148:15 149:1
embedded 173:5
emphasis 25:19
emphasizes 123:15

empirical 50:9 50:16 168:3 169:1 171:19
employees 99:11
employs 193:17
empty 171:14
enable 39:22 82:19 120:7
endeavor 207:14
ends 113:11
english 7:13
enjoy 139:22
enter 50:20 159:22 175:16 176:8
entered 207:18 209:10 210:11 210:14 214:3
enters 215:2
entire 31:2 35:17 39:6 41:20 76:7 105:16 119:13 125:20 129:13 130:20 150:19 170:9 205:5,19
entirely 104:2 106:3 119:6 125:19
entirety 125:6 191:1
entities 44:16 44:20 142:11 145:7 147:4,9 147:13 148:1 148:13,19 162:3 212:3
entity 99:10
envelope 196:7
environment 121:6 216:2
envisioned 56:12 83:11
envisioning 92:1
epidemiologi... 156:6
equation 167:18
erens 7:4
ergo 104:11
errata 9:17 218:11,13,16 221:9
erroneously 112:9
error 23:7 94:14 114:10 115:12,14 123:18,20 124:1 172:13 172:15,19 173:2,13,15 174:1
errors 25:5 122:10
especially 122:20
esq 218:1
esquire 3:4,10 3:17 4:5,14 5:4 5:10 6:4,12,18 7:4,5,14 8:4,11
essence 76:16
established 212:3
estimate 46:7 46:11 47:15 48:1,15 57:9 57:11 59:20 60:2 62:1 64:21 80:10,17 80:19 81:20 82:10,10,15 87:5 90:7,11 90:13 92:9 115:2,18 116:2 117:20 118:3,4 126:4 133:9,14 136:7,8 138:1 163:8,20 164:17 165:22 166:8 169:9,13 169:18 176:7 195:20,22 196:14,20 215:2,3
estimated 163:16 165:14
estimates 115:3 169:8,10
estimating 16:2 45:7 53:22 54:3 56:2 59:13 68:7 115:9 116:6 118:1,8 125:20 129:1 136:12 141:14 157:21 164:6,12 169:22
estimation 15:14 16:4,8 39:1 42:18 50:15,21 53:4 55:2 57:4 59:1 66:21 67:3 73:6 74:7 80:14 105:4 130:18 135:10 136:2 141:16 163:9 165:19 180:9 204:12 206:3
estimations 118:18
et 1:5,8,11 9:4 9:4 10:4,4 218:4,4 219:4 220:4
evaluating 135:12
evaluation 62:20
eventually 67:4 213:5
evert 5:3,4 17:6 18:2,12 20:19

21:14 22:18 23:14,16 28:13 49:10 52:4,8 53:8 64:7 88:4 94:18 100:10 100:16 102:10 102:21 127:17 137:16 140:14 140:21 141:2 143:15 146:8 148:20 158:22 160:8 167:19 168:1,18 174:16,20 181:5 183:18 187:21 193:19 198:19 199:11 199:17 200:3 201:13 202:14 205:3,14 208:21 209:20 211:4 212:20 213:12 215:12 216:17 218:1
everybody 18:4 35:20 51:8 115:19 216:18
everyone's 100:19
everything's 84:19
evidence 52:21 179:7 189:4
evolving 157:13
ewhlaw.com 5:8,14 218:2
ex 86:11 93:12 93:14 107:14 121:10
exacerbate 123:6,8
exacerbating 123:4
exact 66:15 67:22 111:15 113:20 145:15 145:19 147:16 172:9 184:16 184:20 185:1 195:9 198:12
exactly 59:8 60:7 63:17 108:22 154:14 196:6
examination 9:2,8 11:19 144:10 207:3
examine 205:9
example 26:12 26:18 31:1 42:12 56:9 58:4,18 59:16 60:21 61:19 71:8 84:10 94:4 114:5,7 119:7,8 156:2 175:20
examples 40:14 113:9
excellent 22:6 22:21 37:22 52:17 71:19 127:14 132:11 139:22
except 221:8
exchanged 216:10
exchanges 138:22
excluded 150:13,17
excuse 24:21 45:2 137:12
excused 216:19
exemplar 51:1
exercise 39:19 45:13 47:12 50:16 89:1 107:14 108:3 108:20 117:1 117:10,15 123:17,21 126:11 141:12 142:11 168:4 180:8 181:9 189:2 192:16 195:16 196:18 197:16 207:21 208:1
exercises 22:13 172:10 180:5
exhaustive 68:11
exhibit 10:8 17:16 51:11 101:16 174:22
exhibits 10:2,7
exist 82:13 121:22 123:6
exists 54:2 97:6 158:15
expand 82:14 82:15,16
expands 95:5
expect 50:15 61:3 62:2,3,4 105:8,18,22 165:14 191:16 197:11,17 198:8,11
expectation 206:18
expecting 63:16 171:20
expedite 199:3
expense 56:21
expensive 31:12 122:4 178:4 183:6 192:16 193:11 193:15 198:9 198:12
experience 26:1 75:21 80:8 82:4 93:17 119:20 138:12 141:21 143:3 146:22 192:14

192:18,20 193:13
expert 10:17 15:6 23:11 26:4 35:11 36:16 101:17 109:20 130:6 130:11 133:18 153:7 168:8 187:19 188:21
expertise 15:18 15:20 16:2,10
experts 121:10 121:13 122:12 139:22
expires 221:17
explain 15:8 41:13 82:6
explained 162:20
explicit 107:1
explicitly 107:9
exposed 214:17
exposition 166:14
exposure 50:6 59:16 82:20 96:10 108:7 126:16 132:3,3 132:21 133:2 133:20 134:1,5 134:11,20 135:2 175:11 175:15,19,21 176:14 178:19 178:22 180:3 194:9,10,13,16 194:17,18,20 212:1,4,4
exposures 48:22 56:9 58:21 59:19 84:16 90:15 91:16 113:10 113:22 115:10 116:18 128:19 128:22 129:19 135:19,20 158:1 175:22 176:10 204:10 206:9 207:19 209:11,15 210:3,18,20,21 212:18 213:10 214:6 216:6
expressed 168:13
extensive 15:20
extent 86:4 128:21 174:2 174:10 177:3 188:2
external 99:22 107:2 201:17 204:19
extra 57:16 198:1
extract 188:14 188:17 189:2
extracting 185:22 192:6
extraction 185:5 186:5
extrapolate 121:17 176:6
extrapolating 49:18 121:20
extrapolation 121:12 143:10
extrapolations 106:2
eyes 87:2

f

f 217:1
faced 41:17 44:18
facility 96:11 96:15 97:19 101:4 109:11 144:17 148:14 160:13,14,17 160:18
facing 204:19
fact 30:3,21 50:14,16 60:8 63:15 70:21 78:15 89:18 115:6 124:3 133:7 149:8 153:7,18,20 181:19 186:1 186:15 188:3 191:16 193:12 194:20 215:16
factor 68:5 117:19 118:2 215:10
factors 82:7,7 113:19
facts 32:1 118:21
factual 214:8 214:20 215:1
failed 96:14,15 126:16
failing 91:15
fails 126:17 218:18
fair 95:1 102:12 212:7
fairly 36:18 51:2 100:13
fall 56:17 57:2 143:2 188:9
falls 55:7,13
false 99:11
familiar 43:7 129:12 130:5 138:10 144:19 167:12 201:1,2
fan 100:19
faster 46:5
fault 138:7
fcr 144:2 177:10 180:16
feasibility 71:1
feasible 47:10 54:4 57:19 90:8 91:13

166:11 169:3
federal 37:8,12 40:15
feeds 163:12
feel 72:20 155:4
felder 4:5
felt 58:9
female 76:18
females 76:12 77:6,7
fewer 125:2 174:7
field 96:10,14 96:18 126:15 130:6 133:19 186:12 193:9 194:10,18,20
fields 108:7 109:10 126:16 171:14 175:2 175:11,15 176:15 186:1,5 189:2 192:6,12 194:9,13
fight 122:14,14
figure 68:1 161:6 189:7
figured 66:17
figuring 176:6
file 22:4 44:19 56:13,19 126:3 148:2,13 177:18 178:3,5 178:5,19 179:1 179:20 180:8 182:6 183:7 196:1 197:21 206:2
filed 17:11 18:5 18:8 22:2 33:19 44:15 52:1,3 136:11 137:3 158:16 160:20 163:22 184:7 185:14
files 31:10,11 56:12 73:14,15 73:17 74:7 76:8 83:8,14 84:9 90:19 91:6 98:20 125:8 153:18 153:21 154:12 155:20 177:15 180:18 181:15 181:19 182:10 182:15 183:6
filings 137:5,20
fill 84:22 138:11
filter 42:2
final 163:8,8,13 163:15,19,21 164:3,4,5 165:14 166:18
finalized 90:19
finally 36:18
finance 24:3 27:11
financial 33:4 61:21 79:11 195:14
find 58:17 166:5
findings 132:13 134:12
finds 92:15
fine 14:12 17:6 87:7 132:13 140:16,18 162:21
fingers 135:4
fingertips 190:3
finish 103:5,9 199:8
finished 202:21
finishing 199:5
finite 117:18 118:2
firm 47:18 60:22 61:4,5,8 61:15 62:4,10 63:8 75:14,14 77:11,12,19 79:9,15 105:8 105:19 106:8 126:7 130:7 153:8
firms 61:11,12 61:19,22 79:16 84:15,17 91:5 129:9,16
first 11:10 12:4 19:13 23:3 29:16 53:3 55:21 57:2 85:4 109:14 115:10 122:13 127:7 128:5 151:17 172:11 173:6,8 181:14 192:17 207:16
firsthand 138:14 186:22 193:16
fit 150:12
fitting 63:15
five 19:6 65:8,9 108:17 130:22 134:20,21 135:3,9 199:4 199:9
fivefold 114:3
fixed 112:20
flags 118:20 172:12
flaw 111:17 113:5
flip 25:20 37:17
floor 3:5 6:13 6:19
floors 8:13
fly 71:11,17
focus 21:9 22:22 23:3 52:13,18 72:21 87:20 133:16

focused 125:19 157:6
focusing 82:18 148:16 163:6
fold 81:5
follow 84:22 103:4,8 104:12 115:16
following 41:15 188:21
follows 11:12 115:12
foot 111:11
footnote 190:6
footnotes 190:16,21,22
forced 206:10
forcing 107:3
forecast 45:17 46:1,15 47:3 79:7,8 90:7 157:19 169:13 180:2
forecasting 46:15,17 53:15 73:7 74:8 156:9 177:5
forecasts 169:11
foregoing 217:3 221:4
forgive 173:5 174:14
form 31:6 34:5 45:21 49:11 88:4 98:17 102:10 121:10 125:7,10,12,14 137:17 148:20 159:1 165:17 166:13 168:13 168:18 181:5 187:22 201:13 202:14 208:21 209:6,20 211:4 212:20 213:12 215:12 221:8
formally 151:11
format 31:4,16 56:20 83:15,16 170:14,15,19 170:22 177:20 177:21 178:6 178:18 181:20 190:12
forming 190:9
formula 75:12 75:16,19
formulas 74:13 77:18 114:19
formulation 53:6
forth 153:16,19 180:19
forward 105:3 115:5 122:3 156:7,8 160:7 183:1
found 49:15 166:20 173:20
foundational 167:21
four 7:15 198:22
fourth 27:7 28:18
fraction 48:21 84:16 214:9
framework 40:4 116:12 123:2
free 72:20
frequently 15:22 23:21 63:12 68:8 105:9 120:1
friday 20:11
friend 143:13
front 59:12 65:4 141:10
fulfill 103:19 172:1
full 85:5 121:1 122:19 128:21 173:14 204:16
fulsome 59:22
function 174:3
fundamental 39:9 67:15 107:15 116:15 117:9 118:10 126:10 128:2 130:8 179:4
fundamentally 98:5 127:8 161:19
funds 57:14
further 46:20 48:18 59:17 88:11 128:18 157:15,20 204:6,7
future 16:2 45:7,9 46:8,13 46:20 47:1 48:16 49:19 53:5 57:14 68:15 78:1 79:12 82:10 112:7,18,21 115:5 118:1 126:5 135:13 136:13 156:9 157:22 163:20 164:6 165:15 169:9,21 171:20 176:3,7 177:6 180:2 182:20 215:3

g

g 11:2 175:10
gain 123:19 138:14
gaining 40:1 57:16
gallardo 106:15,16 107:5

game 169:17
gamesmanship 122:7
garcia 106:15 106:16 107:5
garlock 42:9 49:14,21 50:11 50:15 53:17 54:1 55:7,13 58:19 129:12 129:13,15 130:14 131:13 132:6 134:8 137:5,13 158:4 158:6,10,16,21 159:4,7,13,19 159:20 160:4 160:15,16,20 160:21 195:21
gaskets 134:2
gateway 7:15
gauge 196:22
gender 76:11 76:14 105:20 106:8 131:16 131:18 182:22
general 8:20 26:6 28:5 34:17 48:8 79:6 98:4 143:6 209:5
generally 53:17 171:3 209:3 215:18,22
georgia 5:6
germane 16:1 171:18
getting 30:1,5 36:6 41:14 47:1 63:18 74:6 126:18 154:17 157:15 172:18 173:18 173:20 178:16 180:3 214:16
give 12:11 16:16 19:14 23:19 26:12,17 39:1,17 42:5 48:15 57:19 78:21 79:3 81:14 86:4 87:5 89:6,14 90:3,10 92:10 103:6 130:3 132:8 141:19 143:4,5 148:8 166:4 184:20 188:9 202:8 206:16 213:3
given 24:12 30:3,10 58:13 79:15 81:13 102:3 105:4 109:17 110:2 110:13 189:1 201:17 202:9 210:12 217:14 221:6
gives 46:10 114:22 189:6
go 24:16 34:13 40:20 42:5 43:2 45:5 46:20 48:1,18 48:19 55:16 65:11 69:22 70:1 76:9 77:11 89:10 92:19 93:13 97:11 99:6 105:3 106:18 111:8 114:8 119:5 126:3 128:16 144:8 156:13,16 159:3 161:4 162:9 166:7,15 167:15 171:22 172:8 173:1 175:19 183:1 184:11,20 196:13 199:2 199:13 200:1,6 203:14 209:4
goal 12:19
goes 35:22 36:6 59:17 70:1 89:21 125:17 126:9 151:18 156:17 179:4 186:8 196:1 203:16 211:11 211:19
going 12:4,11 13:4,15 14:8 15:1 17:1 21:14,16,17 22:4,4 23:22 29:10,12 30:5 30:9,20 31:6 36:20 39:1 40:22 41:5,8 42:4,19 49:10 50:13,13,20 55:16 57:20 58:17 60:7 61:6,9 62:6,7 62:11 63:9,19 64:1,7 74:21 75:2,16,17 76:1 77:21 80:16 81:10,16 81:17,21 82:14 83:8 84:7,8 86:2,4 87:15 87:15,17,17 89:11,22 91:17 94:19 95:17 96:11 97:2,6 97:13 102:17 102:18 103:1,4 103:6 104:9 105:1,3 106:10 106:21 107:21 110:5 112:9 115:4 117:15 121:21 122:3 126:7,14,19,21

126:22 127:6 127:15 131:9 132:15 133:12 133:14 135:11 136:12 137:16 141:22 142:3 142:18,22 143:2,15,20 144:6 147:19 152:20 153:3 153:10 154:4 156:19 157:8 158:19 160:10 162:7 164:20 165:1,4,6 167:6 169:17 172:18,22 175:16,17 176:8 182:19 183:4,7 188:3 188:9 195:9 196:3 199:15 199:17 201:20 202:6,7 204:4 206:2,21 207:13 212:13 214:4,13

good 11:22 22:7 33:21 37:1 59:19 94:3 120:4 135:7 140:17 144:13,14 173:19 196:17 207:7,11

goodness 71:12

goodrich 29:7

gotten 178:9

government 100:11 157:17

granting 52:5

great 140:1

greater 78:14 78:20 82:11 94:9 197:12

greatest 201:22

greatly 38:21 108:13

grier 4:3 8:22

ground 12:12

group 59:14 63:21 112:19 112:20 123:5 157:12

grouped 51:4

groups 45:18 46:2,4,10 63:6 63:10,11,12 105:21 106:1 115:4 119:11 126:6 133:10

guarantee 91:3

guerke 6:4 9:10 144:7,8,12,15 146:13,15 149:4 154:7 160:2 161:10 167:21 168:14 169:6 174:13 174:17,21 181:11 183:19 188:6 194:1 199:7,13 200:1 200:6,9 202:11 202:20 205:12 206:20

guess 24:2 80:1 144:1

guidance 57:13 81:14 89:15 90:4 92:8,17 143:6 202:8

guide 93:17

h

h 10:9 17:17

hack 100:9

hacked 100:4

hacks 98:17

half 20:9 61:6 69:18,19 71:9 108:16 113:21 162:20

halfway 103:7

hand 32:1 75:13 135:4 200:7

handful 61:12 61:14 109:16 127:5

hang 18:2

happen 39:20 115:22 123:3

happened 113:14

happening 157:9

happens 59:3,4 59:5 89:2 105:13 106:4

happy 103:3

hard 58:15

harmful 206:18

head 75:19 143:14

hear 54:9 94:22 95:1 102:18

heard 100:16

hearing 20:18 22:12,14 73:13

height 111:4

held 2:2 135:7

help 26:2 42:10 47:7 49:8 163:22 210:10

helpful 71:2

helps 46:13 47:9

henry 1:14 2:1 9:3 10:3 11:9 217:4 218:5 219:2 220:2,22 221:3

herrington 4:4

high 63:14 94:5 146:2,7 161:21 164:4,5 173:13 173:15 178:8 203:19

higher 57:13 69:22 70:15 83:18 89:3 91:12 125:1 165:3 181:22 182:8,10 184:15
highest 104:21 116:13
highlighting 134:8
highly 63:13
hinge 91:17
hire 138:9,15
hirst 7:5
historical 31:2 31:8,11 40:10 41:18,21 42:20 43:21 44:5 49:18 58:11 82:3 84:15 93:17 112:6,14 112:15,17 117:21,22 118:7 125:5 128:20 141:15 143:3 153:17 154:11 155:1,8 155:20 156:2,3 176:22 181:15 181:19
historically 72:10 125:21 155:20
history 45:22 49:14,17 130:3 170:9,11 178:20,22 180:3 203:13
hitrust 35:18 36:2
hodges 49:15 134:13
hogan 4:13,14 9:11 199:20 207:6,8 209:7 210:8 211:7 213:1,14 215:17 216:15
hold 14:8
home 111:8
hope 18:11 109:17 210:14
hopefully 14:16 109:22
houff 5:3
hour 20:8,8 162:20
hours 18:22 19:6 20:5 195:12
huge 118:20
human 23:6 94:14
hundreds 41:17,21 60:3 142:10
hypothetical 84:11 109:10
hypothetically 198:4

i

idea 92:9 105:1 114:10
ideally 156:22 183:5
identical 50:10 139:15 179:20 183:14 192:7 196:16
identification 17:18 51:17 101:18
identified 29:16 185:6
identifier 185:12,21
identify 110:8
identifying 185:13 194:3,5
ignorance 118:16
ignorant 130:19
ignored 106:3 119:6,12
ignores 104:2
ignoring 115:6 127:9 198:2
illegal 161:15
illinois 7:7
imagine 194:15
impact 75:3 83:21 91:9 113:18 115:9 115:14,17,21 115:22 116:2,5 117:20 165:5 214:12,16
implicitly 76:5
important 47:3 49:4 61:5 71:3 93:19 105:10 120:6 121:3 129:1 157:7,9
importantly 13:10 46:12
imposing 93:20
impossibility 107:17
impossible 39:18 100:8 141:10 204:19
improperly 101:1
improve 73:5 74:7 121:11
improvement 74:11
improving 47:2 123:20
inappropriate 205:8,20
inches 111:4,11
incidents 156:10
include 169:8 194:9 197:5

included 150:20 197:2
includes 167:15 169:10,11
including 35:21
incomplete 120:19,22
inconsistent 96:1 120:16
incorporate 171:15
incorrect 112:4
increase 97:7
increases 124:5
increasing 97:5
incremental 96:8,22
indemnity 28:19
index 9:2 10:2
indicated 217:6
indication 166:4
individual 135:19 136:10 137:8 149:17
individuals 44:22 159:5
industrial 59:18 133:8
industries 1:3 176:5 218:4 219:4 220:4
industry 45:14 45:18,22 46:2 46:10 47:17 59:14 105:21 119:10 126:6 129:4 133:9,12 157:12 176:4 177:4 180:1 182:21 206:6
inexpensive 179:1
infallible 98:10 98:12
infeasible 117:9,17 141:19
inference 110:18
inferences 112:6,17 146:22
inform 108:13 182:19
information 10:13 42:5,10 42:21 43:10,21 44:13 45:5 46:1 47:5,7 48:19 49:3,6 49:16 50:4,7 51:13 56:11 58:10 62:7 68:12 70:7,13 70:20 73:18,19 78:11 83:16,21 84:22 91:10 93:15,18 95:5 95:11 96:8,10 99:21 108:4 109:1,4,8,21 112:16 117:13 121:8 132:11 143:21,22 146:20 150:2 155:5 158:14 160:5,6 171:8 171:9,12 172:1 174:4 175:6,10 176:16 177:22 178:21 179:3 180:6,10,13 181:13 182:1 183:11 185:3 186:12,18 189:10 193:7 194:4,5,10,13 204:1,11,15 209:2 213:22 216:9,12
informative 42:19 136:12 157:18
initial 44:10 142:15,16,17 142:20 143:17
initially 84:6 142:6
injury 1:4
inner 187:8
input 27:16,19 80:14,20
inputs 16:5 54:1 80:13 81:9 163:14
insinuate 120:3
inspection 10:14 51:14
instance 43:6 140:4
instructions 9:16
instructs 13:6
insufficient 63:7 181:2
insurance 23:20 24:8,18 25:2 28:1,14 29:9 34:5,10
insurers 25:4
intend 37:6,9 139:18 169:14 170:8 176:21
intended 131:20 181:3
intending 110:15 164:14 177:2
intent 13:21 41:7 91:2 104:6 171:17 203:6 205:10
interact 124:6
interacts 81:1
interest 47:21 48:9 76:20 106:5 114:18

119:4,16 133:13 136:16 163:13
interested 77:4 217:16
interesting 123:1
intermediate 163:11 164:2
interrogatories 179:3
interrogatory 178:1
interrupt 127:16 143:16 198:20 202:22
interval 90:9 90:12 113:13 113:15 114:17
intervals 75:18 75:20 203:21
intimate 119:3 119:15
intrinsic 78:12 164:18
introduce 61:10 123:13 159:16
invoke 169:4
involve 24:9 76:10 185:4
involved 25:9 94:8 149:20 152:3 200:22 201:3
involvement 152:6
involves 33:10
iphones 71:13
irony 107:10 107:18 110:3
irreducible 123:14,20 124:1,4
irs 124:10,11
issue 14:21 15:1 22:3 32:2 49:3 55:7 58:22 102:9,20 103:12 123:9 153:22 161:17 161:18 163:7 164:10 194:19 194:22 205:7 205:15
issued 51:3 156:15
issues 132:4 152:9,14 160:11
issuing 194:22
item 57:2 138:6
itemized 131:21
ivory 121:18

j

j 10:17 101:17
jcw 1:5
jeanna 3:17
jersey 2:9,10 7:17 8:6 21:5 51:5
jkoski 3:21
job 1:22 173:19
jones 2:2 7:3
jonesday.com 7:9,10
jorge 106:15
joseph 4:3 8:22
jr 5:4 218:1
judge 14:11 49:15 86:1,4,7 134:13 137:4 137:13
judge's 23:4 88:15
judgment 206:3
jumping 21:20
june 20:18 158:18
jurisdiction 47:18 79:10,16 105:9,19 106:9 126:7 130:8
jurisdictions 48:11 59:5 79:17
justified 109:7
justifying 81:13
juxtapose 83:8

k

k 4:14
kaplan 8:4 9:9 11:17,21 12:1 15:4 17:4,7,21 18:11,13,14 20:22 21:11 22:6,9,19,20 23:15,17 27:9 29:13 38:10 50:1 51:6,19 51:22 52:6,10 52:11 53:10,13 54:18 64:13 65:7,16 69:8 88:13 95:7 100:13,18,20 101:11,21 102:2,15 103:10 127:19 127:20 129:7 130:21 131:7 132:17 138:17 139:21 140:16 140:19 143:8 144:5 153:3 162:15
kearney 6:18
kearneyb 6:22
keep 29:12 101:13
kept 127:15
kevin 6:4 144:15 153:3 198:19 205:4

key 49:14 81:9 105:20 185:20 185:21
kguerke 6:8
kidding 69:10
kin 217:15
kind 21:12 25:5 93:3,6 143:5 163:2 164:18 196:7
king 6:5
knew 117:11 130:17 208:18 208:19 209:14 210:17 214:18 214:19
know 12:10,14 13:7 14:18 18:4,22 21:2,5 23:19 24:17 31:9 34:17 35:16 36:19 41:12 51:20 54:2 58:6,17 59:12,15,22 60:5,6,8 61:19 61:21 62:14 63:9 66:15 69:5 75:2 76:1 77:16 78:16 82:1 85:18,22 87:6,15,16,18 89:21,22 91:21 93:12 95:22 96:4,5 97:12 97:21 99:8 101:21 102:15 102:19 105:2 105:21 106:12 107:6,7 108:11 108:22 109:3,4 109:15 111:9 111:22,22 113:15 114:9 114:13 115:4 116:20 117:4,6 117:11 118:14 118:15,19,21 120:3,14,15,17 121:1 127:10 129:18 130:22 134:9 135:18 137:14,22 141:8,18 142:7 143:1 144:22 146:1 148:17 152:22 153:9 154:2,3 165:20 167:5,7 168:1 169:12 178:15 180:13 181:14 184:5,13,14,15 184:19,22 185:1 187:3,6 187:7,11 188:10,20 192:9 194:7 195:17 196:20 196:21 198:12 199:1 200:13 209:17 210:1 210:17
knowable 109:15
knowing 13:21 59:21 85:8 123:19
knowledge 129:22 130:3 137:7,9 138:14 138:15 147:1 186:22 187:12 187:16,18 193:16 208:7 208:11,12 212:17,18 213:10
known 48:22 49:6 78:15 79:4 89:16
knows 107:13 108:8 120:14
koski 3:17
krepto 3:10

l

l 1:18 2:4 4:5 217:2,18
labor 31:17
lack 117:9 126:10
lacking 92:6
lag 151:16
lap 138:13
large 31:16 59:1 75:17 76:2 91:15 111:12 114:16 157:17 171:1 216:4
largely 110:21 212:11
larger 81:6 120:6,10 123:21,22 164:17 197:16
las 97:22
lastly 13:9 14:15
late 25:13
laughter 100:17 132:14
laurie 3:10
law 2:2 37:4 47:17 60:21 61:4,5,8,11,12 61:15,19,22 62:4,10 63:8 75:14,14 77:11 77:12,19 79:9 79:15,16 84:14 84:17 91:5 105:8,19 106:7 126:7 129:9,16 130:7
lawyer 36:21 140:1 205:8
lawyer's 205:10
lawyers 71:13

lay 137:7
layering 162:5
layers 99:5
layperson 130:17
lead 94:5
leading 141:13
learn 77:14 84:10 121:8 161:2 166:15 173:17
learning 117:2
leave 58:13
left 65:22 184:11
legal 21:22 37:3,7 129:2 164:19 167:10 167:14,17 168:6,15 169:7 169:16 188:1 218:22
legally 161:16
level 56:21 62:10,12 74:19 75:6 82:14 85:18 92:3,13 104:21 106:12 129:5 140:11 164:4,5 201:22
levels 45:19 97:11
liabilities 16:3 45:8
liability 46:12 53:4,22 54:3 55:2 56:2 57:4 68:7 76:11 79:7 129:2 136:6,13 163:9 164:19 167:10 167:14,17 168:6,15 169:8 169:9,16 215:3
liberty 152:11
likely 56:14 81:8 93:18 105:12 123:7 133:20 142:5,8 145:19 156:1 164:17 166:3,5 166:10,20 167:1,2 173:11 183:12 193:4 203:18
limit 207:14
limitation 43:17
limited 40:19 66:3
limits 94:22
linchpin 89:8
line 25:6 102:19,19 157:17 181:4 182:15 205:5 205:19 219:5,7 219:9,11,13,15 219:17,19,21 220:5,7,9,11,13 220:15,17
link 99:5,11
list 16:16 25:22 26:10,16 29:11 120:19,22 121:2,3 131:21 175:5
listen 33:12
lists 175:1
literally 33:10 116:5
litigating 121:16 162:8
litigation 8:20 25:4 34:21 119:21 121:6 122:2 123:7 212:5
little 15:15 20:12 34:12 42:10 49:13 55:8 69:15 74:22 94:12 120:4 122:17 133:16 149:19 166:14 197:21 198:12 199:1
live 202:5
livelitigation 1:20 2:14 217:21
livenote 2:7
lkrepto 3:14
llc 1:8,11 5:2,2 7:12 8:9 9:4 10:4 218:4 219:4 220:4
llp 3:3 4:4 6:3 6:11 7:13 8:3 8:10
logic 113:5
long 29:11 144:3
longer 48:13 114:2 126:8 156:14 158:15
look 24:16 30:22 31:9 32:3 44:14 48:12,13 50:12 51:20 54:22 63:6 67:19 72:17,20 76:12 77:22 79:15 82:17 101:14 105:18 106:6 116:19 141:22 157:1 174:18 176:21 181:7 189:4 195:21 196:14 198:6 198:11 209:15
looked 135:7 145:18 153:22
looking 26:16 30:19 38:1 43:10,16 70:13 71:13 76:5,19

78:6 79:12 83:12 94:18 95:11 105:15 109:16 114:14 114:15 134:17 153:20 156:9 178:9 188:22 190:15 192:9 210:6
looks 140:1
lose 62:6
losing 204:14
loss 62:16 99:3 99:7,15 107:12 108:1 125:16 125:22
lost 64:17
lot 16:10 21:7 29:9 42:11 54:1 57:20 59:6 60:4 62:6 73:8 81:18 97:10 114:12 116:7 122:7 132:10 137:8 137:19 140:10 157:21 172:6
lots 59:18 121:13 127:10
louisiana 2:2
lovely 70:6
low 114:6 116:8 125:12 127:12 142:18
lowenstein 8:3 8:5
lowenstein.c... 8:8
lower 69:15,21 72:13 125:3
lying 12:9

m

m 5:10
machine 217:11
made 71:5 103:21 105:5 134:7 151:4 158:12 168:17 191:9 204:13 206:3 214:7
mail 205:8
main 19:19 52:9 76:4 125:11
maintain 95:11
maisano 5:10
majority 79:20 172:18
make 16:20 18:3 31:7 41:6 41:8 45:11 60:11 65:9 68:7 77:9 78:1 78:13,19 86:12 99:17 127:6 131:14 134:22 146:9,11,21 160:12 179:16 179:21 193:10 193:14 200:4 206:10,11 211:9 213:18 214:4
makes 30:21 31:22 34:12 38:21 106:19 116:10 120:15 121:4
making 60:2 86:18 113:4 124:17 133:6
males 77:9
mallinckrodt 25:10
manner 58:22 59:22
manual 31:17
map 191:13
mapped 176:3
mapping 185:19 190:2
march 17:11 22:11
mark 17:1 51:6 101:11
marked 17:18 51:16 101:18
market 3:11 6:13,19
maryland 5:12
mass 15:21 24:6,9,11,14 94:8
massachusetts 3:6
match 115:5 180:14 185:6
matched 179:9
matches 185:17
matching 4:12 185:20 188:15 189:1 207:4,8 210:15
material 27:6 27:15,21 28:4 28:9,17 38:7 95:3 97:7,13 128:14 134:1 148:11
materially 62:5 62:8 83:18 91:12 97:5 181:22 198:15
math 71:11,17 90:8 92:5,14 92:14 113:8,20 174:10 196:7
mathematical 60:16 75:19 114:19 143:10 167:18 168:5,8 212:11 213:22 214:5 215:6
mathematically 92:2 122:1
mathematics 168:13 213:6,7

matter 28:6,20 29:1,7 30:2,3 62:4 72:5 134:8 160:15 211:21
matters 45:15 63:17 76:14 81:4
maximum 173:3
mccarter 7:13
mccarter.com 7:19
mcdaniel 4:13
mdl 27:1 32:12
mean 14:1 19:13 20:20 29:22 32:18 36:3 39:9 80:4 80:4 82:6 92:14 95:22 97:15 98:1 101:3 137:2 139:10 146:7 146:13 147:22 149:19 151:13 153:10 154:13 163:16 169:14 195:11 196:5 202:22 207:22
meaning 139:18
means 14:3 34:6 81:10 123:21 181:20
meant 111:20
measuring 195:5
meat 37:17
mechanically 92:16
meet 20:2,5
meeting 20:11
members 19:9
men 112:10
merge 155:8 184:17,20
merged 184:3
merit 2:4
mesothelioma 42:12,14 45:10 56:1 58:8 66:11,14,22 67:3 68:19 69:13 70:8,8 70:10,13,14 71:4,6,8,22 72:13,16 87:21 106:7,8,9 133:19 145:17 145:21 146:10 147:12 148:4 148:12,16,22 150:11,12 151:4 156:4 203:12
met 12:1
methodologi... 122:13
methodology 122:12,15
mhirst 7:10
michael 5:4 8:4 12:1 21:15 94:19 127:18 140:22 218:1
middle 127:16 128:17
million 80:18 82:1 87:8,9,17 87:18,18 140:8 140:8,9 142:7 142:7,14,19,20 142:21 166:9 166:10
millions 33:10 33:12 60:3 81:16,19,22 82:3 142:6,9,9 165:10
mind 138:2 208:5 209:14
mine 14:2 50:9 100:14 107:6
minimal 189:2
minimize 46:21 86:12 113:18 122:5 127:11
minus 80:17,19 80:21,22 87:6 87:7,8,9 142:19,21 165:1
minutes 62:19 65:8,9 94:11 130:22 198:22 199:4,9,22
miscellaneous 1:4
mischaracteri... 106:14
misleading 110:20 111:2
misrepresent... 116:4
missed 79:22 96:20 109:12 172:22
missing 23:7 94:14 172:16 173:17,22
misstate 33:5
misunderstan... 116:15 118:11 128:2
mitigate 77:5 78:7,8,18
mix 115:2 133:8 206:6
mixes 157:12
mkaplan 8:8
model 81:9 83:21 91:8,22 91:22 92:16 157:3 168:5,9 168:11 212:11 213:22 214:5

modeling 15:21 215:3
models 168:8,9
modified 155:2
mogul 40:15
moment 52:20 59:11 68:18 86:1 98:7 152:15,18 157:16 172:5 180:17
monday 1:15 9:5 10:5 11:6
money 60:4
montana 28:20
month 206:19
months 121:15
morgan 7:5
morning 20:13
moskow 6:12
moskowb 6:16
motion 18:9 20:16 200:11
motivated 83:13 100:9
mouth 77:17
move 41:3 59:20 60:7 74:13 131:10
movement 74:16
moving 215:4
mulberry 7:16
mullin 1:14 2:1 9:3 10:3,10 11:9,22 17:17 18:1,16 22:2 22:10 38:2 52:14 65:17 102:4 107:11 111:19 119:3 128:11 131:8 144:13 206:21 207:7 217:4 218:5 219:2 220:2,22 221:3
mullin's 17:10 104:9
multiple 63:11 99:1 132:2,3 133:20 167:15 182:11 210:21
multiplicative 81:2
multiply 71:18
multitude 134:5 176:12
murray 5:2 42:12 43:18 69:15 135:17 135:22 136:8 136:11 147:22 149:10,10 153:13 155:22 159:13 175:21 191:17 197:5
murray's 136:13

n

n 3:1 4:1 5:1 6:1,18 7:1 8:1 11:2
name 96:5 144:15
named 136:17 136:17 159:13 162:2,2
names 159:12
narrow 133:17
national 28:19
nationally 217:2
nature 81:3 175:19 185:11 196:17 215:15
nearly 183:13
necessarily 14:1 119:22 122:16
necessary 33:14 91:7
need 14:15 40:9 42:1,5 45:2,4 48:1,12,14 59:1,6,9 61:20 64:20 69:17 77:18,21 78:11 79:9 85:10 88:22 91:5 92:10 97:12 103:5 105:14 107:16 112:21 114:18 115:3 115:18 116:7 117:12 118:4 118:15 119:10 119:11 122:3 123:16 125:7,9 125:17 133:9 133:14 149:18 156:19 157:13 161:4 175:14 179:7 181:8,10 181:14 182:9
needed 53:14 61:15 67:4 91:4 126:1 155:4 193:7 207:17 209:9 213:17
needs 37:19 47:5 103:19,20 111:19,21 120:12,18 121:1 128:7
negotiated 177:9
negotiation 53:6 204:3
neither 30:8 149:15 150:15 217:15
nervous 80:12
never 59:3 96:6 99:3,7,14 103:20,21 111:20 113:14 116:6,7 136:11

137:21 162:2
new 2:9,10,11 2:12 7:17 8:6 8:14,14 21:5 51:5 72:6 123:13
newark 7:17
newco 28:21
nfl 111:1
nine 108:17
ninety 108:17 108:17
nj 1:19,19 217:19,19
nods 122:17
non 8:2 11:19 41:12
nondisclosed 115:11
nondisclosure 115:9
nonelectronic 125:1
nonmesotheli... 66:20 70:20 150:17
nonparties 137:12
nonparty 12:2
nonpublic 158:10
nonrandom 159:14,18
north 1:1 6:5 6:13 7:6 72:11
northeast 5:5
northwest 2:3 3:18 4:7
notary 1:21 2:15 221:22
note 205:17,18 218:10
noted 221:9
notice 217:5
november 200:10
number 10:8,9 10:12,17 17:16 46:8,15,18 51:11 63:15 68:15 69:21 73:12,14 79:4 80:3 85:22 86:5,6 88:2 89:1 92:15 96:5 97:13 101:16 126:4 126:14,15 138:1 139:4 140:22 141:20 143:5 145:19 146:5 147:16 147:20 148:3 148:11 157:22 161:1 163:11 165:3,15 166:18,21,22 173:3 176:3,7 180:2 184:16 185:1 195:10 196:2 206:8
numbers 25:21 69:1 87:3 109:14 140:10 164:19 213:5
numerical 213:4
numerous 26:9 131:19 142:11 161:14
ny 218:15
nyacr 1:19 217:19
nyrcr 1:19 217:19

o

o 11:2
object 13:4 49:10 64:8 88:4 94:21 102:10 137:16 148:20 153:4 158:22 168:18 181:5 187:21 201:13 202:14 205:3,5 208:21 209:20 211:4 212:20 213:12 215:12
objection 160:8 193:19 205:18
objectors 25:15
objects 10:13 51:13
obligation 96:13 172:2
observations 114:11
observe 91:19
obvious 130:12 136:15 138:4,4 194:22
obviously 14:19 26:13
occupation 47:17 59:14 129:4 133:12 176:4 182:21 206:6
occupational 45:14,18,22 46:2,10 59:16 63:6 105:21 119:10 126:6 133:7,10 157:12 177:5
occupations 128:19 180:1
occurred 116:8 150:9
occurring 85:5
occurs 108:11 116:6
ocean 42:17
odds 45:15 89:7,13,20 90:1,3 92:18 127:11

offer 32:21 33:18 37:3,6,7 37:9,11 88:1 95:17 189:10
offered 15:14 23:11 26:4,10 26:18 32:5 33:1,2,5 35:11
offering 36:9 187:19 188:1,5 188:12
office 107:5
offices 2:2
oh 108:11 111:10
okay 13:9 15:15 16:12,15 16:18 17:1,22 18:13,18,22 19:3,7,11,16,22 20:5,10 21:12 22:21 23:8,9 23:16 24:10,13 24:18 25:9,17 25:20 26:8 27:2 29:21 32:10 33:3,9 33:21 34:8,12 35:2 36:8,18 37:15 38:11,15 39:6 40:5 41:16 43:4,9 43:15 47:4 48:17 50:5,22 52:17 53:19 54:6,17 55:14 55:20 57:3 60:20 62:17 63:2 64:14 65:7,21 66:9 66:13,19 67:6 67:13 68:17 70:11 73:20 85:12,22 87:10 88:14 92:21 94:10 98:13 99:16 100:2,14 103:15 124:19 133:22 134:7 135:5,6 136:1 138:5,18 139:13 140:16 141:2 143:9 144:5 168:1 170:12 190:7 208:9,15 209:8 210:13 211:1 215:5,18 216:3
once 93:12 105:16 108:20 188:15 197:20 198:2
ones 44:19 67:16,17 81:2 84:8 95:12 129:17 146:19 170:21 193:7 198:7 204:6,7 204:8
ooo 9:1,6 10:1 10:6 11:1,3,5,7 11:8,13,18,20 17:15,20 51:10 51:18 54:12,16 65:12,15 101:15,20 131:3,6 144:9 144:11 207:2,5
open 103:3
operation 31:12
opining 86:7
opinion 23:11 24:14 26:4,13 26:18 32:5,14 32:17,20 33:1 33:2,5,18 34:19 35:3,12 37:4,8,11 38:3 38:15,18 39:7 50:11 56:3 57:5,20,21 86:5 95:18 102:9 103:17 107:7 137:15 163:15 164:5 187:19 188:2 188:12,21 189:10
opinions 16:21 24:12 26:10 30:1 31:20 32:8 48:15 105:13,15 123:2 163:13 164:4 167:7 188:8,13 190:9 191:11,14
opioid 25:18
opponent 29:18
opportunity 102:18
opposed 31:7 85:1 114:7 123:8 157:15 159:21 164:1 175:22
opposite 64:12 107:22 111:16 113:2
optimal 202:9
optimistic 91:3
option 13:8
order 52:4,13 52:16,19 79:1 106:20 165:10 196:4,8 197:17 206:17
ordered 174:5
orders 161:15 202:3
oregon 1:20 2:13 217:20
organization 99:12
organized 190:16 199:4
originally 26:22

orrick 4:4
orrick.com 4:10
outcome 50:15 114:6,16 217:16
outcomes 30:13
outside 26:4 34:10 95:14,16 104:16 121:20 146:21
outweigh 38:21 38:22
overall 115:14
overarching 106:13
overgeneralize 134:3
overlap 21:7 44:17,18 182:14 183:4 184:1,10,14 193:4,10 197:15 198:2 198:13,14
overlapped 198:5,10
overlapping 183:13
overlaps 180:6
overlay 215:9
oversampling 94:4
own 96:13 184:22

p

p 3:1,1 4:1,1 5:1,1 6:1,1 7:1 7:1 8:1,1 11:2
p.m. 1:15 2:16 11:6 65:14,14 131:5,5 199:8 216:22
page 9:8 10:8 25:20,21 27:8 28:7,12,19 29:2,8 34:14 52:1 88:20 90:6 219:5,7,9 219:11,13,15 219:17,19,21 220:5,7,9,11,13 220:15,17
pages 29:17 221:4
paid 47:1,16 61:1,13 63:13 67:17,18,20 68:1,2 106:7,8 106:8 118:9,9 125:21 149:8 149:11,14,16 150:8,15,16 179:13 195:13
paperwork 151:18
paragraph 38:3,9,13 52:18 72:18 73:2 82:17 83:19 85:4,7 91:9,14 92:21 94:22 95:6 102:14 103:14 106:16 110:5 110:21 111:17 112:3 114:1 115:8 117:5,19 119:1,6,8,8,9 119:19 120:11 121:4 122:8 123:11 124:9 124:10 125:15 126:13 128:5,5 128:16,17 129:14 131:12 132:19 162:13 162:19 164:9 165:17 175:1,8 183:9,17 185:2 185:7 186:9 191:15 199:21 207:13,15 214:13,15,16 214:22 215:4
paragraphs 38:3 48:21 49:2 95:5,8,17 113:8 119:17 176:19
parameter 81:4 116:20 119:4
parameters 119:2,4,15 133:14 155:2 165:7
pardon 211:17
part 21:19 35:19 54:15 55:13 95:13 102:8 110:1 126:12 156:21 175:10 183:15 190:13 191:5 191:22 204:3 210:1
partial 83:21 91:9
participated 33:16
particular 25:19 47:13 59:15 68:10 128:16 133:7 133:19 138:6 182:20 210:15
particularly 79:7 97:7 122:11 124:19 141:16 152:13 157:7 192:8
parties 2:17 30:2 41:20 98:1,4 121:16 137:11 138:8 164:11 184:19 200:21 204:1
partner 106:15
parts 102:8

party 8:2 11:19 41:12 100:9 110:13 137:22 158:6 217:15
pass 96:12 131:9 172:11 172:13,13 173:6,7,8,10,11 173:14,17,22 174:3 206:21
passes 39:5
past 54:22 94:7 99:19 172:10
pattern 63:16 149:8
patterns 83:20
pause 15:3 174:12,14
pavlick 7:14
payment 67:21 90:21 150:9,11 151:5
peachtree 5:5
peeling 48:5
penalty 12:22 217:9 221:7
pending 46:14 47:2 117:22 135:13 159:8 161:1,3,5 163:20 169:20
pennsylvania 3:12 6:20
penultimate 29:7
people 16:15 33:12 44:2 45:9 63:15 72:15 96:4 97:2,13 98:21 98:22 105:22 118:3,5 126:13 175:18
people's 97:1
percent 15:9,9 15:10,11 26:22 31:3 32:11 35:8 38:4,16 40:6,13,16,18 40:21,21,21 41:1,3,5,6,6,14 41:14,15 42:11 42:20 43:2,3,3 43:12,12,13 44:4,7 56:3,6 56:17 57:5,10 58:3,4,11 60:13,14 61:1 61:2 62:6 63:3 63:18,20 64:15 64:20 65:2,2,3 65:5 66:3,5 69:15,16,19 70:12,12 71:10 71:15,18,20,21 72:1 76:13,16 76:17 77:1,8 78:3 79:1 80:5 80:5,6 81:8,22 84:4,15,18,21 95:18 96:18,19 96:20 100:22 101:4 103:18 104:3,6,10,10 104:14 106:20 107:19 108:17 108:17 109:10 109:11,12 110:14 113:10 113:11 114:4,4 114:12 126:20 129:17,20 140:4,5 151:6 155:13,14,17 165:1 170:10 171:7,8 173:8 173:9,18,21,22 174:5,7 179:19 180:12,14,21 180:22 182:13 182:14,17 184:9,11,14 200:15,18 201:19,19
percent's 65:1
percentage 59:20 60:1,4 64:5 70:15 72:5,7 113:12 114:1 155:11 164:21 184:10
perfect 196:22
perform 57:9 89:14
performed 204:22
performing 167:10
period 61:2,13 204:2
perjury 12:22 217:9 221:8
permit 10:14 51:13
permitted 55:14,18,21
person 27:18 108:21 130:11 130:19 206:1
personal 1:4 152:6 187:12 187:15,18 194:3,5
personally 130:1 151:20 151:21 152:20 172:4
perspective 21:22 178:12 195:11
pertinent 54:14
peter 8:19
petition 46:17 46:19 151:14
ph.d. 1:14 2:1 9:3 10:3,10,18 11:9 17:18 101:18 217:4 218:5 219:2

220:2,22 221:3
phase 122:7
phi 192:11
philadelphia 3:12 6:20 100:19
philips 34:15
phillip 7:14
phillips 3:4
phishing 98:18
phone 18:4 33:11,13 143:13
phrase 55:3,9 92:3 213:18
pick 178:7
picks 94:22
picture 175:18
piece 47:6 96:22 193:3
pii 23:7 94:14 95:9,19 96:3,3 96:7,7,19,22 97:1,4,14 98:4 98:5 108:6 109:16 126:14 172:2 173:4 192:11 194:16 194:21
pipefitters 48:10
place 3:5 25:14 40:8 63:16,17 74:11 81:7 95:9 117:14 120:8 122:13 193:1 217:6
places 31:20,21 60:18 104:13 124:6 147:1
plaintiff 3:2 4:2 142:2
plaintiff's 47:14
plaintiffs 1:6 49:20 58:20 120:2 164:15 165:5
plan 25:15 53:7 54:4,4 62:21 66:22 137:5,13
planning 20:17
play 139:22 197:9
please 14:17 139:20
plus 43:20 44:18 80:17,19 80:21,22 87:6 87:7,8,9 142:19,21 165:1
point 20:1 26:7 38:2 62:18 85:10 86:17 95:1,16 104:1 107:4,11 109:21 113:3 124:17 125:3 125:11 134:8 142:4 160:18 165:20,22 166:8 178:13 182:4 186:6 189:16 190:4 191:4 195:8 203:14 208:10 208:16 209:13 209:16 210:4
pointed 131:12
points 59:20 60:1,4 113:12 114:1 181:8 184:10
policyholders 25:1
poor 13:18
populated 171:13
population 48:7 75:11,16 76:7,10 85:13 85:18 110:8 114:21 115:5 121:19,20,21 133:11 141:15 150:20 151:2 155:12 156:10 183:13
populations 136:15 148:10
position 47:1 58:13 194:14
positions 24:5
positive 90:21 151:5
possess 43:11 44:12 98:4
possesses 96:3
possession 7:2
possibility 127:13
possible 168:22
post 46:16,19 49:21 93:12 121:10 160:20
potential 107:12 112:5 115:9 132:3 134:21 162:7
potentially 13:4 29:17 43:11 50:18 59:7 100:9 125:13 160:12 182:21 206:2
ppavlick 7:19
practical 125:16,22
practice 114:10
preceded 22:12
precise 30:1 39:2,17 46:7 46:11 57:21 58:3 60:17 62:1,8,9 64:21 76:1 87:16 109:9 116:1 141:19 143:4

148:8 149:21 165:13 202:7
precisely 119:3
precision 15:13 16:7 39:18 57:15,17 58:1 58:14 60:1,13 62:5 63:17 74:11,15 75:7 81:14 85:11 86:21,22 90:10 92:3,6,11,13 94:5 123:16,19 123:20 162:14 162:16,18 163:3,11 164:8
predate 148:4
predecessor 148:1
predicate 170:2
preexisting 32:12
premise 112:3
premises 10:14 51:14
prepare 18:20 19:14
prepared 88:1 202:12 203:22
preparing 16:13 19:1,4 21:12 201:3
prepetition 44:10 55:22
prescribed 32:20
present 2:16 8:18 22:11,14 74:21 163:17 164:6 165:15 166:2,3,20 167:7 204:2 205:1
presented 165:18,22
president 8:20
prespecified 121:19
presumably 109:2
pretty 36:20 212:9
previously 23:11 36:16 73:9 217:6
principal 23:22 33:18
principally 19:18
principle 39:10
printed 101:22
prior 41:20 98:15 137:5 156:2 159:7,20 162:10 184:12
privacy 35:12 35:15 36:10,13 36:16
privilege 14:20 14:21
pro 30:8
probabilities 116:8
probability 89:3,16 91:13 113:17 203:20
probably 16:1 16:9 19:6 22:17 24:4 38:12 46:12 55:9,12 57:7 61:8 70:3 77:14,16 86:3 87:7 99:1 111:8 136:15 142:3 163:6 165:10 166:20 171:15 172:21 173:18,21 197:17 199:22 208:7
problem 14:5 17:5 53:18 54:1 63:19 64:9 68:8 106:13 112:5 115:19 132:18
problems 121:22 123:5,7
procedure 37:8 37:12
procedures 62:21
proceeding 1:4 10:16 32:13 51:16 163:9
proceedings 165:19 221:6
process 16:2,5 16:17 18:19 30:4 45:9 47:8 47:10 50:21 67:5 68:11 85:4 86:16 95:9 97:8 108:15 109:2 109:18 115:7 121:8 122:5 130:6,20 146:4 148:7 166:16 168:16 173:1 177:1 182:2 185:13,15,17 186:7,13,17 187:4 191:17 191:19 193:2,6 193:17 201:7
processes 70:22 193:1
processing 144:17
produce 10:12 51:12 92:15 97:13 102:17 125:6,12 148:11 183:6
produced 31:11 42:8,9

88:22 104:4,7 161:12 171:14 172:1,21 174:7 183:10 186:18 193:6
produces 94:9 171:7,10
producing 57:18 83:14 170:7 177:18 186:14
product 8:20 161:19 201:7
production 56:19 88:10 191:17 193:6 195:6 197:12
products 134:6 212:2 214:17
professional 2:5
proffer 15:7
proffered 15:6 36:16
progress 160:12
prohibitive 33:12
projecting 68:15 176:3
projections 78:1
promise 14:7
promised 101:10
proper 111:10 111:14 121:16
properly 204:18 206:14
properties 16:6
proponent 29:18
proportion 75:11,14 82:20 90:14 115:11 125:20 133:5 141:14 146:2,7 146:11
proposed 38:4 93:4,7 95:18 159:2 200:20 201:10 203:2 203:10
propounded 221:7
proprietary 99:20
protect 46:13
protection 27:11 33:4
protocol 200:21
protocols 192:9 192:10,10,13 193:1,14
provide 56:1 73:5 92:17 203:11
provided 10:7 27:6,15,21 28:4,9,17 38:7 95:3 128:14 144:1
provides 45:21 207:17
providing 163:14 166:17 177:14
prudent 40:17
public 1:21 2:15 26:21 34:16 35:7,10 153:11,14,19 154:2,6 158:5 158:15 189:5 221:22
publicly 26:7 26:14,15
pull 171:17 179:3
pump 1:8,11 5:2 9:4 10:4 154:10 155:21 218:4 219:4 220:4
pure 121:18 196:19,21
purpose 32:15 55:21 63:1,4 83:4,6 84:5 110:10,11 181:4 204:11
purposes 38:17 40:7 47:11 53:21 55:14,18 67:2 69:3 72:19 78:5 86:8 88:18 111:18 136:2 158:20 160:4 161:11 182:12 182:13 201:12
pursuant 217:5
push 113:17
put 32:3 75:9 77:17 80:3 97:9,10 104:21 105:22 189:7 193:1
puts 123:11
putting 112:1 206:13

q

quadruple 74:14
quadrupling 138:20
qualification 148:8
qualifications 188:11
qualified 37:3 37:7,11
qualifier 103:22
quality 73:6 108:15 109:2 173:1,12,16
quantifiable 59:11 60:11

quantification 213:4
quantified 59:10 84:8
quantify 39:4 58:2,16 60:16 74:6 75:6 78:22 80:2,4 81:21 82:19 90:14 107:11 107:21 108:21 110:4 146:6 206:8
quantifying 107:20 108:1 173:2
quarters 28:6 184:7
quash 200:12
query 186:2,4,6 188:17 192:7,7
question 13:3 13:10,13,16,20 13:22 14:5,20 15:15 21:21 23:4 32:1 37:4 37:5,10 41:7 44:17 47:21 48:3,6 49:11 50:9,20 53:9 55:20 57:15 58:19 59:2 67:15 70:17 75:8,10 76:2,6 77:10 83:11 85:7 86:11 87:2 88:5,9 91:18 94:12 95:1 102:11 103:3 104:3 106:5 108:13 110:11 118:22 132:16 137:17 139:14,20 140:2,7 141:19 143:7,9 146:12 146:13,16,17 148:21 159:1 162:17 163:1 167:22 168:19 171:19 181:6 186:4,21 188:1 201:14 202:15 202:16,19 204:10 205:22 208:22 209:21 211:5 212:21 213:13,16,16 213:20 214:8 214:20 215:1,4 215:13
questioning 64:18 205:5,19
questions 22:8 23:1,2,2 39:2 39:12 40:3 47:20 71:2 76:9 93:2,19 103:5 104:2,5 104:9 106:11 127:21 131:9 132:1 140:20 144:6,21 149:3 149:21 157:5 157:22 159:17 162:10,15 168:5 171:5,5 174:15 176:18 178:11 199:21 200:7 203:17 203:19 204:6 204:16 207:14 216:5 221:7
quickly 46:4 106:10
quite 64:11,22 75:21 111:2

r

r 3:1,4 4:1 5:1 6:1 7:1,5 8:1 11:2 217:1 219:1,1 220:1 220:1
races 14:14
ran 113:20
random 93:8 94:2 103:17,18 200:21 201:4 203:2,11
range 57:11 77:20 87:11 128:22 143:1,3 145:19 165:17 166:2,3,5,10,11 167:1,2,4 215:20,22
rate 69:19 109:3 172:13 172:15,19 173:2,13,15 174:1,3
rather 206:4,5
ratio 112:10 214:10
rc.com 3:8,14
reach 112:1 119:17 157:14
reaches 107:18
reaching 107:7 107:22 157:20
read 54:14 106:19 107:8 147:15 191:4 191:22 205:22 212:8 218:9 221:4
reading 119:17 138:5
ready 51:21 73:1 103:11
real 2:5,7 116:4 127:4 168:10
reality 30:6
really 15:8,10 16:8 21:8 23:1 29:20 30:7 34:9,19 39:11 42:22 45:17 46:9,22 48:6 48:21 69:20

77:21 83:13 85:3,4 86:10 87:10 91:17 94:3 102:12 106:9 109:16 111:1 113:5,12 114:20 115:3 116:9,14 119:9 124:8 125:22 126:18 138:6 157:9 164:14 172:7,17 194:17 214:13
realtime 2:10 2:11
reason 47:4 65:19 157:14 186:21 218:11 219:5,7,9,11,13 219:15,17,19 219:21 220:5,7 220:9,11,13,15 220:17
reasonable 64:2 103:19,20 104:18 105:6 111:19,21 120:12,18 121:1 128:6
reasonableness 25:16
reasons 48:18 94:3
rebuttal 19:15 102:17
recall 24:13 35:5 53:11 128:8 191:6
receipt 218:17
receive 46:9,18
received 43:19 44:6,20 46:16 58:12 64:19 79:8 164:16
receives 184:6
receiving 184:9
recent 157:8 204:5,8
recently 157:10
recess 65:13 131:4
recipient 175:3
recognize 17:22 18:15
recollection 26:3 28:10 35:4 145:14
reconciliation 146:3,4 148:7 185:17
reconsideration 18:10 20:16
record 12:1 54:15 65:11 69:3 72:19 129:12,13 130:15 143:21 153:11,14,20 154:3 160:16 171:14,15 195:17 196:4,6 205:18 217:14
recorded 217:10
records 34:22 73:16 75:15 108:11,12,12 109:1,17 125:1 125:2 185:20 193:5,18 209:4
red 118:20
redact 96:13 126:17,17 172:2 193:18
redacted 96:14 96:15,19,21 108:4 193:8,9
redacting 96:12 193:3
redaction 97:11 108:15 186:3,7,13,17 187:4 189:3 193:9 198:5
redo 193:9
reduce 23:6 88:11 94:13 95:19 124:4 168:4 198:15 212:13 213:4 213:22
reduced 155:6 168:7 212:16
reducing 124:5 213:9
reduction 126:20
refer 53:17 144:22
reference 129:11 133:6 167:9 189:22 193:5
referenced 162:18 192:4 218:6
referencing 164:8 165:16
referred 85:13 144:17
referring 85:16 163:13,18 177:7,9 192:20
refine 82:10
refined 33:2
reflect 16:21
refresh 26:2
regard 25:18 146:18 154:11 154:13 160:13 214:3
regardless 25:7
registered 2:4,5
regular 107:5
regularly 130:11
rehash 129:13
reinsurance 25:3,4

related 39:7 53:5 158:1 160:16 175:11 175:15 176:15 190:9
relates 190:20 212:17
relation 24:11 147:17
relational 188:14,17,19
relationship 128:18
relative 46:13 46:17 62:16 74:10,16 75:3 88:10 97:14
relatively 25:13 63:14 122:1 170:7 178:8,22 185:4
released 118:9
relevant 68:3 68:15 70:22 71:3 85:7 116:11 131:20 135:21 167:20 176:1 194:17 195:8
reliability 87:1 91:22
reliable 48:15 55:11 56:1 80:5,6,6,8 86:2 86:8 92:18 93:10,11 157:19 203:11 203:14
reliably 39:4 206:8
rely 50:18 76:1 92:11 156:1,10 189:14 190:1
relying 20:17 22:1 189:10 190:8,11,14
remaining 173:4
remember 66:6 146:5
remembering 176:19
remix 115:4
remote 1:19,20 2:14 97:9 217:21
remotely 217:7 221:6
remove 192:11
render 204:17
rendered 200:20
reorganization 62:22 67:1
reorganized 212:2
repeat 53:9 54:8,10 132:16
repeatedly 118:16
rephrase 13:12 15:16 213:19
report 10:17 19:15,18,20 85:17 101:10 101:17 102:17 104:2,20 105:4 106:13,19 107:8 110:2 119:7,13,17 131:15 132:8 132:10 136:20 136:21 137:2 188:8,13 189:13,20 190:1 206:3
reported 1:18
reporter 1:20 1:20 2:4,5,6,6,7 2:7,8,9,10,11 2:12,14,15 9:15 10:7 217:3,21,21
reporting 61:21 79:11
reports 16:19 33:20 44:14
represent 12:2 41:11,12 43:6 84:15,18 144:16
representative 4:2 8:22 119:22 162:6 203:4,7
represented 84:11,12 129:15,16
request 40:11 41:4 42:3 44:1 44:3 58:7,9 64:19 65:2,5 70:9 86:12 96:4 108:4 146:20,21 150:18 175:9 194:3
requested 41:20 147:18 171:8,9 175:2 175:5 177:13 216:13
requesting 104:4 155:7
requests 41:19 42:17 175:10 191:21
required 122:9 186:18
requires 83:10
requiring 159:19
reread 35:6
reserving 57:14
resides 190:12
resolution 30:6 47:8,10 53:16 67:5 70:22 161:6,9

resolve 30:2
resolved 14:22 60:22 151:3 159:7,11,20 160:22
resource 124:14,22
resources 124:12
respect 30:13 55:21 57:3 58:1 154:10
respective 2:17
respond 196:11 196:15
responding 187:12,20 191:20
response 13:3 21:4,13 22:5 128:4 183:13 186:18
responsive 146:17
rest 165:8
result 90:21 92:3 99:12
resulted 42:13
results 156:6
retained 24:20 25:1,2,3,13 151:12
retention 151:15
retrieving 185:3 186:11
retrocession 25:5
return 123:22 124:5 218:13 218:16
revealed 49:16 56:10 58:21 119:12 129:19 157:6 158:2
revealing 50:3 50:4
reverses 113:3
review 16:20 27:15,21 28:4 28:9,17 124:21 171:9,13 172:1 172:5,6,11 173:8,9 179:2 182:5 186:7,17 187:4 192:8,11 193:17 195:18 197:21 198:16 218:7
reviewed 19:15 31:12 191:1 196:3
reviewing 83:14 174:6 179:1 190:19 193:2
reviews 27:5 38:6 95:2 128:13
rich 45:21
richard 189:14 189:18,18 190:8 191:2
rickards 3:17
right 12:18,20 13:7 14:10 15:2 18:12 22:7,13,22 23:10 32:14 35:14 36:15 37:1,4,16,22 38:1 42:6 49:5 52:8,12 53:2 53:20 57:16 65:7,17 68:21 69:2 71:9,14 72:12 74:5 78:7 84:13 88:7 89:6,9 99:2 100:7 101:9 111:5,8 114:20 116:20 117:12 121:21 130:21 131:22 132:7 133:5 134:22 146:12 149:1,15,16 150:10 151:8 154:10 158:17 165:9 169:8 172:16 174:8 174:10 176:19 177:10 180:15 180:16 181:4 181:16 186:5 194:5,19 195:3 195:19 196:12 197:3,9 200:16 202:2,5 204:2 205:2 212:12 216:15,17
rise 90:4
risk 23:6 57:13 59:12 78:8,10 78:14,18,20,22 80:3 89:19 94:13 95:19 96:7 97:5 98:6 126:14 127:4,8 127:9 206:4,5 206:13
riskier 89:20
risking 204:15
risks 88:10
rmr 1:18 217:18
road 5:5 15:14
robinson 3:3
romanette 163:3
room 17:13,14 71:13 121:13
root 74:13,16 168:22
roseland 8:6
rough 195:20 197:17
roughly 145:6 145:16 147:18

152:2 197:2,5
round 22:12
route 160:12
routinely 130:9
rpr 1:18 217:18
rsa 1:19 217:19
ruled 200:11
rules 12:12 37:8,12
ruling 200:13 200:16 205:13
run 59:15 192:7
runs 38:12
russian 100:10

s

s 3:1 4:1 5:1 6:1 7:1,14 8:1 11:2
sake 40:20
salient 50:14 50:16 163:7
sample 15:9,10 15:10 23:12 27:1,3,4,13 31:4,18,21 32:9,12,15 33:8 34:1 38:4 38:16,20 39:10 39:11 40:6 47:22 48:2 56:3,6,13,17 57:5,10 58:4 59:2 60:14 61:1,2,5 63:3 63:18 64:5 74:14,14,18 75:17 76:16 77:1,2 78:3,4,9 78:9,13,20 79:1,18 80:4 81:22 83:3,7 84:4 86:19,20 88:22 90:2,19 92:19 93:3,7,9 93:14,16,22 94:2 95:18 103:17,18 104:7,10,10,14 106:4,10,22,22 107:19 110:6,9 110:13 111:3 112:14,19 114:11 116:12 116:19 117:7 117:12,18 118:2,4,15,15 120:6,10 121:7 123:4,22 125:7 125:9 126:3 140:13 141:17 143:18 153:17 154:22 156:5 156:13 159:1 162:6 163:14 170:4,10,16,22 171:5 174:5,6 177:2,8 179:8 179:14,19,20 179:21 180:12 180:14,14,18 181:13,15,21 182:14 183:5,7 183:8 198:17 200:15,18 201:4,10,21 202:12 203:2,4 203:9,11,22 205:16
sampled 75:15 121:21
samples 116:13 153:21 156:2 156:10 180:21 181:4
sampling 23:4 23:6 24:2,5,12 24:14 25:7 26:4,11,19 27:17 28:1,7 28:11,22 29:3 29:6,8,19 30:4 30:8,9,14 31:8 31:13 32:6 33:6,6,15 35:3 35:4 39:12 40:2,4 61:2 78:12 81:7 93:1,8 94:13 106:17 112:5 121:7 122:22 122:22 123:14 123:17,21 124:15 125:17 141:12 152:16 153:1 154:9,16 155:19,21 167:20 170:1,3 200:21
sandler 8:3
saying 13:5 31:3,5 43:1,2 48:9 59:8 65:1 72:7 73:21 104:15 108:6 111:18 114:4 116:19 127:1,7 138:3 139:10 186:9
says 94:20,21 103:16 111:20 119:1 122:19 124:13 125:15
scenario 81:15 99:18 165:22 166:19,22 169:5
scenarios 114:15
schnoll 6:12
scope 32:17 67:3 104:17 195:15
scor 28:5
screenings 127:6
scrub 95:9
sdny 35:9
sebo 1:18 2:4 217:2,18

second 18:2 23:5 29:14 47:6 55:3 57:22 94:12 110:5 132:9 137:10 172:12 172:13 173:6 173:10,11,14 173:21 174:2 192:16 198:20
section 203:12
security 36:7 96:5 99:6
see 12:5 21:10 32:3 41:10 52:22 55:17 73:10,11 81:12 82:22 84:1 88:19 90:5 106:9 146:20 157:2,16 161:20 172:8 172:12,15 175:12 183:15 185:7 196:8
seeing 157:12
seek 70:20 152:10 154:20 154:21 156:16
seeking 34:22 42:18,20,22 52:21 70:7 107:15 195:1 204:1
seeks 150:2
seem 130:12
seems 70:15 119:16 120:8 139:14
seen 52:12,15 52:16 102:3 121:9 137:5 148:7 165:12 168:9 187:17
segued 103:7
select 59:5,5 152:9,14 155:10
selected 25:22
selection 162:5
semicolon 55:1 55:10
send 96:6
sense 30:22 31:7 32:1 38:21 40:17 82:15 89:19 116:10 133:4 135:15 172:20 183:4 199:6 208:7 213:18
sent 218:14
sentence 72:22 73:2 110:6 115:10 122:18 123:1,11 128:18 129:8 207:16 210:6
sentences 190:15,21
separate 134:21 135:9 184:4,18 186:8
separated 39:21
separately 61:20 76:12
series 157:14 199:21 200:7
serve 22:5
services 8:9 35:18 98:21
serving 183:2
session 14:16
set 40:19 45:21 122:19 134:16 136:15 177:19 210:19
sets 16:3 23:1 181:10
setting 15:22 30:10 122:2 153:6
settings 134:2 172:6
settled 205:11 210:16 214:19 214:20
settlement 1:4 25:14,16 49:1 49:7 50:19 82:21 83:22 90:16 91:10 115:20 176:11 203:13 210:7,9 210:12,15 211:9,11,19 213:11 214:7 214:13 215:9 215:15 216:4
settlements 49:18 55:22 68:5,6,9 115:13 116:10 170:11 207:18 209:10 212:17 214:3 215:19 216:1,9,12
several 162:15
shaking 143:14
share 17:10 51:7 109:21 129:2 175:20 216:4
sheet 218:11 221:10
shift 59:18 112:13
short 12:3 14:16 22:7 85:12 86:6 88:2
shorthand 2:6 2:8 217:11
show 47:9 50:22 108:7
showed 20:15 37:16

showing 54:4
shows 116:14 117:9 118:10 126:9
shrink 89:13 90:2 92:19
shy 71:9
sic 24:3
side 23:5,12 120:6 187:9
sides 119:21
sign 218:12
signature 217:18 221:12
signed 27:18 218:19
silent 108:19 109:4 110:4
silica 29:1
silly 39:19
silo 184:22
similar 21:3 51:2 55:7 63:8 159:10 161:18 165:8 172:9 173:1 175:8 183:11 191:20 202:18
similarly 47:9 106:1 183:12 187:7
simple 94:2 106:6 114:11 161:7 188:16
simplification 168:10
simplifies 168:11
single 99:9 141:12 142:9 161:5 166:18 168:11 171:10
sitting 16:17 35:5 78:21 80:3 101:3,6 108:5 127:9 145:14 146:5 167:7 191:7,8
situation 118:21
size 48:3 58:4 59:2 60:14 61:5 64:5 74:14,15 78:5 79:21 86:12 88:22 90:2,20 92:20 111:3 115:13 116:11 118:15 123:22
sized 183:12
skews 114:5
skip 94:10
skipped 119:16
slightly 74:18
slipped 108:18
slowly 46:6
small 63:14 84:16 111:13 113:13 115:12 115:15 126:14 170:7
smaller 78:13 78:19 86:18 114:12
smallest 63:12
snapshot 157:1 157:15
soc 35:19
social 96:5
solution 116:9
solutions 218:22
solved 161:17
somebody 89:20 99:4 138:10 208:10
soon 48:8 76:9 76:19 105:13
sorry 20:19,22 53:8 54:7 146:8 205:17
sort 12:12 22:5 22:12 37:17 62:17 73:12 94:20 143:9
sorts 159:16
sotto 51:9 102:1
sought 148:6
source 182:8,10
sources 123:18 124:2 132:4 133:2,20 134:11,20
south 5:11
spahr 6:11
speak 19:7 107:4
speaks 50:17
specialized 35:15,17 36:2 36:3
specific 30:3,21 36:9 43:5 79:4 83:11 93:2 104:1 170:21 185:22 190:11 215:16
specifically 19:5 50:2 54:22 129:3 131:19 162:17 163:2 164:7 187:3 191:13 192:3 194:3 211:22
specifics 32:4 172:9 187:6
specified 121:2 185:4
specify 119:3
specifying 111:22
specter 97:8
speculating 196:9
speculation 196:10,14,19 196:21

spend 19:3 79:13 142:1 168:7
spent 19:1 121:5,15
spoke 19:9 53:3 131:13
spot 50:19
spring 70:6
square 74:13 74:16
squeeze 203:8
stage 212:22
stand 139:17
standard 114:10 115:12 115:13 122:10
standards 92:8
standpoint 208:16
stargatt 6:3
start 20:13 29:11 37:2 47:19 48:5,8 49:5 64:16 75:4 76:19 79:14 81:5 84:13 93:3 96:14 98:5 103:14 140:3 151:8,17,21 169:3 197:19 197:20 198:1
started 17:2 44:7
starting 43:1 66:10 139:5 160:18
starts 38:9
state 1:19 2:13 28:20 106:18 130:10 183:10 185:3 186:20 191:16 208:5 209:14 211:22 217:20
stated 40:7 78:5 134:9 137:10,15 186:14
statement 86:3 103:22 104:19 105:5 185:10 190:11 191:9 191:11 208:2,3 209:8 212:7
statement's 208:16
statements 120:16 191:13
states 1:1 106:17 156:4
stating 120:18
statistical 16:6 64:2 74:13 77:18 82:11,12 89:16 118:22 122:9,21
statistically 119:22 161:18 173:4
statistician 70:16 88:21
statisticians 77:21
statistics 15:20 16:9 116:22
status 161:2 184:21
stays 109:4 110:4
stem 34:20
stenographer 11:11,14 54:14 217:7
step 85:3 144:6
steps 45:8 122:5 164:2 167:15 169:7
stick 93:6,11 153:11
stop 14:21 29:14,15 50:9 57:22 199:14 199:16,18
stopped 49:22 50:8
straightforward 15:16 122:1,15 122:16 185:5 186:12
strange 138:2
stratification 93:20 121:11
stratified 93:8 116:12 200:21 201:4 203:2,11
stratify 116:21 117:3,5
stratifying 94:1
straw 12:4
streamline 199:10
street 3:11 4:7 5:11 6:5,13,19 7:16
strength 32:20 135:21
strict 183:7
strike 45:3 162:11 213:20
strokes 38:14
structure 164:1
struggle 88:8
studied 110:9
study 128:3,12
style 58:19
subgroups 106:2
subject 150:5 162:11
subjective 168:16
submitted 16:13 145:7,21 147:4,5,8,9,12 148:5,18 176:16,22 189:19 191:2

subpoena 10:12 51:1,12 150:1,5,7 154:20,21 155:3 156:15 172:3 174:18 175:1,3,7 177:13 179:10 187:13,20 194:2 196:12 196:16
subpoenaed 160:6
subpoenas 42:21 52:5,21 70:5 183:14 186:19 195:18
subpopulation 48:1,9 76:3,21 91:15 105:14 113:21 114:14 114:17 128:3 155:11,13,14 155:15,17 182:18,19 193:12
subpopulations 76:20,22 77:3 105:19 107:16 128:11 131:12 131:16,19 133:13,15
subscribed 221:13
subsequent 151:15
subset 42:18 48:13 54:2 76:10 84:14 106:4 134:16 154:15 159:14 159:18 172:15 173:12 179:15 183:8
subsets 48:14 68:2
substance 34:10 221:9
substantial 122:20 182:3 184:13 185:1
substantially 90:11 183:11 183:12
substantively 122:20 196:16
suddenly 63:22
sued 136:16
suffers 111:17
suffices 104:11 104:11
sufficiency 23:12 39:7
sufficient 29:12 32:15,22 38:4 38:16 40:6 48:4 56:4 57:6 57:7 63:3,5 64:6,10 65:1,3 76:21 77:15 83:3,6 84:5 88:2,6,14 90:3 92:8,11,17 106:17,22 158:20 160:3 169:22 178:10 181:13 201:11 203:20
sufficiently 30:1 64:21 86:8 92:6 100:9
suggest 88:1
suggesting 117:16
suite 3:11,18 5:5,11 7:6
supervision 217:12
supplement 85:10 91:4,5 160:5
supplemental 21:13,18
supporting 190:22
supports 206:13
suppose 164:22
supposed 137:14 140:15 164:12
suppressing 50:4
suppression 179:7
sure 14:17 16:20 17:6 18:3,11 30:18 36:3 41:6 49:11 53:10 60:12 86:4 97:20 99:17 132:10 134:14 146:9,11 149:5 178:15 190:5 190:20 214:11 214:21
surprised 36:20
survey 156:5
suspect 154:12
suspicious 121:4
sutcliffe 4:4
swings 89:11
switch 72:4,6 131:9
sworn 11:10,16 217:7 221:13
system 41:18 47:16 50:18 62:2 79:9,12 97:16 98:11 99:21 100:6 101:5 157:10 164:16 177:1 184:8

systems 2:8 98:9,14,22

t

t 217:1,1 219:1 220:1
tabulated 70:2
tabulation 145:15
tabulations 106:6
tainted 49:17
take 14:17,21 40:17 41:2 43:3 51:20 58:18 60:22 61:2 62:18 65:8 66:5 74:15,17 77:1 78:9 89:8 96:12 102:9 112:8 124:20 125:2,3,13 130:22 153:18 159:21 170:10 174:18 188:17 196:1 198:13 199:3,9,22 200:4 207:9 215:8
taken 36:8 65:13 131:4 170:21 217:5 221:6
takes 188:16
talk 12:17 19:11 34:16 39:19 52:3 73:20 74:10 78:2 83:19 85:14 92:22 94:11 95:9 99:19 104:16 117:22 128:11 129:9 131:16 132:2,5,20 153:12 188:14 215:5
talked 18:18 19:17,18 67:6 73:8 98:7 105:7 138:18
talking 39:13 43:4 60:3 66:1 73:4 74:1 87:22 91:21 96:21 98:19 99:17 103:2 111:2,3,12 119:9 128:6 129:3 131:11 133:1 144:22 182:16 214:22
talks 52:20 55:17 119:19 133:4
tall 111:11
tananbaum 8:20
taper 46:4
targeted 42:18 84:21
targeting 44:7
task 213:3
taylor 6:3
tdp 163:21 164:1
tdps 164:7
team 16:17,19 18:18 19:10,17 19:19 102:7
technical 98:21
technicalities 21:3,6
technological 35:17
technologies 7:12 8:21 32:6
tell 11:11 13:11 14:6,11 34:9 36:19 50:12 80:9,11,13,18 86:2 88:21 89:10 98:22 103:12 141:11 151:10 164:7 165:12 169:15 178:14,15 199:14,16,17 200:14 217:8
telling 117:4
tells 80:8
temporal 150:16 207:21 207:22 208:9 210:1
ten 196:4,6
tend 170:14,16
tenfold 111:2 111:13
tennessee 2:13
tens 81:16,18 81:22 82:3 142:6,8 165:10
term 55:15,15 55:17 57:7 88:7
terms 16:5 20:7 26:3 30:14 41:9 58:14 60:16 64:5 71:2 130:1 149:22 171:20 176:9 177:4 189:3
terrific 14:13
testified 11:12 145:6 154:8 173:7 212:10 213:21
testify 188:3
testifying 12:21 152:19,21 153:6
testimony 21:10 30:12 43:9 44:11 54:21 55:5 64:4 69:11

80:1,2 83:2 84:3 87:22 88:17 100:2 106:15 145:12 217:9,14 218:9 218:17
thank 11:14,17 71:12 127:17 200:8 206:22 207:1
thankfully 101:6
thanks 216:16 216:17
theme 34:18
theory 47:14 142:2 164:15 164:18 165:5,6
thereof 217:16
thing 32:19 53:3 73:22 89:17 99:17 126:1 139:17 156:12
things 39:22 45:20 56:16 74:21 78:18 79:10 86:13 87:19 105:8 110:16 112:13 114:6,13 116:7 118:19 124:3 125:11,14 127:10 129:5 130:8,10 132:20,22 137:2,9 156:9 169:1,2 170:13 170:15 195:21 199:3 202:7 211:20 212:14
think 12:3 13:9 14:5,22 21:4 21:16,22 29:4 33:16,17 34:6 34:9 35:6 36:2 38:8 40:8 41:2 41:7 42:1,2 44:14 56:17 60:10 64:8,9 64:11 68:17 73:16 76:4 77:13 85:12 87:13 88:7,9 95:22 98:11 100:5 101:2,3 101:12 102:21 105:1 107:13 108:16,18 110:21 111:14 127:22 128:4 131:18 134:4 137:20 138:9 140:14,21 142:17 145:5 145:14 146:2 151:14 152:11 153:12 156:16 161:16 165:9 167:1,2 174:9 174:20 187:22 188:4,13 195:9 197:14 198:13 199:11 202:4 203:19 205:7 205:19 206:12 209:1,3 212:9 213:17 214:15
thinking 143:16
thinks 77:15
third 29:4 53:17 62:22 110:13 197:16 197:18,22
thirds 28:6 29:2
thomas 3:18
thousand 108:11
thousands 41:18,21 68:22 109:17,17 181:22
three 28:6 42:21 53:12,20 53:21 61:6 74:22 75:1 80:12 139:7,16 141:4 150:13 184:7 214:18
threefold 80:21
thrown 92:7
thrust 49:1 52:2
thursday 20:11
tied 39:7
till 209:18
time 2:5,7 13:2 13:3 14:18 19:3 20:12 24:13,17 31:17 32:19 33:11 49:1,7 72:2 78:16 80:11 82:21 89:10 90:16 97:11 101:8 109:5 112:8,13 116:18 121:5 127:22 129:1,6 131:1 133:8 137:10 141:6 141:18 142:12 144:4 150:16 152:12 156:22 157:13,14,16 160:22 176:10 176:11 188:16 188:20 191:4 192:16,17 194:22 195:10 198:1 206:20 207:10,10 208:10 210:4,7 210:9,14 213:10 214:18 214:20 216:16 217:5 218:18

timeframe 218:8
timeline 209:16
times 61:6 66:1 74:22 75:1 80:15 85:18 99:1 124:15,15 138:18 139:7 139:16 140:22 141:5 152:8 165:21 169:2 171:4
tip 190:3
tn 1:20 217:21
today 12:4 15:1 19:4,8 20:1 23:2 78:21 80:3 98:15 101:7 102:7 138:19 140:9 145:5 167:8 191:8 207:10 210:2
today's 12:12
together 63:10 70:6
told 12:9 102:16 103:8 111:6 118:4
took 60:21 66:4 170:18
tools 118:22
top 25:21 82:12 97:12 215:10
topic 19:19 20:7 23:20 110:19
topics 152:10 152:12
tort 15:22 24:6 24:9,15 41:18 44:9 47:16 49:17,18 50:18 62:2 79:9,12 94:8 142:1 157:10 164:16 168:6 177:1 184:8 212:5
torts 24:12
total 71:9 146:10 151:2 155:12,17 163:20
totality 15:12 43:5 46:11 50:3 61:16 75:11 107:8 135:19 158:1 170:5,8 171:11 172:14 176:12 177:4 180:3 190:19 207:19 209:11 210:2,5
towards 29:22 113:18
tower 121:18
traces 194:8
track 101:13
trade 40:2 204:17 206:11
trades 128:20 176:5
traditional 59:18
trained 15:19
training 16:10 35:15,20,22 36:5 99:2
trane 7:12,12 8:20
transcribed 217:12
transcript 14:9 218:6,19
transcription 217:13 221:5
transferred 1:6
transfers 21:6
transitioning 214:14
treat 61:20
trend 204:15
trends 157:3,16 171:20 177:5 204:8,9,18 206:7,15
tried 42:2 191:13
trip 87:13
triple 74:18 80:12,13,18 81:8,10,14,17 142:13 147:19 165:7
tripling 62:11 62:13 81:10 87:13 138:19 139:3 140:4
trivial 97:3
true 49:21 94:6 134:3 141:11 154:1 216:14 217:13
trust 1:4 6:10 8:2 11:19 12:2 22:3 34:20,21 35:1 43:17 44:19 46:8 51:3 53:16 56:10,13 57:13 62:21 90:22 91:6,19 96:6 144:2 148:2 154:13 159:6 159:10 160:20 178:17 179:15 180:12 181:13 182:11 183:5,8 185:21 186:3 186:13 205:1 207:17 208:17 209:9
trusts 40:15 41:19 43:6,11 44:12,16 64:18 104:4 126:16 145:22 147:5 147:10,14

148:5,19 155:6 155:7 160:16 161:13 176:13 178:21 179:19 185:15 194:6 195:22 200:11 212:3
truth 11:11,11 11:12 217:8,8 217:9
try 40:5 45:1 65:8 69:4 84:7 84:22 88:19 129:13 130:3 141:6 168:22 196:10 199:3 199:10 200:3 201:21 207:9
trying 29:22 47:14 53:11 54:19 60:9 90:18 112:15 112:16 116:16 117:20,21 118:11 120:3 132:19 150:4 174:14 179:2 199:5,8 203:8 204:20 205:10
turn 31:14 49:21 62:17 63:5 67:21 72:17 92:21 93:21 94:6 101:9 105:11 131:20,22 178:19 203:18
turned 113:21
turning 78:2 178:3
turns 58:19 59:2,3 61:3 86:22
twenty 183:18 183:20
two 16:9,11 21:8 23:1,1,3 28:6,11 29:2 34:17,18 39:20 44:5 79:10,13 79:15 83:10 85:3 87:3 97:11 104:1,2 104:5,13 108:12 109:14 119:2 123:17 135:14,16 136:3,15,16 137:21 138:1 139:6 141:4 145:7,13 148:10,12 149:6,7,14,16 149:20 152:7 160:19 162:2 164:19 181:4 183:3 184:4,8 184:17 190:15 190:20,21
type 24:6 35:14 36:10 46:15 47:7 60:1 93:9 176:2,8 194:10
types 45:10 59:6 82:12 93:18 122:22 166:14
typical 63:10 63:15 195:22
typically 134:2 134:4 138:9 142:1 151:16 172:10 177:19 210:20

u

u.s. 7:12 29:1
ultimate 15:13 78:14 87:1 161:8 163:3,7 163:10,12,18 165:16
ultimately 16:20 27:18 80:7 86:2 92:12 134:12 135:12 167:7 168:4,7,12 171:18 180:11 195:13 206:2 212:13 213:3,6
uncertain 185:18
uncertainty 46:21 57:12 61:7,10 62:12 62:12,13 74:19 75:1 80:10,12 80:14,15,20 81:1,4,9,10,11 81:17,18,19 82:1,5,12,13,16 87:14 90:12 123:13 138:19 138:20,21 139:4 140:3,4 140:5,12 141:9 142:4,5,14,16 142:17,20 164:22 165:2,7 165:9 166:2,12 166:15,21 167:3
unclear 120:4
uncommon 121:9
under 12:22 16:3,22 47:13 56:17 57:2 61:11 104:22 115:16 116:1 165:5,5 188:9 217:9,12 221:7
underlies 16:11
underlying 16:10 32:12 34:22 56:11 68:9 125:8 144:3 157:16 164:19 209:4

understand 12:21 13:2,10 13:11,14 15:17 29:17 30:11 33:17 60:9,10 96:11 118:13 120:13 129:22 134:15 136:5 139:14,20 146:16 148:21 164:11 185:11 185:15 194:7 195:14 205:14 211:13 213:16 215:18,22 216:3,7
understanding 13:20 14:2 59:19 68:13 117:10 126:10 211:8
understood 13:16 14:9,12 113:3
undertook 215:9
undisclosed 113:9
unfeasible 89:15
unit 135:11 136:1
united 1:1 156:4
universal 103:22 104:19
universe 26:17 43:5 44:4,8,10 66:2,10 68:20 72:9,13 85:2 105:16 125:20 159:21
unknown 62:13 91:18 116:18
unnecessary 88:9
usable 178:3
use 18:19 31:3 31:5,17,20,21 33:15 39:16 41:9 57:8 69:4 73:20 76:7 77:22 83:17 93:16 104:6,10 105:1,5,22 112:16 117:21 119:21 122:12 124:15,16 156:8 160:4 161:11 170:5,7 170:8,9,14,16 171:11,21 176:15 177:2 180:4,6,9 181:3 184:6 205:8 208:8
used 18:20 24:4 32:8 38:13 56:18 104:5 118:14,17 120:13,17 122:9 154:9 163:22 178:6 192:10 218:19
useful 92:15
uses 47:7 104:18 119:11
using 15:9,11 31:2 32:16 47:11 72:9 88:14 90:18,22 112:5 126:2,4 135:3 140:12 150:22 152:16 153:1 159:18 171:4,5 182:11 195:6 199:7
usually 77:20 114:12 169:4
utilized 27:4,12 32:9,11 33:6 34:1

v

v 1:7 9:4 10:4 218:4 219:4 220:4
validated 58:20
valuation 45:19
value 63:14 94:5 112:15 126:7 135:15 161:21 163:16 163:17,20 164:6 169:18 169:20
valuing 67:15
variable 117:3 117:6
variables 82:7 117:3
variation 116:13
variations 83:20
varies 47:17
various 16:3 98:1 128:19 129:9 153:21 156:1
vast 79:20 172:18
verbal 12:15
verify 218:9
veritext 218:14 218:22
veritext.com. 218:15
versa 161:22
version 12:12 154:16 158:5 158:10,13,15
versus 28:1,20 28:22 29:1,5 34:14 58:3 60:13 73:18 176:11
verus 8:2,9 11:19 12:2 43:6,10,17

44:11,16,20,20 97:18 101:4 160:14 209:9
vice 8:20 161:22
view 29:20 37:13,13 85:3 85:9 138:7 166:6 195:8
violate 161:14
virtual 113:16
voce 51:9 102:1
volume 31:17
volunteer 110:1

w

wacker 7:6
waived 184:19
walk 102:13
want 22:22 23:3 31:11 33:5 41:7 46:9 46:21,22 48:6 50:12,22 52:13 52:18 61:15 63:6 72:21 75:13 76:11 77:6,16,22 79:6,7 87:20 89:14 94:11 96:9 97:3 99:16 102:13 102:14,15,19 103:7 118:3 126:5 128:12 132:12 133:16 134:3,15 135:18 139:9 140:17 146:8 146:11 157:2,3 161:2 162:9 164:13 177:22 178:7 179:19 181:7 200:3 201:19 206:11
wanted 18:3 43:20 131:17
wants 100:11 186:3,14
washington 1:19 2:3,12 3:19 4:8 11:4 70:7 217:20
way 13:20 14:6 28:7 29:2 40:5 45:1 60:10 77:2 78:4 88:16,19 91:20 96:1 120:21 121:16 153:22 162:22 166:7 168:15 170:18 184:16 191:6 201:16
ways 68:7 105:6 165:19 175:17
we've 20:15 73:8 99:3,7 138:22 139:6 146:2,3 172:9 173:19 185:16
weathersby 5:3
week 20:12
weight 97:10
welcome 205:21
went 86:10 109:18 151:6 151:15 180:7
western 1:1
white 8:19 35:21 96:2,9 96:12,16,21 97:17 99:14 100:3 109:13 126:17 151:11 152:3,22 158:3 158:7,9,21 168:17 171:9 171:22 174:6 175:14 176:15 177:14
white's 97:16 98:9,14 99:21 100:3
wilmington 4:16 6:6,14
wish 79:21
witness 9:16,18 11:16 21:2 27:5,7,14,16,20 27:22 28:3,5,8 28:10,15,16,18 38:6,8 49:13 64:11 88:6 95:2,4 103:1 128:13,15 132:15 137:18 139:13 141:3 143:20 149:2 153:10 159:4 160:10 168:3 168:20 181:7 193:21 201:15 202:16 206:1 206:21 207:1 209:1,22 212:22 215:14 216:19 217:6 217:10,14 218:8,10,12,18 219:2 220:2 221:1
women 112:10
wondering 199:2
word 64:9 103:11 169:13 208:8
wording 21:1
words 77:17 88:15
work 16:17,21 23:5,20 29:9 29:22 30:9 35:3 40:12 45:14,22 60:6 61:21 62:7 63:9,22 64:21

65:4 73:7 79:11 82:2 87:3,14,19 88:15,18 89:2 89:4 91:3 92:16 128:3 151:17 155:5 165:11 168:21 170:17 171:1 188:19 192:14 201:7,8 202:17 203:17 215:19
worked 202:13
working 26:17 89:8,9 98:1 151:9,13,21 180:15
workings 187:8
world 1:3 9:4 10:4 17:9 52:1 99:10 116:4 168:10 218:4 219:4 220:4
worth 44:12 57:16
worthwhile 120:10
write 130:16,19 188:16
writing 137:6,8 192:22
written 120:15 184:16
wrong 107:9 112:12 118:22 119:1 120:20 120:21 132:8
wrote 128:1 129:21 205:9
wyner 10:18 21:13 59:9 74:12 75:9 76:4 77:13 101:17 121:5 133:1 157:5 189:14,18 190:8
wyner's 19:15 19:20 101:10 102:8 132:10 191:2,9

x

x 1:3,9,12

y

ycst.com 6:8
yeah 18:12 21:21 22:16 27:10 39:6 52:6 73:4 77:8 100:18 132:18 136:22 139:8 143:15 145:12
year 46:16
years 46:18 59:17 112:11
yep 28:15 52:7
york 2:11,12 8:14,14
young 6:3

z

zero 39:15 89:9 115:17 137:7 197:15 210:21
zoom 3:17 6:12 7:4,14 8:19,21 17:9 52:1