Docket #3368 Date Filed: 09/01/2026

**UNITED STATES BANKRUPTCY COURT**
**WESTERN DISTRICT OF NORTH CAROLINA**
**CHARLOTTE DIVISION**

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| In re | Chapter 11 |
| ALDRICH PUMP LLC, *et al.*,[1] | Case No. 20-30608 (LMJ) |
| Debtors. | (Jointly Administered) |

**NOTICE OF FILING UNSEALED COPY OF THE MOTION IN LIMINE OF THE OFFICIAL COMMITTEE OF ASBESTOS PERSONAL INJURY CLAIMANTS TO EXCLUDE CERTAIN EXPERT TESTIMONY OF CHARLES H. MULLIN**

The Official Committee of Asbestos Personal Injury Claimants (the "Committee" or "ACC") of Aldrich Pump LLC and Murray Boiler LLC (the "Debtors"), by and through its undersigned counsel, hereby files this Notice (the "Notice") of filing unsealed copy of *Motion in Limine of the Official Committee of Asbestos Personal Injury Claimants to Exclude Certain Expert Testimony of Charles H. Mullin* [Dkt. No. 3189] (the "Motion in Limine"). In support of the Notice, the Committee respectfully states as follows:

1. On June 25, 2026, the Committee filed the Motion in Limine, and all exhibits thereto, under seal on the docket. Also on June 25, 2026, the Committee filed a *Motion to File Confidential Documents under Seal* (the "Motion to Seal") [Dkt. No. 3191] related to Motion in Limine.

2. Since the filing of the Motion in Limine, the parties have agreed that the Motion in Limine and the Exhibits thereto can be unsealed with certain Exhibits filed with redactions, in

[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.

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accordance with the *Stipulated Order Regarding Confidentiality Issues for Phase I Estimation Trial* [Dkt. No. 3265] (the "Order") with the corresponding Motion to Seal withdrawn.

3. Accordingly, attached hereto as Exhibit A is an unsealed version of Motion in Limine and Exhibits thereto, with redactions in certain of the Exhibits.

*[Signatures appear on the following page]*

Dated: September 1, 2026

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# EXHIBIT A

**UNITED STATES BANKRUPTCY COURT**
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| ALDRICH PUMP LLC, *et al.*,[1] | Case No. 20-30608 (LMJ) |
| Debtors. | (Jointly Administered) |

**MOTION IN LIMINE OF THE OFFICIAL COMMITTEE OF ASBESTOS PERSONAL INJURY CLAIMANTS TO EXCLUDE CERTAIN EXPERT TESTIMONY OF CHARLES H. MULLIN**

The Official Committee of Asbestos Personal Injury Claimants ("**Committee**") of Aldrich Pump LLC, *et al.* ("**Debtors**"), through its undersigned counsel, hereby move (the "**Motion**") to exclude Charles H. Mullin, PhD, from providing certain expert testimony from the forthcoming Phase I Estimation Hearing. In support of the Motion, the Committee respectfully states as follows:

## PRELIMINARY STATEMENT

Over the last months, the parties have engaged in expert-related discovery pursuant to the Second Estimation CMO,[2] and the Phase I Order.[3] The Debtors have proposed Dr. Charles Mullin as expert witness and provided an initial and a rebuttal report under Rule 26(a)(2)(B) disclosing his proposed testimony at the Phase I estimation trial (the "**Phase I Hearing**"). Dr. Mullin's disclosed opinion, however, involves more than 50 estimates of the Debtors' asbestos liability that span a range from less than $50 million to $750 million employing a hodgepodge of methodologies. Such a range of estimates is inherently unhelpful and will not meaningfully assist

[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.

[2] Second Am. Case Management Order for Estimation, Dkt. No. 2656 (the "**Second Estimation CMO**").

[3] Order Commencing Phase I of Estimation Trial, Dkt. No. 3011 (the "**Phase I Order**").

the Court. In addition, Dr. Mullin's inclusion of an estimate based on John Crane Inc.'s litigation-only approach (the "**JCI Alternative**"), which fails to show that the products leading to the liability in both cases are comparable, is an apples-to-oranges comparison that is neither relevant nor reliable in this context. Accordingly, Dr. Mullin's affirmative estimation opinion does not meet the standard for admissibility and accordingly should be excluded. In the alternative, the Committee respectfully requests that the Court enforce the limited scope of the Phase I Hearing by entering an order excluding Dr. Mullin's affirmative opinions other than the portions of his "Tort System Opinion" which utilize a "tort system extrapolation method" that relies on the Debtors' settlement and verdict history.

## BACKGROUND

### The Estimation Proceedings

1. On April 17, 2025, this Court entered the Second Estimation CMO which required the parties to exchange "initial expert reports setting forth their estimate of the Debtors' liability for current and future mesothelioma claims, plus the application of a 'gross-up' for non-mesothelioma claims."[4] The Debtors, Committee, and FCR exchanged initial expert reports pursuant to the Second Estimation CMO on September 15, 2025.

2. On January 23, 2026, the Court entered the Phase I Order scheduling the Phase I Hearing where "the Court will make a finding estimating the Debtors' liability for current and future asbestos claims by using the tort system extrapolation method."[5] The scope of evidence in Phase I is limited to the opinions asserted in the initial expert reports and any rebuttal thereof that correspond to the limitations in the order regarding the tort system extrapolation method.[6]

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4 Second Estimation CMO ¶ 3, at 3.

5 Phase I Order ¶ 2, at 2.

6 *Id.* ¶ 4, at 2.

3. The Debtors, Committee, and FCR exchanged rebuttal expert reports pursuant to the Phase I Order on March 27, 2026. Depositions of the experts designated by the parties were completed between May 4 and May 14, 2026. Dr. Mullin was deposed on May 4, 2026.

**Dr. Mullin's Disclosed Opinions**

4. Dr. Mullin estimates the Debtors' asbestos liability using a variety of methodologies that result in multiple estimates collectively spanning an order of magnitude from less than $50 million to $750 million.[7] At the low end, he states the Debtors' asbestos liability would be *no more* than $50 million, an amount far less than the Debtors' predecessors paid in a single year before bankruptcy.[8] He then asserts that if the Debtors hypothetically adopted a highly litigious strategy unlike any strategy they historically employed they would have paid $50 million to $200 million in the tort system.[9]

5. Dr. Mullin next provides estimates of $425 million to $750 million "under the Debtors' historical defense approach."[10] This opinion comprises 24 specific estimation "component-based" scenarios based on different combinations of assumptions.[11] The backup materials specifically referenced in his report include over 100 more options. His rebuttal report adds 30 new additional "component-based" scenarios using new assumptions not presented in the initial report, even though these new estimates are not rebutting anything, but rather a late

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[7] Corrected Initial Expert Report of Charles H. Mullin, PhD 5-6, 52, Sep. 15, 2025 (PEO) (the "**Mullin Initial Report**"), attached hereto as **Exhibit A**.

[8] *Id.* at 50-51. *See* Tannenbaum Decl. ¶ 22, June 18, 2020, Dkt. No. 29 ("Despite their efforts to resolve claims in a cost-efficient manner, the Debtors are still paying nearly $100 million annually (roughly $70 million in indemnity payments and $25 million in defense costs) to defend and resolve asbestos suits filed against them.").

[9] *Id.* at 50-51.

[10] *Id.* at 52.

[11] *Id.* at 58.

disclosure of affirmative opinions.[12] Neither report identifies any specific tort estimation scenario as Dr. Mullin's preferred or best estimate.

6. These estimates result from a slew of different methodologies.[13] As a follow-on to the "Law and Economics literature—settlements do not equal liability" portion of his report (Sections II-IV.B), Dr. Mullin produces a "comparability analysis" between the Debtors and non-bankrupt asbestos defendant John Crane Inc. ("**JCI**") pursuant to which he discusses as a "case study" JCI's asbestos litigation history and suggests an extremely low estimate based on an ahistorical adoption of JCI's litigation strategy.[14] Dr. Mullin also provides an estimate via a "comparability analysis" between the Debtors and Garlock, another, different asbestos defendant that entered chapter 11 bankruptcy in 2010, that amounts to simply adopting the *Garlock* estimate with a further discount based on the intervening years that have passed since that decision.[15] Still other estimates come from calculating "excess mesothelioma attributable to all gaskets and packing" produced by the Debtors, an analysis not conducted by Dr. Mullin and based on a more than decade old expert report from a third expert in the *Garlock* case.[16] Fifty-four of Dr. Mullin's estimates use variations of a methodology based on mesothelioma disease incidence and historical filings against the Debtors.[17] And Dr. Mullin's rebuttal report provides yet another set of estimates

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[12] Rebuttal Expert Report of Charles H. Mullin, PhD at C-1, Mar. 27, 2026 (the "**Mullin Rebuttal Report**"), attached hereto as **Exhibit B**.

[13] The Mullin Initial Report in Sections II, III, IV.A and IV.B (and corresponding introduction and conclusory paragraphs) contains discussions of opinions that settlements do not reflect liability. At the January 15 hearing, Debtors' counsel represented to the Court and the parties that it would not be including such an opinion in the Phase I Hearing. Hr'g Tr. 64:5-11, Jan. 15, 2026 ("In our view, the core of the legal liability theory is that settlements do not equate to liability, which is what Ms. Ramsey is referring to. We do not intend to put on evidence in Phase 1 that settlements do not equate to liability because I think, your Honor has indicated that what you want to do is you want to have a phase where you determine . . . you're not going to answer that question."). The Committee accordingly treats that portion of the Mullin Initial Report as inapplicable to Phase I. To the extent the Debtors act contrary to that commitment, the Committee asks the Court to enforce it.

[14] Mullin Initial Report 49-50, 52.

[15] *Id.* at 49.

[16] *Id.* at 50-51.

[17] *Id.* at 58; Mullin Rebuttal Report at C-1.

produced by extrapolating tort system history into the future which is then "updated" by replacing his own analysis with the work of other experts.[18]

7. The Committee has explicitly asked the Debtors to identify which of Dr. Mullin's many opinions they intend to present at the Phase I Hearing. To date, they have declined to do so.[19]

## ARGUMENT

8. Dr. Mullin's opinion and proposed affirmative testimony is that the Debtors' tort system asbestos liability could range anywhere from below $50 million to $750 million under a multitude of different methodologies.[20] This sweeping collection of estimates is inherently unhelpful to the Court. It therefore does not meet the requirements of admissibility under the Federal Rules of Evidence and the standards set by the Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* and its progeny.[21] The Court therefore should exclude Dr. Mullin's affirmative opinion from the Phase I Hearing or, in the alternative, enforce the scope of the Phase I Hearing to narrow the range of opinions Dr. Mullin may present.

## I. DR. MULLIN'S AFFIRMATIVE OPINIONS AS EXPRESSED IN HIS INITIAL AND REBUTTAL REPORTS SHOULD BE EXCLUDED

### A. *Daubert* Standard

9. Under the Federal Rules of Evidence, a proponent of an expert witness's opinion must demonstrate by a preponderance of the evidence that it: (a) "will help the trier of fact to understand the evidence or to determine a fact in issue;" (b) "is based on sufficient facts or data;"

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[18] Mullin Initial Report 60-62; Mullin Rebuttal Report at C-5 to C-7.

[19] *See, e.g.*, Email from M. Hirst to J. Wehner (Apr. 30, 2026, 5:24PM ET) (Debtors' counsel declining to identify which portions of Dr. Mullin's report will be presented at the Phase I Hearing ahead of Dr. Mullin's deposition), attached hereto as **Exhibit C**.

[20] Mullin Initial Report 52.

[21] 509 U.S. 579 (1993). The Committee does not seek to exclude Dr. Mullin from presenting rebuttal testimony based on the opinions provided in his rebuttal report.

(c) "is the product of reliable principles and methods;" and (d) "reflects a reliable application of the principles and methods to the facts of the case." Fed. R. Evid. 702. Courts must act as gatekeepers and may not treat threshold admissibility issues as going to weight rather than admissibility. *See Sardis v. Overhead Door Corp.*, 10 F.4th 268, 281-82 (4th Cir. 2021) (reversing a district court that had "abandoned its gatekeeping function" by treating challenges to expert admissibility as going to weight).

10. In the Fourth Circuit, expert testimony is only admissible where it is both reliable and relevant. *See PBM Prods., LLC v. Mead Johnson & Co.*, 639 F.3d 111, 123 (4th Cir. 2011) (citing *Daubert*, 509 U.S. at 597); Fed. R. Evid. 402 advisory committee's note to 1972 proposed rules ("[E]vidence which is not relevant is not admissible . . . ."). Expert testimony must also have the potential to "help the trier of fact to . . . determine a fact in issue." Fed. R. Evid. 702. This "consideration has been aptly described . . . as one of 'fit.'" *Daubert*, 509 U.S. at 591 (citing *United States v. Downing*, 753 F.2d 1224, 1242 (3d Cir. 1985)). "'Fit' is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes." *Id.* "In other words, Fed.R.Evid 702 requires a valid scientific connection between the expert's testimony and the *pertinent inquiry* before the court as a precondition to admissibility." *Garlinger v. Hardee's Food Sys., Inc.*, 16 F. App'x 232, 235 (4th Cir. 2001) (emphasis added) (citing *Daubert*, 509 U.S. at 591-93).

**B. Dr. Mullin's Presentation of Dozens of Estimates Renders His Opinion Unhelpful to the Court's Phase I Inquiry**

11. An expert opinion must be fit for the purpose for which it is to be admitted. *See Daubert*, 509 U.S. at 591. A proffered expert opinion "based on speculation or guesswork will not meet the helpfulness requirements of Rule 702, nor will it be the product of reliable facts." *Samuel v. Ford Motor Co.*, 112 F. Supp. 2d 460, 470 (D. Md. 2000), *aff'd sub nom., Berger v.*

*Ford Motor Co.*, 95 F. App'x 520 (4th Cir. 2004). "While the rules of evidence 'do not require [an] expert to testify with absolute certainly [sic],' an expert opinion is 'fatally speculative' where it 'has no tendency to prove a consequential fact by probability.'" *Koenig v. Johnson*, No. 2:18-CV-3599-DCN, 2020 WL 2308305, at *7 n.3 (D.S.C. May 8, 2020) (quoting *Samuel*, 112 F. Supp. 2d at 470).

12. Here, the pertinent issue is "estimating the Debtors' liability for current and future asbestos claims by using the tort system extrapolation method, using the Debtors' settlement and verdict history."[22] While Dr. Mullin's proposed testimony addresses the topic of the Debtors' tort system asbestos liability, it provides estimates for that liability spanning an order of magnitude from $50 million to $750 million. The wide range of estimates undermines the helpfulness and relevance of the opinion for the task at hand. *See Hein v. Merck & Co., Inc.*, 868 F. Supp. 230, 233 (M.D. Tenn. 1994) ("A spread of . . . [great] magnitude not only admits the possibility of error, it casts serious doubt on the validity and usefulness of the exercise."); *see also Westgate Resorts, Ltd. v. Reed Hein & Assocs., LLC*, No. 6:18-CV-1088-ORL-31DCI, 2020 WL 11303335, at *4 (M.D. Fla. Oct. 16, 2020) (excluding an expert's estimate of economic damages because the "range of uncertainty" was "simply too great" to be helpful).

13. Scientific principles apply to forecasting the future, and one such principle is that good forecasts are specific, or "sharp."[23] "Vague expectations about indefinite futures are not helpful." Philip E. Tetlock & Dan Gardner, *Superforecasting: The Art and Science of Prediction* 251 (2015). Philosopher of science Karl Popper explained that vague predictions "can hardly fail"

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[22] Phase I Order ¶ 2, at 2.

[23] *See* Tilmann Gneiting, Fadoua Balabdaoui & Adrian E. Raftery, *Probabilistic Forecasts, Calibration, and Sharpness*, 69 J. Royal Stat. Soc'y Series B: Stat. Methodology 243, 246, 255 (2007), https://doi.org/10.1111/j.1467-9868.2007.00587.x ("The more concentrated the predictive distributions are, the sharper the forecasts, and the sharper the better, subject to calibration. . . . The ideal forecaster is the sharpest.").

and "become irrefutable." Karl R. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* 36-37 (1962). This principle can easily be understood in the context of weather forecasting: the more certain and specific a weather forecast, the more useful it is. The same principle applies here and informs as to the usefulness of a forecast. Dr. Mullin's opinions are the asbestos liability forecasting equivalent of a weather forecast that says tomorrow could either be hot or cold or rainy or sunny.

14. Courts regularly exclude experts where the proffered opinion provides insufficient precision or certainty as to the pertinent issue. *See, e.g.*, *Nix v. Chemours Co. FC, LLC*, 805 F. Supp. 3d 626, 656, 669 (E.D.N.C. 2025) (excluding two expert opinions proffered on the topic of PFAS toxicity where they failed to provide a specific opinion on what level of PFAS was unsafe). An estimate produced may be too broad or uncertain to meet Rule 702's helpfulness standard regardless of scientific merit of the underlying methodology. *See Ayers v. Robinson*, 887 F. Supp. 1049, 1063 (N.D. Ill. 1995) (concluding that estimates of value ranging from $500,000 to $9 million "would really be no use" regardless of the soundness of the underlying methodology).

15. Here, Dr. Mullin's proposed testimony offers only a myriad of possibilities. With just one of his many methodologies, Dr. Mullin presents four adjustable variables, each of which have two or three options, for a grand total of 54 different estimation scenarios. His report provides no guidance on which choices are correct. This choose-your-own-adventure approach amounts to guesswork and speculation that will not help the Court in its task of making a specific estimate of the Debtors' asbestos liability. *See Koenig*, 2020 WL 2308305, at *7 n.3 ("[E]xpert opinions couched in terms of 'possibilities' are per se unhelpful and inadmissible.").

16. The less than $50 million low end of Dr. Mullin's estimation further demonstrates the speculation inherent in his estimate. That lower bound is based entirely on an assumption that

the predecessors of the Debtors might have "adopted a 'litigation approach'" whereby they stopped settling cases before trial. Such a strategy is the opposite of the Debtors' predecessors actual behavior over decades of defending claims in the tort system. Dr. Mullin provides no support for his opinion that the Debtors might have completely changed their approach, nor does he provide any view as to the likelihood that they might have done so.[24] His opinion that the Debtors may have faced less than $50 million in liability in the tort system is pure speculation and therefore unhelpful. *See Samuel*, 112 F. Supp. 2d at 470 ("If the proffered expert testimony is speculation, or conjecture, it is not relevant. . . . [A]n expert opinion based on speculation or guesswork will not meet the helpfulness requirements of Rule 702 . . . .").

17. Dr. Mullin's rebuttal report compounds the problem by introducing additional distinct affirmative estimates that are not rebuttal opinion. For instance, the rebuttal report attaches an appendix titled "Updates to Estimation Opinion."[25] This section contains the 30 new "component-based" Historical Litigation Estimates not previously disclosed in Dr. Mullin's initial report, and two new "annual-expenditure-based" estimates.[26]

18. The body of the rebuttal report also provides six new estimates that are an adoption of the FCR's expert's method combined with assumptions made by the different experts in the case.[27] These are presented not to attack other experts but to support an assertion that the FCR's expert's initial report "reaches qualitatively similar conclusions to" Dr. Mullin's initial report.[28] Essentially, Dr. Mullin provides six additional estimates by mixing and matching the different

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[24] At his deposition, Dr. Mullin admitted that he has no specific insight into the reasons why a company would choose a particular litigation strategy. *See* Mullin Dep. 168:10-14, May 4, 2026, excerpts attached hereto as **Exhibit D** ("I can talk about economic incentives and reasons why somebody might generally, but I can't tell you why a given company made a given decision. You'd have to talk to them.").

[25] Mullin Rebuttal Report at C-1 to C-7.

[26] *Id.*

[27] *Id.* at 10.

[28] *Id.* at 10-11.

methods used by the other experts. This is not rebuttal; it is a transparent effort to align two disparate reports, and merely adds to the pile of estimates that Dr. Mullin might present to the court.[29]

19. This surfeit of estimation opinions defies the purpose of the Phase I Hearing, which is to enable a streamlined and accelerated estimation using the well-established methods of tort-system extrapolation. Dr. Mullin's multitude of affirmative opinions does not fit the Court's inquiry estimating the Debtors' liability using a tort-system extrapolation method and should be excluded for lack of helpfulness under Rule 702.[30]

### C. Dr. Mullin's JCI Alternative is Based on an Irrelevant, Unreliable Methodology

20. The JCI Alternative violates *Daubert* and Rule 702 because it is irrelevant to the issues before the Court. The JCI Alternative not only relates to "legal liability," which is already excluded from Phase I, it is wholly unrelated to the Debtors' settlement and verdict history. During his deposition, Dr. Mullin was unable to identify the products giving rise to JCI asbestos liability[31] and confirmed he did not quantify "what numerical fraction of claims against Aldrich and Murray

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[29] The inclusion of new affirmative estimates in the Mullin Rebuttal Report is itself improper. Rebuttal reports are "intended *solely* to contradict or rebut evidence on the same subject matter identified by another party" *McKiver v. Murphy-Brown LLC*, No. 7:14-CV-180-BR, 2018 WL 1832964, at *1 (E.D.N.C. Apr. 17, 2018) (emphasis added) (quoting Fed. R. Civ. P. 26(a)(2)(D)(ii)). The Fourth Circuit defines rebuttal evidence as "[e]vidence *given to explain, repel, counteract, or disprove facts given in evidence by the opposing party.*" *United States v. Stitt*, 250 F.3d 878, 897 (4th Cir. 2001) (alteration in original). "[E]xpert reports that simply address the same general subject matter as a previously-submitted report, but do not directly contradict or rebut the actual contents of that prior report, do not qualify as proper rebuttal or reply reports." *Boles v. United States*, No. 1:13CV489, 2015 WL 1508857, at *2 (M.D.N.C. Apr. 1, 2015) (alteration in original) (quoting *Withrow v. Spears*, 967 F. Supp. 2d 982, 1002 (D. Del. 2013)). Courts within the Fourth Circuit regularly enforce the distinction between affirmative and rebuttal opinion. *See, e.g.*, *Funderburk v. S.C. Elec. & Gas Co.*, No. 3:15-CV-04660-JMC, 2019 WL 3406814, at *3-4 (D.S.C. July 9, 2019) (collecting Fourth Circuit cases holding that rebuttal experts "must restrict their testimony to attacking the theories offered by the adversary's experts" and may cite new evidence only to the extent that it is "offered to directly contradict or rebut the opposing party's expert" (citations omitted)).

[30] The Committee does not seek exclusion of Dr. Mullin to the extent that he would offer his properly disclosed rebuttal opinion directed at the opinions of the other parties' experts.

[31] *E.g.*, Mullin Dep. 166:19-21 ("I couldn't name all the pieces of equipment for you that John Crane is associated with."); *id.* at 167:5-6 (stating that JCI "has overlap with the debtors, but I can't remember all of them").

and their predecessors assert gaskets and packing exposures,"[32] which would presumably be the basis of potential overlap with JCI.

21. Further, Dr. Mullin's allusions to JCI in the Tort System Opinion section are conclusory: "Alternatively, the JCI data indicate that had the Debtors adopted a 'litigation approach' similar to that of JCI, that litigation approach would have had a drastic impact on the Debtors' tort system settlements, and, under that scenario, I estimate they would have paid asbestos-related claims between $50 million and $100 million on a net present value basis as of the Petition Date."[33] Dr. Mullin offers no support for why the prior litigation strategy of one defendant should be properly used to re-value the liabilities of another. "Rule 702's 'helpfulness' standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility." *Daubert*, 509 U.S. at 591-92 ("[(A]bsent creditable grounds supporting such a link), evidence that the moon was full on a certain night will not assist the trier of fact in determining whether an individual was unusually likely to have behaved irrationally on that night."). Dr. Mullin even acknowledged he could not know why JCI chose the litigation strategy it did.[34] Replacing the Debtors' and their predecessors' tort system history with that of another asbestos defendant does not provide any information about the Debtors. Accordingly, any portion of the Mullin Report and any portion of Dr. Mullin's testimony concerning the JCI Alternative should be excluded as beyond the scope of Phase I.

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[32] *Id.* at 52:16-53:11.

[33] Mullin Initial Report ¶ 116.

[34] *See* Mullin Dep. 169:16-20 ("I'm not in their head. I can't read somebody else's brain . . . so I don't know why they made that choice . . . ."). Dr. Mullin's conclusion was merely an "economic rationale that one could look at . . . but that may or may not be why they chose it." *Id.* at 169:22-170:4.

## II. IN THE ALTERNATIVE, THE COURT SHOULD LIMIT DR. MULLIN'S TESTIMONY TO NARROW THE SCOPE OF OPINIONS PRESENTED

22. If the Court does not completely exclude Dr. Mullin's affirmative opinions under Rule 702, it should enter an order limiting Dr. Mullin's affirmative testimony to those portions that use "the tort system extrapolation method, using the Debtors' settlement and verdict history" in accordance with the Phase I Order's guidelines. Specifically, the Court should limit Dr. Mullin's testimony to the estimates he himself describes as what would have been paid "had the Debtors stayed in the tort system and maintained their 'settlement approach'" as part of his limited "Tort System Opinion." These are Sections V.A, V.B. and V.C (pages 52-62) and Appendix D (pages D-1 to D-18) of the Mullin Initial Report. To the extent these sections contain references to disallowed portions of the report, those references should be disallowed as well.

23. This would permit Dr. Mullin to present his "component-based forecasts" that rely on the Debtors' settlement history.[35] Those estimates at least resemble the standard method of using a debtor's tort-system history to forecast future asbestos liability and are similar in methodology to the other expert's forecasts.[36] While the Committee maintains that Dr. Mullin's profusion of component-based forecast scenarios are ultimately unhelpful, it does not dispute that they qualify as a tort system extrapolations that rely on settlement history. The Court does not need to hear any of Dr. Mullin's other affirmative opinions to conduct the apples-to-apples comparison of the parties' different settlement/verdict-based tort extrapolations that the Phase I Order contemplates.

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[35] *See* Mullin Initial Report 55-60.

[36] These methods all utilize the Debtors' tort system and settlement history to estimate the likelihood of whether a person diagnosed with mesothelioma will sue the Debtors, the likelihood each such claim is resolved and paid, and the average amount of such payment. Combining these estimates with forecasts as to the future incidence of mesothelioma produces an estimation of aggregate expected future payments, which can then be adjusted to their net-present value using inflation and discount rate calculations.

24. Dr. Mullin's other forecasts, just like the already-excluded "legal liability theory," rely on data or assumptions that actively repudiate the Debtors' tort system and settlement history. His "litigation approach" estimates rely on "JCI data"—that is, the settlement and verdict history of a completely different asbestos defendant, and hypothesize a world where the Debtors do not behave in line with their own tort system history but instead like another defendant that took a different approach to resolving cases.[37] His "comparability analyses" to Garlock and JCI likewise rely on data from defendants other than the Debtors.[38] His "excess mesothelioma" estimate does not use any tort or settlement history at all, but is instead a Rube-Goldberg construction using an expert report from the *Garlock* case and a model that purports to determine based on *Garlock* data what portion of mesothelioma claims are caused by Garlock products, Dr. Mullin then applies a claim valuation with no connection to the claims history in this case.[39] This produces wildly unrealistic results—less than one year's historical payments by the Debtors' predecessors. None of these are tort system extrapolations of the Debtors' own history, and none are relevant or appropriate to include in the Phase I Hearing.

25. The Debtors' own rebuttal expert—Dr. Denise Neumann Martin—underscored that a settlement/verdict-based tort system extrapolation is an understood methodology. She testified that there is "broad agreement" around the tort system extrapolation method among "practitioners," i.e., experts tasked with evaluating the liability of pending and future asbestos claims.[40] She explained "[i]t's not a controversial topic. . . . there is an accepted methodology."[41] Dr. Martin provides a formula for a settlement-based tort system extrapolation in her report and

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37 *See* Mullin Initial Report 52.

38 *See id.* at 49-50.

39 *See id.* at 50-51.

40 Martin Dep. 22:5-23:21, May 5, 2026, excerpts attached hereto as **Exhibit E**.

41 *Id.* at 23:17-24:13.

discusses its various components.[42] While there is some flexibility in this method, Dr. Mullin's forays into hypothetical litigation strategies adopted by other companies, his comparability analysis based on other companies, and his odd excess mesothelioma estimate do not fit that framework by any stretch of the imagination. His report does not even purport to set them into such a framework. Thus, even Debtors' rebuttal expert would understand these approaches are not settlement/verdict-based tort system extrapolations.

26. The Debtors knew all of this when they agreed to the limiting language of "tort system extrapolation, using the Debtors' settlement and verdict history" in the Phase I Order months after producing Dr. Mullin's initial report. Dr. Mullin's report explicitly labels and identifies a specific set of estimates as extrapolating the Debtors' settlement history into a payment forecast. The Debtors' refusal to voluntarily disclose or limit the scope of Dr. Mullin's Phase I testimony creates the possibility of massive inefficiency and potential confusion, none of which is necessary. In light of the Debtors declining to do so, the Committee asks this Court to enforce the Phase I limitations and allow Dr. Mullin to present only his component-based tort system extrapolation (and any rebuttal testimony directed at the other expert's comparable estimates).

## III. THE COURT SHOULD EXCLUDE OR LIMIT DR. MULLIN'S TESTIMONY NOW TO PROMOTE EFFICIENCY AND CLARITY AT TRIAL

27. In the context of a bench trial, courts have flexibility in determining "when to make Rule 702 expert admissibility decisions." *In re Camp Lejeune Water Litig.*, No. 7:23-CV-897, 2026 WL 561123, at *4-5 (E.D.N.C. Feb. 27, 2026). Courts typically make Rule 702 determinations "at a time efficient and sensible to the court." *See id.* at *6 (collecting cases).

[42] Rebuttal Report of Denise Neumann Martin, Ph.D. ¶¶ 12-19 ("**Martin Rebuttal Report**"), attached hereto as **Exhibit F**.

28. Here, the evidence submitted in the Phase I Hearing is limited to the expert testimony that will be presented (and any rebuttal thereof). The parties therefore need to know the scope of testimony that will be permitted in advance so that they can adequately prepare cogent and efficient presentations for the Court.

29. The Debtors rebuffed the Committee's good faith requests to consensually narrow the smorgasbord of methodologies and estimates presented in Dr. Mullin's reports. If the Debtors are unwilling to remedy this deficiency in Dr. Mullin's work and identify a helpful and limited estimate for presentation at trial, the Court should act before pre-trial briefs are due to allow clarity and promote efficiency as the parties prepare and refine their cases before trial.

## CONCLUSION

For the reasons stated above, the Committee respectfully requests that the Court enter an order excluding the affirmative expert testimony of Dr. Charles H. Mullin from the Phase I Hearing, or, in the alternative, limiting his affirmative testimony to the component-based forecasts described in the "Tort System Opinion" portion of his initial report.

**WHEREFORE**, for the reasons set forth herein, the Committee requests that the Court grant the Motion and such other and further relief as the Court deems just and proper.

Dated: June 25, 2026
Charlotte, North Carolina

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# EXHIBIT A

**UNITED STATES BANKRUPTCY COURT**
**WESTERN DISTRICT OF NORTH CAROLINA**
**CHARLOTTE DIVISION**

| | |
|---|---|
| In re | Chapter 11 |
| ALDRICH PUMP LLC, *et al.*,[1] | Case No. 20-30608 |
| Debtors. | (Jointly Administered) |

# CORRECTED INITIAL EXPERT REPORT OF CHARLES H. MULLIN, PHD

**September 15, 2025**

[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.

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# I. Introduction

(1) On June 18, 2020, this Court issued an Ex Parte Order Authorizing Aldrich Pump LLC and Murray Boiler LLC ("Aldrich" and "Murray," respectively, together the "Debtors") to Retain and Employ Bates White, LLC ("Bates White") as "Asbestos Consultants" as of the date the Debtors filed for chapter 11 (the "Petition Date").[2] Bates White was retained for the purpose of providing expert opinions in the area of valuation of the Debtors' current and future asbestos liabilities. I, Dr. Charles H. Mullin, PhD, lead that engagement for Bates White.

(2) Aldrich's predecessors manufactured pumps and compressors.[3] Murray's predecessors manufactured heating and cooling products, such as compressors, furnaces, and boilers.[4] The Debtors' equipment incorporated gaskets to seal areas of connection within the equipment through which heated, pressurized liquid and gases would flow.[5,6] The equipment at times also contained packing, which was a component used to prevent leaks around moving parts in the equipment, such as shafts.[7]

(3) The vast bulk of the asbestos claims against the Debtors relate to gaskets and packing that the Debtors purchased from third parties to incorporate into their equipment prior to the mid-1980s that, at times, contained encapsulated asbestos.[8] The type of asbestos most often contained in the gaskets and packing was chrysotile asbestos, not amphibole asbestos that was in many other asbestos-containing products.[9] Amphibole asbestos is widely recognized as a potential cause of mesothelioma and more potent than chrysotile.[10] Installation or removal of those gaskets and packing constitute the primary ways an individual might have been exposed to asbestos associated with the Debtors' equipment, as I

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2 Ex Parte Order Authorizing the Debtors to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date, 64, No. 20-BK-30608 (W.D.N.C. June 18, 2020) as modified by the Amended Order Authorizing the Debtors to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date, 267, No. 20-BK-30608 (W.D.N.C. August 18, 2020).

3 Informational Brief of Aldrich Pump LLC and Murray Boiler LLC, No. 20-BK-30608 (W.D.N.C. June 18, 2020) [hereinafter "Informational Brief"], at 9–10.

4 Informational Brief, at 11–12. Certain Murray boilers sold before the mid-1950s included external asbestos-containing insulation. As discussed later in this Initial Expert Report, very few Murray claimants received payment consistent with exposure to thermal insulation. To the extent any claimants with exposure to thermal insulation associated with these boilers remain in the claiming population, they will age out quickly due to the early date on which production of this equipment ceased.

5 Informational Brief, at 1–3, 5–10.

6 Throughout this report, I use "Aldrich" and "Murray" (and, collectively, "the Debtors") to refer to the Debtors' entities as well as their predecessors prior to the 2020 Corporate Restructuring ("Old Trane Technologies" and "Old Trane," respectively).

7 Informational Brief, at 9–11.

8 Informational Brief, at 1–2, 9–12.

9 Informational Brief, at 2–3, 9–12.

10 Garlock Order Estimating Aggregate Liability, *In re Garlock Sealing Technologies, et al.*, No. 10-31607 (Bankr. W.D.N.C. January 10, 2014) [hereinafter "Garlock Order Estimating Aggregate Liability"], at ¶¶ 11–12, 17–19.

understand that exposure would not have occurred during day-to-day operation of the equipment.[11] The extent of any exposure to such encapsulated asbestos is minimal in comparison to exposure to asbestos in numerous other asbestos-containing products that were on the market at the time (especially "friable" products, such as block or pipe insulation). In the *Garlock* case, Judge Hodges, citing the Sixth Circuit Court of Appeals, analogized the contribution of gaskets relative to all causes of asbestos exposure as a "bucket of water" compared to "the ocean's volume."[12]

(4) On April 17, 2025, the Court entered its "Initial Expert Report Order," requiring that the Debtors and certain other parties in the chapter 11 cases file "Initial Expert Reports" in connection with the Court's estimation of the Debtors' current and future asbestos liability (the "Debtors' Asbestos Liabilities").[13] The opinions set forth in this report serve as the Debtors' Initial Expert Report pursuant to the Initial Expert Report Order.

(5) The Debtors supplied Bates White, counsel for the Official Committee of Asbestos Claimants ("ACC"), and counsel for the Future Claimants' Representative ("FCR") with an extract of the Debtors' database of asbestos-related claims asserted against them in the tort system. I supplemented this database with a variety of public data sources as well as data supplied by the Debtors through discovery to this point in the case.[14] The information used herein as to the Debtors' asbestos litigation history, unless otherwise noted, comes from these sources.

## I.A. Summary of qualifications and experience

(6) I am a Partner at Bates White. I provide advice and expert analysis on issues involving mass torts, class actions, bankruptcies, insurance coverage, and due diligence for mergers, acquisitions, and spin-offs. I am an expert on statistical and data analysis, econometrics, economic and microsimulation modeling, sample design, valuation of mass torts, and insurance allocation. *Who's Who Legal* has named me Insurance Expert of the Year on three occasions, and I have been a *Who's Who Legal* Insurance and Reinsurance Expert Witness Thought Leader since 2016 and a Global Elite Thought Leader since 2018. I have more than 25 years of experience providing this expertise in both the private and public sectors.

(7) I am frequently retained as an expert on the valuation of personal injury tort claims and have worked on numerous personal injury and mass tort quantification-related proceedings. I have valued mass tort

[11] *See* Informational Brief, at 1–2, 9–10, 11–12, 14.

[12] Garlock Order Estimating Aggregate Liability, at 2.

[13] Order Authorizing Estimation of Asbestos Claims, 1127, No. 20-BK-30608 (W.D.N.C. April 18, 2022).

[14] The discovery data include information from the Proofs of Claim ("POCs"), answers to the Personal Injury Questionnaires ("PIQs"), and data provided by certain asbestos trusts on historically settled claimants. The public data include the publicly available claims databases from the *Garlock* and *Specialty Products Holding Corp.* bankruptcies, articles on asbestos-related verdicts, public data from claim docket filings, and biographical data from the Social Security Administration. Collection and discovery are still ongoing as to certain historical claims litigation files.

expenditures derivative of numerous sources, including asbestos exposure, silica exposure, food additives, PFAS, airbags, respirators, pharmaceutical products, sex abuse, and medical devices. I have provided these services in connection with numerous bankruptcy proceedings, including *In re Red River Talc LLC, In re Mallinckrodt PLC, In re Aearo Technologies LLC, et al., In re Paddock Enterprises, LLC, In re TK Holdings Inc., In re Blitz U.S.A., Inc., In re Specialty Products Holding Corp.,* and *In re Owens Corning*.[15] As part of that work, I routinely estimate the value of personal injury tort claims and forecast a company's liability for those claims.

(8) I have authored more than 100 expert reports and provided expert testimony in over 50 matters. I have worked for numerous parties, both plaintiffs and defendants, including debtors, unsecured creditors, equity committees, non-debtor defendants, insurers, reinsurers, retrocessionaires, and investors evaluating potential acquisitions. Regardless of who retains me, I use the same methods with respect to the estimation of future expenditures and liabilities or the design and implementation of statistical samples and claim file reviews. Further, I employ the same methods in due diligence matters and financial reporting matters.

(9) I received my PhD in economics from the University of Chicago and my BA in economics and mathematics from the University of California at Berkeley. I have taught courses in advanced statistical economic analysis and labor economics while on the faculty in the Department of Economics at Vanderbilt University and at the University of California at Los Angeles. I have published papers on applied and theoretical econometrics and labor economics in peer-reviewed journals. Appendix A contains my curriculum vitae, which includes a complete list of expert testimony I have provided in the last four years and a complete list of publications I have authored to date.

(10) Bates White charges $1,850 per hour for my time on this matter, including any testimony. Bates White's offices are located at 2001 K Street NW, North Building, Suite 500, Washington, DC 20006. In addition to my own time, other Bates White professionals performed supporting work and analyses under my direction and assisted in the preparation of this report. Neither my compensation nor Bates White's is contingent on the outcome of this matter. My June 18, 2020, Declaration provides a detailed description of Bates White's and my expertise, attached as Exhibit B to the Ex Parte Application of the Debtors for an Order Authorizing Them to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date.[16]

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[15] *In re Red River Talc LLC*, No. 4:24-BK-90505 (Bankr. Tex. S. September 20, 2024); *In re Mallinckrodt PLC*, No. 20-12522 (Bankr. D. Del. Oct. 12, 2020); *In re Aearo Technologies LLC, et al.*, No. 22-02890 (Bankr. S.D. Ind. July 26, 2022); *In re Paddock Enterprises, LLC*, No. 20-10028 (Bankr. D. Del. Jan. 6, 2020); *In re TK Holdings Inc.*, No. 17-11375 (Bankr. D. Del. June 25, 2017); *In re Blitz U.S.A., Inc.*, No. 11-13603 (Bankr. D. Del. Nov. 9, 2011); *In re Specialty Products Holding Corp.*, No. 10-11780 (Bankr. D. Del. May 31, 2010); *In re Owens Corning*, No. 00-03837 (Bankr. D. Del. Oct. 5, 2000).

[16] Ex Parte Application of the Debtors for an Order Authorizing Them to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date, 21, No. 20-BK-30608 (W.D.N.C. June 18, 2020), at Exh. B(1).

# I.B. Scope of charge and opinions

## I.B.1. Scope of charge

(11) I submit this Initial Expert Report at the request of the Debtors' counsel. Debtors' counsel requested that I estimate (the "Estimation Opinion") the Debtors' unliquidated current and future asbestos-related liability for mesothelioma claims on a net present value basis as of the Petition Date (the "Debtors' Asbestos Liability").[17] Further, counsel requested that I gross-up that estimate to include all asbestos-related claims based on the historical ratio of mesothelioma settlement payments to total asbestos-related settlement payments.[18]

(12) In preparing my Estimation Opinion, I have been asked to (i) define liability as the harm, and resulting damages under applicable state law, that current and future plaintiffs incurred, or will incur, from the asbestos-containing components, primarily gaskets and packing, that were incorporated into the equipment manufactured by the Debtors, and (ii) quantify liability as the expected amount current and future plaintiffs would have been awarded as a result of litigation pursuant to a final order, with full information available to the plaintiffs, the Debtors, and the trier of fact at the time of trial (and any reviewing court).

(13) In the estimation proceedings in these chapter 11 cases, the ACC has asserted that the Debtors' tort system settlement history serves, without modification, as a metric for the Debtors' liability and that an extrapolation of that settlement history measures the Debtors' asbestos-related liability.[19] As I explain in this report, those assertions are incorrect. Settlements differ from liability for several reasons, including that the parties' respective costs, litigation strategies, and information asymmetries, all factors separate and distinct from liability, affect settlement amounts. However, to provide the Court with additional information in response to the ACC's position, Debtors' counsel requested that I (i) estimate the amount the Debtors would have paid (since the Petition Date and into the future) in settlements for asbestos-related claims had they not filed for chapter 11 but instead remained at all times in the tort system (the "Tort System Opinion"); and (ii) assess the veracity of the ACC's assertions analogizing settlements to liability.

(14) My work on this matter is ongoing. I reserve the right to update or supplement my report at the request of counsel or if I receive new information that materially impacts my opinions.

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[17] I did not include in my estimate the value of liquidated but unpaid asbestos-related claims. I discuss these claims further in Footnote 141.

[18] See Section V and Appendix D.2.c for more detail on the gross-up factor.

[19] *See* Corrected Transcript of Status Conference Before the Honorable Lena Mansori James, 2535, No. 20-BK-30608 (W.D.N.C. February 4, 2025), at 35:07–09. (MR. WRIGHT: 'The focus of estimation, I, I think it is true that we have contended that settlement history is a useful metric for determining estimation.').

## I.B.2. Summary of opinions

(15) As explained in more detail in the remainder of this Initial Expert Report, I have formed the following opinions.

### I.B.2.a. Estimation Opinion

(16) I estimate the Debtors' Asbestos Liability to be between $50 million and $200 million, with approximately one-quarter of that liability accruing to pending claims and three-quarters accruing to future claims. I anticipate reducing the upper end of this range when I have the data to quantify the impact of non-disclosure of plaintiffs' exposure information, such as delay in the filing of bankruptcy trust claims. Hence, the above range is my best estimate of the Debtors' Asbestos Liability based on the current discovery record, my training and experience in the fields of economics and econometrics, and the application of those fields to the Debtors' facts and circumstances. The peer-reviewed scientific literature in Law and Economics, as discussed in more detail in Section II, and the scientific literature in econometrics, as discussed in more detail in Section IV, provide the foundation for my methodology to estimate the Debtors' Asbestos Liability. The estimate in *Garlock* and the resulting experience of the Garlock trust, the experience of other asbestos tort defendants, and the industrial hygiene science concerning gaskets affirm the reliability of my conclusions.

(17) To narrow the above estimated range, more detailed claims file documents such as interrogatory responses, other discovery, communications between plaintiffs' and Debtors' counsel, and the like would need to be collected and provided to me. The completion of that process would enable me to fully model the Debtors' Asbestos Liability. With those documents, I can quantify the impact of product exposure information not known to the Debtors at the time they litigated claims in the tort system (either because of non-disclosure of exposure information or delay in filing trust claims), which, in many instances, would have resulted in the Debtors having a lower "share" of those claims.

(18) Even without the collection and the above-referenced documents and resulting inputs, the data demonstrate that the Debtors' Asbestos Liability is less than $200 million, substantially below the $500 million that the Debtors have offered to pay claimants under their reorganization plan.[20]

### I.B.2.b. Tort System Opinion

(19) As I explain in this Initial Expert Report, settlements differ from liability for several reasons. For example, factors such as the parties' respective costs, litigation strategies, and information asymmetries—all factors separate and distinct from liability—affect settlement amounts. However, to provide the Court with as much information as possible, Debtors' counsel requested that I estimate the amount the Debtors would have paid (since the Petition Date and into the future) in settlements

[20] The Debtors have settled with the FCR for $545 million, with $45 million set aside for trust operational expenses. Notice of Filing of Plan Support Agreement, 832, No. 20-30608 (Bankr. W.D.N.C. September 24, 2021), at Exhibit A.

for asbestos-related claims had they not filed for chapter 11 but instead always remained in the tort system.

(20) One of the many problems with assuming that historical settlements, without modification, equate to liability is that the amount a defendant pays in tort system settlements depends on the litigation strategy it pursues. Asbestos defendants employ an array of litigation strategies. Some defendants enter numerous settlement deals, pay many claims, and infrequently litigate cases to trial. Other defendants refuse to settle before trial, spend large amounts on defense, and pay very few claims. Still other defendants employ a strategy somewhere between these two, where they try certain cases and settle others. If one asserts that liability can be extrapolated merely from settlements, an immediate implication is that two similarly situated defendants can have drastically different liability under identical fact patterns merely based on differences in their defense strategies. In other words, if settlements were a measure of a defendant's actual liability, then a litigant who employs a settlement approach would have a much higher liability than a similar defendant who employs a litigation approach. This clearly should not be the case.

(21) As a result, the defendant's litigation strategy constitutes a critical assumption in attempting to estimate future tort system payments. Historically, the Debtors pursued a settlement approach to asbestos claims. Given the litigation and insurance situation for these Debtors, whether dollars were spent on settlement payments or defense costs was essentially immaterial. This resulted in the payment of relatively small sums for numerous claims to avoid defense expenditures.

(22) Alternatively, the Debtors could have adopted a more litigious approach. As I discuss in Section II.B, John Crane Inc. ("JCI") manufactured or sold encapsulated asbestos-containing gaskets and packing. The claims plaintiffs made against JCI are essentially the same as those against the Debtors, as they are for the same products sold in the same time period. Unlike the Debtors, JCI employs a more litigious tort system approach: it refuses to settle claims prior to a jury verdict, resulting in much higher defense expenditures than the Debtors but many fewer paid claims.

(23) These two litigation strategies result in drastically different tort system payment extrapolations. Had the Debtors stayed in the tort system and maintained their "settlement approach," I estimate the Debtors would have paid asbestos-related claims between $425 million and $750 million on a net present value basis as of the Petition Date. Conversely, had the Debtors stayed in the tort system and adopted the JCI "litigation approach," I estimate the Debtors would have paid asbestos-related claims between $50 million and $100 million on a net present value basis as of the Petition Date.

(24) These different ranges highlight the importance of litigation strategy on claim payments in the tort system. A comparison of Murray and JCI demonstrates this point. Both defendants resolved approximately 6,250 mesothelioma claims between 2015 and 2019, the five full calendar years leading up to the Debtors' Petition Date. Those claims made similar allegations against both

companies concerning similar products; in fact, over 75% of the claimants that sued Murray also sued JCI. Murray paid 1,162 claims between 2015 and 2019, while JCI paid 9 claims—a 130-fold difference. Murray made aggregate payments of about $125 million, while JCI made aggregate payments of about $20 million—a six-fold difference. As one would expect, JCI attained these lower claim payments by incurring higher defense expenditures.

(25) It is illogical that the Debtors' Asbestos Liability varies depending on the chosen litigation strategy. In fact, neither the "settlement approach" range nor the "litigation approach" range represent the Debtors' Asbestos Liability. As established in the Law and Economics literature, a defendant's payments in the tort system may be higher or lower than its liability depending on various factors, such as asymmetries in the plaintiff's and defendant's respective costs and information. As I demonstrate later in this report, under the Debtors' settlement approach, their historical tort system settlements overstate their liability. They paid numerous claims to avoid even greater defense expenditures, not because of potential liability. Conversely, an estimate of the Debtors' liability based on the JCI litigation approach would understate their liability, as with that defense strategy, plaintiffs dismiss many claims with a low probability of a plaintiff verdict to avoid their own trial costs. The divergence in claim payments between the Debtors and JCI illustrate why tort system settlements cannot be directly extrapolated as a proxy for liability.

# II. The Law and Economics literature—settlements do not equal liability

## II.A. Overview of the literature

(26) Literature relating economics to settlement decision dynamics (hereinafter the "Law and Economics literature") serves as a foundation for my Estimation Opinion. This scientific literature describes in detail a simple conceptual proposition: the costs, both direct and indirect, of participating in a lawsuit affect the participants' economic incentive to settle the suit, so litigation settlements do not equate to a defendant's liability.[21] If a defendant faces significant potential costs to defend a lawsuit, it may choose to settle that suit for an amount that does not reflect the merits of the suit if such a settlement amount is less than the overall costs of defending the suit through dismissal or trial.[22] Likewise, in litigation, a plaintiff can extract a settlement well above the defendant's liability by imposing costs on the defendant. As I explain below, these dynamics impact asbestos-related litigation, as was described by Judge Hodges in the *Garlock* case.[23]

(27) The Law and Economics literature frames resolution of a legal dispute as a negotiation between a plaintiff and a defendant that involves three elements: (i) the defendant's willingness to pay a settlement; (ii) the plaintiff's willingness to accept a settlement; and (iii) the negotiation of the settlement itself. These elements are driven by, among other factors, the potential litigation costs and the relative information of each party.[24]

(28) As an illustration, Figure 1 below depicts the defendant's willingness to pay. The first component of the defendant's willingness to pay is the "Defendant's Expected Liability" (the light blue region of

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[21] Examples of direct costs include, but are not limited to, expenditures on lawyers, experts, and other litigation support vendors. Examples of indirect costs include, but are not limited to, the opportunity cost associated with the time of defendant and plaintiff personnel.

[22] Similarly, if a plaintiff faces significant potential costs of pursuing a lawsuit, the plaintiff may choose to settle his or her claim for less than the likely recovery if the suit went through trial.

[23] *See,* e.g., Garlock Order Estimating Aggregate Liability, at 39; Testimony of Dr. Charles E. Bates, *In re Garlock Sealing Technologies LLC, et al.,* No. 10-31607 (Bankr. W.D.N.C., August 2, 2013), at Exh. GST-8005, 78. In the Garlock bankruptcy, the Court recognized the difference between a legal liability and historical settlement approach to estimate the value of Garlock's mesothelioma claims, and in so doing recognized that settlements may be impacted by asymmetries in information and litigation costs. Garlock Order Estimating Aggregate Liability, at 4, 6, 57–58.

[24] *See*, e.g., Richard A. Posner, "An Economic Approach to Legal Procedure and Judicial Administration," *Journal of Legal Studies* 2, no. 2 (June 1973): 399–458; Lucian A. Bebchuk, "Litigation and Settlement Under Imperfect Information," *RAND Journal of Economics* 15, no. 3 (1984): 404–415; George L. Priest and Benjamin Klein, "The Selection of Disputes for Litigation," *Journal of Legal Studies* 13, no. 1 (January 1984): 1–55; David Rosenberg and Steven Shavell, "A Model in Which Suits Are Brought for Their Nuisance Value," *International Review of Law and Economics* 5 (1985): 3–13; Lucian A. Bebchuk, "Suing Solely to Extract a Settlement Offer," *Journal of Legal Studies* 17, no. 2 (June 1988): 437–450; Lucian A. Bebchuk, "A New Theory Concerning the Credibility and Success of Threats to Sue," *Journal of Legal Studies* 25, no. 1 (January 1996): 1–25; Zhiqi Chen, "Nuisance suits and contingent attorney fees," *Review of Law & Economics* 2, no. 3 (2006): 363–370; Kathryn E. Spier, "Chapter 4: Litigation," in *Handbook of Law and Economics,* eds. A. M. Polinsky and S. Shavell (Amsterdam: Elsevier, 2007): 259–342.

Figure 1), which equals the likelihood (expressed as a percentage) of the plaintiff's success at trial multiplied by the defendant's expected compensatory award share if the defendant is held liable at trial.

**Figure 1: Law and Economics model of defendant's willingness to pay**




(29) The second component is the "Defendant's Avoidable Costs," which are expenses that the defendant can avoid in litigation by settling.[25] For example, if a defendant would have to pay $1 million to litigate a case through trial, then even if the defendant knew it would attain a defense verdict, it would still have an economic incentive to offer a settlement of less than $1 million to avoid the high costs of attaining the defense verdict. The sum of these two elements determines the "Defendant's Highest Settlement Offer," as it represents the total remaining expected cost that the defendant would incur from not settling the case.[26]

(30) Figure 2 below depicts the plaintiff's willingness to accept a settlement. The structure parallels that of the defendant. The first component remains the Defendant's Expected Liability (again the light blue region in Figure 2). The second component is the "Plaintiff's Avoidable Costs."[27] In contrast to the defendant, the model subtracts the plaintiff's avoidable costs to determine the plaintiff's willingness to accept a settlement. The difference between these two components determines the "Plaintiff's Lowest Settlement Demand," as it represents the total expected recovery the plaintiff would gain from not settling the case.[28]

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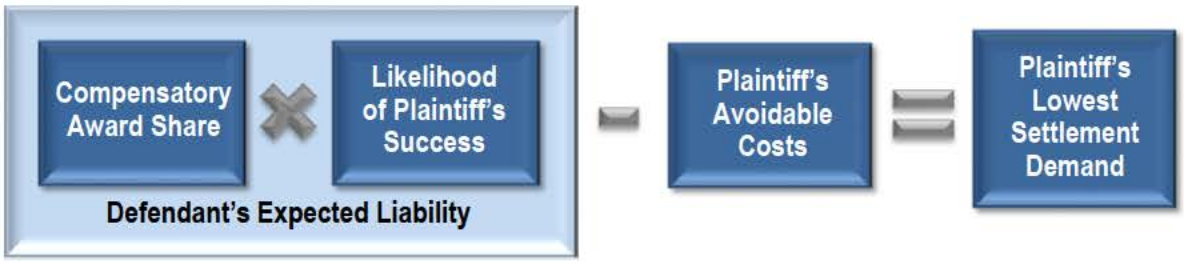
25 Examples of those avoidable transaction costs include, but are not limited to, defense expenditures on lawyers, experts, and other litigation support vendors, and the time of defendant personnel.

26 If a plaintiff requested a settlement above this number, a (risk-neutral) defendant would be better off not settling and would continue to litigate. By contrast, with any settlement below this amount, the defendant would be better off settling than litigating the case all the way through trial (considering here only the impact of settlement on that case).

27 Examples of those transaction costs include expenditures on experts, filing fees, litigation support vendors and the time of the plaintiff. However, a plaintiff settling with one defendant in a multi-defendant case like those in the asbestos litigation does not lower the plaintiff's potential transaction costs because the experts, filing fees, litigation support vendors, etc. will still be necessary for the remaining defendants. This dynamic only changes when there is a single defendant remaining. Unlike litigation costs to the defendant, contingency rates charged by the plaintiff's counsel are not included in this calculation because they are not avoidable costs: the claimant is going to have to pay the same contingency fee costs (assuming the same settlement value) regardless of how early or late in the process a claim is resolved.

28 If a defendant offered a settlement below this number, a (risk-neutral) plaintiff would be better off not settling and

**Figure 2: Law and Economics model of plaintiff's willingness to accept a settlement**




(31) In cases in which the Defendant's Highest Settlement Offer is greater than the Plaintiff's Lowest Settlement Demand, settlements typically occur. Economists call the range between the Defendant's Highest Settlement Offer and the Plaintiff's Lowest Settlement Demand the "Settlement Core." When both parties have the same information to predict the Defendant's Expected Liability and have a general understanding about the cost structure of the opposing party, settlements should fall within the Settlement Core. With full information disclosure, this expectation should apply to asbestos litigation because (i) defendants have faced numerous cases, represented by experienced defense attorneys, opposite familiar plaintiffs' counsel; and (ii) sophisticated and experienced plaintiffs' counsel have brought numerous cases, opposite familiar defendants and defense counsel.[29,30]

(32) As can be seen from Figure 1 and Figure 2, settlements can be more or less than the defendant's share of any harm suffered by the plaintiff. Depending on the nature of the litigation and which party has higher avoidable costs, (i) the plaintiffs may have an economic incentive to sue defendants regardless of the strength of their claims against such defendants, or (ii) the plaintiffs' incentive to sue defendants may be depressed. When naming an additional defendant imposes significant costs on that defendant and imposes little to no incremental costs on the plaintiff, the plaintiff is economically incentivized to sue more defendants. This dynamic is especially pronounced when the defense costs are significantly higher than the defendant's expected liability, as often occurs with asbestos mass tort litigation. By contrast, where a plaintiff holds a legitimate claim against a single defendant, but that claim has either direct or indirect costs that outweigh the projected recovery, plaintiffs' incentive to

would continue to litigate. By contrast, with any settlement above this amount, the plaintiff would be better off settling than continuing to litigate.

29 The Law and Economics model for settlement discussed in the literature is typically applied to general settlement negotiations rather than focusing on specific types of cases. Some studies cite personal injury cases as examples to illustrate that the economic framework of settlement can be applied to such cases. For example, Spier (2007) mentions: "[t]ake a single lawsuit – a personal injury case, perhaps – that would otherwise go to trial. As we have seen, it is certainly in the litigants' interest to resolve their dispute out of court. Through a private settlement, the parties can avoid their private litigation costs $C_p + C_d$ and (if they are risk averse) the risk premium associated with trials." Kathryn E. Spier, "Chapter 4: Litigation," in *Handbook of Law and Economics*, eds. A. M. Polinsky and S. Shavell (Amsterdam: Elsevier, 2007): 280.

30 The Law and Economics model for settlement is complicated in mass torts, like asbestos litigation, by the existence of many claims against either a single defendant or multiple defendants. The cost structures of multiple claims and repeated settlement negotiation lead to more complex negotiation equilibria and multiple potential litigation strategies, as described in Section II.B. However, the basic structure of settlements described here for individual cases still applies for settlements struck within a mass tort context.

sue the defendant is depressed. For example, sex abuse claims often have depressed filing rates against defendants.[31]

(33) Ultimately, the scholarly research reflected in the Law and Economics literature is clear: settlements almost always differ from liability.[32] Even in situations where the plaintiff and defendant have the same information, settlements deviate from liability by a function of the avoidable litigation costs of each party. The deviation between a settlement and the expected liability in a case reduces to an empirical question for which the answer, the Law and Economics literature informs us, will change with the plaintiff's and the defendant's avoidable litigation costs, which in turn change across jurisdictions, alternative case management orders ("CMOs"), the defendant's litigation strategy, and the plaintiff's litigation strategy. Section IV explores these points further.

## II.B. Case study: Litigation strategy impacts settlements, not liability

(34) Gasket and packing defendants provide an excellent example of the way in which litigation strategy impacts settlements, as such defendants have pursued very different defense strategies.

(35) As noted earlier in this report, the asbestos-related claims asserted against JCI parallel those asserted against the Debtors.[33] However, JCI historically has employed a very different approach to defending

[31] Many abuse victims never file claims in the tort system. Some forego claims to avoid public disclosure of their experiences. Others forego claims due to the dynamics of abuse claims. Abuse claims typically name a single defendant, and that defendant often has reputational incentives to defend the claim. The added reputational incentive increases potential defendants' willingness to incur defense costs instead of settling claims. As a result, plaintiff law firms anticipate material litigation costs. In the face of those litigation costs, many meritorious claims of lower monetary value are not pursued in the tort system as the anticipated litigation costs would be more than the expected recovery.

The Boy Scouts of America ("BSA") bankruptcy illustrates the impact of these incentives on claim rates for sex abuse claims. BSA faced approximately 275 pending lawsuits in state and federal courts across the United States when it filed for chapter 11, with an additional 1,400 known unfiled claims. The bankruptcy filing substantially reduced the transaction costs associated with filing a claim, and the number of claims increased to more than 82,000 during the bankruptcy proceedings. Debtors' Informational Brief, *In re Boy Scouts of America and Delaware BSA, LLC*, 4, No. 20-10343 (Bankr. D. Del. February 18, 2020), at 3; Declaration of Dr. Charles E. Bates in Support of Confirmation of the Third Modified Fifth Amended Plan of Reorganization for Boy Scouts of America and Delaware BSA, LLC, *In re Boy Scouts of America and Delaware, LLC*, 9388, No. 20-10343 (Bankr. D. Del. March 17, 2022), at ¶ 5.

[32] The Law and Economics literature recognizes that settlements are not equivalent to liability and are influenced by many other factors. For instance, Bebchuk (1988) demonstrates that "the higher the probability attached by the defendant to the suit being a PEV suit [i.e., a positive-expected-value lawsuit in which the expected judgment award exceeds the plaintiff's litigation costs], and the greater the defendant's litigation costs, then the greater the amount that the plaintiff will succeed in extracting." Furthermore, Bebchuk (1996) finds that "the settlement range at any given round [of settlement negotiation] reflects the expected judgment and the litigation costs that remain." Spier (2007) identifies a special case in which the two litigants have the same beliefs about what will happen if the case goes to trial, and "if the plaintiff's and defendant's litigation costs are of roughly the same magnitude, then the settlement amount would accurately reflect the discounted expected judgment at trial." *See, e.g.*, Lucian A. Bebchuk, "Suing Solely to Extract a Settlement Offer," *Journal of Legal Studies* 17, no. 2 (June 1988): 437–450; Lucian A. Bebchuk, "A New Theory Concerning the Credibility and Success of Threats to Sue," *Journal of Legal Studies* 25, no. 1 (1996): 1–25; Spier, Kathryn E. "Chapter 4: Litigation," in *Handbook of Law and Economics*, eds. A. M. Polinsky and S. Shavell (Amsterdam: Elsevier, 2007): 259–342.

[33] Affidavit of Carl R. Schwertz, No. 20-BK-30608 (W.D.N.C. September 12, 2025) [hereinafter "Schwertz Affidavit"], at

those claims than the Debtors. In the tort system, JCI employs a litigation approach, refusing to settle claims prior to a jury verdict.[34] JCI has a public posture of litigating every case through the earlier of dismissal or trial.[35] Thus, JCI only pays claims that obtain a plaintiff verdict.[36]

(36) Figure 3 displays the number of mesothelioma claims resolved, the percent of such claims paid, and the aggregate amounts paid to those plaintiffs for Aldrich, Murray, and JCI from 2015 to 2019.[37] All three defendants resolved more than 6,000 mesothelioma claims over the five years. Aldrich paid approximately 45% of its mesothelioma claims, with an average payment to plaintiffs of approximately $53,000. Murray paid approximately 19% of its mesothelioma claims, with an average payment to plaintiffs of approximately $85,000. The Debtors entered numerous settlement deals, paid many claims, and litigated virtually no cases through trial. However, payment amounts for almost every claim were significantly less than the cost to defend that claim through dismissal or trial.[38] Conversely, JCI paid 9 mesothelioma claims, with an average payment to plaintiffs of more than $1.4 million.

¶¶ 10, 11, 24. The overlap in claims supports the similarity in these defendants. Of the more than 6,000 claims naming JCI from 2015–2019, 82% also named Aldrich and 70% also named Murray. For more information, see Appendix C.

34 Schwertz Affidavit, at ¶ 22.

35 Schwertz Affidavit, at ¶ 22.

36 Schwertz Affidavit, at ¶ 22.

37 Throughout this Initial Expert Report, I use date of settlement when referring to resolution dates or payment dates. For mesothelioma claims settled between 2015 and 2019, the average lag between settlement date and payment date for Aldrich and Murray claims is approximately 5 months.

38 My understanding is that the cost to take a case to trial and potentially beyond averages more than $1 million per case. Declaration of Allan Tananbaum in Support of Debtors' Complaint for Injunctive and Declaratory Relief, Related Motions, and the Chapter 11 Cases, 29, No. 20-BK-30608 (W.D.N.C. June 18, 2020), at ¶ 22; *See also* Informational Brief of DBMP LLC, *In re DBMP LLC*, 22, No. 20-30080 (JWC) (Bankr. W.D.N.C. January 23, 2020), at 2 ("Because of substantial defense costs, Old CT settled the vast majority of the remaining claims, not because they posed a material liability risk but because it was far cheaper than trying cases to verdict. That effort can often exceed $1 million."); Declaration of Charles E. Bates, PhD, *In re Bestwall LLC*, No. 17-31795 (LTB) (Bankr. W.D.N.C. June 15, 2020), at 15 (Table 1, row "(6) Resolved after verdict," column "Total defense costs"); Expert Report of Charles H. Mullin, PhD, *In re LTL Management LLC,* 956, No. 21-30589-JCW (Bankr. D.N.J. October 29, 2021), at 8 ("The Debtor estimates that it costs some $2 million to $5 million to try a single ovarian cancer claim."); Expert Report of Charles H. Mullin, PhD, *In re Aearo Technologies LLC, et al.*, 1468-1, No. 22-02890-JJG-11 (Bankr. S.D. Ind. March 27, 2023), at 16 ("I understand from counsel that future trials for these claims would cost approximately $2.5 million per trial after remand.").

**Figure 3: Mesothelioma payment statistics from 2015 to 2019 for Aldrich, Murray, and JCI**

| Company | Number of claims resolved | Number of claims paid | Payment rate | Average payment for claims | Average annual indemnity for claims |
|---|---|---|---|---|---|
| Aldrich | 8,040 | 3,589 | 44.6% | $53,276 | $38,241,188 |
| Murray | 6,220 | 1,162 | 18.7% | $84,547 | $19,648,756 |
| JCI[39] | 6,250[40] | 9[41] | 0.14% | $1,460,000[42] | $2,630,000[43] |

(37) Overall, Aldrich paid $38 million to plaintiffs per year on average for 2015–2019 mesothelioma claim resolutions, Murray paid $20 million, and JCI paid less than $3 million. Thus, while the products produced by these three companies caused similar harm and involved substantial overlap in claimants, their annual tort system payments differ by more than 10-fold, and the number of claims receiving compensation differs by more than 100-fold. Not surprisingly, although JCI pays significantly less to plaintiffs than Aldrich or Murray for alleged exposure stemming from effectively the same asbestos-containing products, it also incurs significantly more defense costs.[44]

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39 Smiths Group PLC, Annual Report, October 2019, https://www.smiths.com/media/k51nzdkl/smiths_group_annual-report_fy19.pdf, 183–184; Smiths Group PLC, Annual Report, October 2018, https://www.smiths.com/media/zvfeqnxp/smiths-group-annual-report-fy2018.pdf, 167–168.

40 JCI has been named on approximately 1,250 mesothelioma claims per year from 2010 to 2019. JCI's public disclosures do not provide annual counts of resolved claims by disease. Therefore, I estimate the number of resolved mesothelioma claims for JCI for 2015–2019 as closing five years of claim filings (5 × 1,250 = 6,250).

41 JCI's public disclosures report 13 paid claims between 2015 and 2019 (inclusive), but do not differentiate those by disease. Publicly available information identifies four of these as non-mesothelioma verdicts and eight as mesothelioma, with one remaining unknown. These four non-mesothelioma claims have docket numbers 58 EAL 2018, 2015-07-001334, 2015-10-002343, and 2016-10-002888. The count in this figure of nine mesothelioma claims includes the one verdict with unknown disease. Pimpinello v. John Crane, Inc., 2015-10-002343, No. 1807160024 (Bankr. 1st Jud. Dist. PA November 30, 2017); Wysocki v. John Crane Inc., J.A. Sexauer Manufacturing Co., Amtico, Weil McLain, 2016-10-002888, No. 1901230030 (Bankr. 1st Jud. Dist. PA December 19, 2018); Murray v. John Crane, Inc., 2015-07-001334, No. 1704270041 (Bankr. 1st Jud. Dist. PA March 01, 2017); William Roverano, et al. v. John Crane Inc., et al., Nos. 58 EAL 2018; Moore, Estate of v. John Crane Inc., 06-2013-CA-011729, No. 1708210012 (Fla. Cir. Ct. May 9, 2013); Holder Personal Representative of Holder, Estate of v. John Crane Inc., et al., 2017-05-004459, No. 1909250035 (Pa. Com. Pl. August 20, 2019); Shaw v. John Crane Inc., CGC-15-276481, No. 1705040026 (Cal. Super. December 23, 2015); Estate of William Voelker v. John Crane Inc., No. 801886-2013 (N.Y. Sup., 8th Jud. Dist.); Vera Letha Adams, et al. v. John Crane Inc., No. STCV1003924 (Ga. State, Chatham Co.); Robert G. Sprague Jr., et al. v. A.W. Chesterton Co., et al., No. 15CV14771 (Oregon Cir., Multnomah Co.); Sharon Daniels, et al. v John Crane Inc., et al., No. 1-19-0170 (Ill App., 1st Dist.); George and Peggy Parker v. John Crane, No. CL1402913F-15 (Va. Cir.).

42 JCI's public disclosures do not differentiate payment amounts by disease. The figure reports the average payment value for all 13 paid claims and assumes that the average payment value for the non-mesothelioma claims is the same as the average payment value for the mesothelioma claims. Typically, mesothelioma claims receive more compensation than non-mesothelioma claims, so the average recovery for the eight to nine mesothelioma paid claims likely exceeds $1.46 million. However, the actual average compensation per mesothelioma paid claim must be less than $2.1 million, as $2.1 million would be the average if the four non-mesothelioma claims had received no payment (which I know to be incorrect).

43 JCI's public disclosures do not differentiate payment amounts by disease. As with the average mesothelioma value, for purposes of the average annual mesothelioma indemnity, I assumed that non-mesothelioma claims received as much as mesothelioma claims. The average annual mesothelioma indemnity must be less than $3.8 million, as $3.8 million would be the average if the four non-mesothelioma claims had received no payment (which I know to be incorrect).

44 Smiths Group PLC, Annual Report, October 2019. https://www.smiths.com/media/k51nzdkl/smiths_group_annual-report_fy19.pdf, 183–184; Smiths Group PLC, Annual Report, October 2018, https://www.smiths.com/media/zvfeqnxp/smiths-group-annual-report-fy2018.pdf, 167–168.

(38) The published studies on Law and Economics tell us that the Debtors' payments to plaintiffs exceed their liability, as they elected to pay cost avoidance settlements in lieu of defense expenditures. In contrast, those same studies tell us that JCI's total payments to plaintiffs fall below its aggregate liability, as JCI credibly established its no-settlement position, which has incentivized plaintiffs to abandon lower-liability claims.

(39) The difference between what the Debtors and JCI paid plaintiffs in the tort system for essentially the same alleged conduct (i.e., the placement of asbestos-containing gaskets and packing into the stream of commerce) demonstrates that (i) transaction costs are a fundamental part of settlement payments, and (ii) the total amount the Debtors historically paid in asbestos-related settlements should not simply be extrapolated as a measure of their liability.

## II.C. Case study: Information asymmetries between plaintiffs and defendants impact settlement values

(40) In asbestos litigation, plaintiffs' counsel typically have superior information compared to defendants' counsel. At the beginning of each asbestos lawsuit, each defendant typically knows little regarding the plaintiff's case other than what it learns from the complaint—often a boilerplate document with little information relevant for defense.[45] The defendant must use litigation tools, and incur their associated costs, to learn the plaintiff's exposures, or settle the case. By contrast, while the case may be an individual plaintiff's first claim against the defendant, plaintiffs' counsel typically has litigated numerous prior asbestos cases against the defendant. Thus, plaintiffs' counsel already knows the relevant information about the defendant. This information asymmetry provides plaintiffs' counsel economic leverage on defendants to extract settlements above liability. The greater the cost to defendants to attain information possessed by the plaintiffs, the greater the plaintiffs' counsel's leverage.

(41) Therefore, plaintiffs' counsel has an economic incentive to make it expensive for defendants to obtain the information those defendants require for defense. Plaintiffs' counsel also has an incentive to create the impression that each defendant has a large liability share, which can be done by avoiding or

[45] Informational Brief, at 20–30; *See also* Complaint filed in the Court of Common Pleas of Beaver County, Pennsylvania, in *Richard Shiel, et al. vs A.O. Smith Corporation, et al.*, naming over one-hundred fifty defendants, with the only case specific details being residency information as to the Plaintiffs and the Defendants, the Plaintiff's disease and diagnosis date, and that plaintiff (i) "worked at J&L Steel in Aliquippa, PA from 1966 to 1985, as a Laborer, Millwright, and in the Multicraft Group," (ii) "worked part time as a Laborer at Sarracino Auto Sales in Burgettstown, PA for a few years in the late 1950s/early 1960s, and has performed auto work on his personal automobiles throughout his life," (iii) "served his country in the United States Navy from 1963 to 1966," and (iv) "was exposed to and did inhale asbestos dust and asbestos fibers, which caused the conditions as hereinafter set forth, resulting in Plaintiffs impairment." It is my understanding that this is by no means atypical for complaints filed in the asbestos litigation; Complaint filed in the Court of Common Pleas of Beaver County, Pennsylvania, *Richard Shiel, et al. vs A.O. Smith Corporation, et al.*, No. 11548-2019 (Ct. Com. Pl. P.A. November 16, 2019), at 36 [hereinafter "Shiel Complaint"].

delaying disclosure of alternative exposure sources. This latter action, in terms of the Law and Economics literature, has the effect of increasing, in the defendant's mind, the Defendant's Expected Liability because the defendant is unaware of other potentially culpable parties. As a result, the defendant may perceive its liability share as higher than its actual share, which may increase the settlement amount above the true Defendant's Expected Liability.

(42) In this vein, the bankruptcy trusts of the former tort system defendants create an opportunity for "hidden shares" not visible to tort system defendants. Information supplied by plaintiffs' counsel about an individual plaintiff's exposure to the products of companies reorganized in chapter 11, whose claims are now resolved through bankruptcy trusts, can be vague or nonexistent, depending on the rules of the applicable trust, and may or may not be disclosed to defendants in the tort system. This information asymmetry increases, from the defendant's perspective, the Defendant's Expected Liability and thus the settlement the defendant may be willing to pay. The defendant could incur defense costs to attempt to uncover the missing exposure information, but because that also increases the defendant's avoidable costs it also increases the settlement the defendant may be willing to pay.

(43) Comparing the asbestos litigation of today to the earlier period when all the relevant defendants participated in the tort system makes clear the impact of this information asymmetry. The claims now being made against, and the damages sought from, the Debtors, and hence the Debtors' Asbestos Liability, are not materially different relative to the claims made against them 30 years ago. But as I demonstrate below, due to the different levels of information now available to the parties in litigation, the Debtors' settlement payments have increased dramatically, again illustrating that settlements do not equate to liability.

### II.C.1. Asbestos litigation during the pre-"Bankruptcy Wave" tort system

(44) In the United States, asbestos personal injury litigation commenced in earnest during the 1970s. This litigation became an industry unto itself, with now over 10,000 companies having been named in asbestos lawsuits.[46] Initially, and through the late 1990s, the primary defendants in the litigation were part of the asbestos industry, i.e., miners and sellers of raw asbestos and the companies that used raw asbestos to manufacture relatively high-dose products, like thermal insulation ("Asbestos Industry Companies"). Many of these companies were members of a consortium of asbestos defendants known as the Asbestos Claims Facility ("ACF") (from 1985 to 1988) and its successor, the Center for Claims Resolution ("CCR") (from 1988 until 2002), which facilitated the joint defense of about 20 asbestos defendants.[47] These primary defendants were named in almost every asbestos-related lawsuit and

[46] Joseph J. Welter, et al., *Alive and Strong in 2014*, Toxic Torts and Environmental Law, Asbestos Litigation, 50 (April 2014).

[47] At the time of its formation, the CCR was comprised of 21 defendants. Lawrence Fitzpatrick, "The Center for Claims Resolution," *Law and Contemporary Problems* 53, no.4 (1988): 13. In the early 2000s, the majority of CCR defendants

collectively paid hundreds of millions of dollars annually to resolve mesothelioma and other asbestos-related claims.[48] The Debtors were not Asbestos Industry Companies or members of either consortium. During the 1990s, collectively, the Debtors paid less than $3 million to settle the mesothelioma claims brought against them, indicating that the Debtors' products were not the primary cause of, or a significant contributor to, the occurrence of mesothelioma.

(45) Up until the early 2000s, when the so-called "Bankruptcy Wave" (described below) of asbestos defendant chapter 11 filings occurred, asbestos litigation had certain characteristics relevant to the Law and Economics model for settlements:

- Substantially all Asbestos Industry Companies were sued in the tort system.[49]
- Plaintiffs' counsel had economic incentives to pursue as many defendants as possible to obtain the highest collective recovery.[50]
- Plaintiffs' counsel almost always was hired on a contingency fee basis. Defendants' counsel almost always was hired on an hourly basis.[51]
- Plaintiffs' counsel had superior access and control relating to the evidence of plaintiffs' potential exposure to asbestos-containing products based on plaintiff interviews and potential interviews with plaintiffs' family members or plaintiffs' coworkers.

(46) When Asbestos Industry Companies were tort system defendants, plaintiffs named them on complaints, described exposures to their products in answers to both interrogatories and depositions, and provided specific product identification. This early and comprehensive exposure disclosure allowed peripheral defendants, such as Aldrich and Murray, to attain early dismissals, pay low-value settlements, or avoid being named altogether. As shown in Figure 4, during the second half of the 1990s, Aldrich and Murray typically paid 50–100 mesothelioma claims per year. Combined, Aldrich

filed for bankruptcy and exited the tort system, effectively ending the CCR. The CCR data was provided to Bates White by one of the CCR member companies that had entered bankruptcy. These data have been used and produced in multiple other litigations.

48 *See* Charles E. Bates and Charles H. Mullin, "The Bankruptcy Wave of 2000 - Companies Sunk by an Ocean of Recruited Asbestos Claims," *Mealey's Asbestos Bankruptcy Report* 21, no. 24 (January 2007): 39–44; Charles E. Bates, Charles H. Mullin, and Rachel Marquardt, "The Naming Game," *Mealey's Asbestos Bankruptcy Report* 24, no. 15 (September 2009): 1–7.

49 Charles E. Bates and Charles H. Mullin, "The Bankruptcy Wave of 2000 - Companies Sunk by an Ocean of Recruited Asbestos Claims," *Mealey's Asbestos Bankruptcy Report* 21, no. 24 (January 2007): 39–44.

50 Michelle J. White, "Asbestos and the Future of Mass Torts," *Journal of Economic Perspectives* 18, no. 2 (Spring 2004): 187–188, 195.

51 Amended Memorandum, Orders, and Final Judgment, *In re Johns-Manville Corporation et al.*, No. 90-3973 (E.D.N.Y.), 90-7518 (S.D.N.Y.), 82 B 11656 (BRL)–82 B 11676 (BRL) (Jan. 19, 1995), at 561; *Fairness in Asbestos Compensation Act of 1999: Hearing before Committee on the Judiciary*, 106th Cong. 70 (1999) (statement of Christopher F. Edley, Jr., Esq., Co-director, The Civil Rights Project).

and Murray paid less than $3 million for mesothelioma claims in the 1990s. During the same period, CCR defendants collectively paid more than $1 billion on over 8,000 mesothelioma claims.

**Figure 4: Aldrich, Murray, and CCR mesothelioma settlements in the 1990s**

| Settlement year | Aldrich | Murray | Aldrich & Murray total | CCR |
|---|---|---|---|---|
| 1990 | 0 | 0 | 0 | 835 |
| 1991 | 0 | 0 | 0 | 575 |
| 1992 | 0 | 1 | 1 | 611 |
| 1993 | 12 | 0 | 12 | 952 |
| 1994 | 91 | 1 | 92 | 916 |
| 1995 | 44 | 3 | 47 | 838 |
| 1996 | 67 | 5 | 72 | 439 |
| 1997 | 78 | 4 | 82 | 474 |
| 1998 | 105 | 0 | 105 | 1,331 |
| 1999 | 52 | 17 | 69 | 1,520 |
| **Total** | **449** | **31** | **480** | **8,491** |

(47) The Debtors' *de minimis* expenditure on mesothelioma claims should not be confounded with the plaintiffs' bar being unaware of the Debtors' existence: plaintiffs' counsel named the Debtors on more than 90,000 non-malignant claims in the 1990s. Like many of the Debtors' later mesothelioma settlements, payments on these non-malignant claims were likely almost entirely for cost avoidance (see Section IV.A). The Debtors resolved these non-malignant claims for an average of approximately $375 per claim ($34 million in total). In contrast, the CCR defendants resolved about 200,000 non-malignant claims during the same period at an average resolution of approximately $10,000 per claim (more than $2 billion in total).

### II.C.2. The "Bankruptcy Wave"

(48) While a few primary defendants who were Asbestos Industry Companies had filed for chapter 11 earlier, the early 2000s saw a wave (the so-called Bankruptcy Wave) of chapter 11 filings by entities that had been the primary defendants in the asbestos litigation during the 1990s, including many CCR members.[52] These filings included, among others, the companies listed in Figure 5, each of which established an asbestos trust with more than $100 million in assets. Collectively, these trusts were funded in excess of $34 billion in assets.[53]

[52] Charles E. Bates and Charles H. Mullin, "The Bankruptcy Wave of 2000 - Companies Sunk by an Ocean of Recruited Asbestos Claims," *Mealey's Asbestos Bankruptcy Report* 21, no. 24 (January 2007): 39–44.

[53] Assets include initial debtor funding and contributions over time from debtors and insurance. Accumulated earnings on invested funds are excluded.

**Figure 5: Bankruptcy Wave chapter 11 filings and trust funding**

| Company | Chapter 11 filing year | Asbestos trust funding |
|---|---|---|
| Armstrong World Industries | 2000 | $2,575 MM |
| Babcock & Wilcox | 2000 | $1,975 MM |
| Owens Corning | 2000 | $5,100 MM |
| Pittsburgh Corning | 2000 | $4,125 MM |
| Burns & Roe | 2001 | $175 MM |
| Federal Mogul | 2001 | $900 MM |
| G-I Holdings | 2001 | $775 MM |
| Swan | 2001 | $150 MM |
| US Gypsum | 2001 | $3,950 MM |
| WR Grace | 2001 | $3,600 MM |
| AC&S | 2002 | $525 MM |
| AP Green | 2002 | $375 MM |
| JT Thorpe TX | 2002 | $275 MM |
| Kaiser Aluminum | 2002 | $1,275 MM |
| NARCO[54] | 2002 | $2,500 MM |
| Plibrico | 2002 | $200 MM |
| Western Asbestos | 2002 | $2,175 MM |
| Combustion Engineering | 2003 | $1,225 MM |
| Congoleum | 2003 | $275 MM |
| Flintkote | 2004 | $800 MM |
| JT Thorpe CA | 2004 | $250 MM |
| Quigley | 2004 | $900 MM |
| **Total** | | **$34,100 MM** |

## II.C.3. Asbestos litigation in the post-"Bankruptcy Wave" tort system

(49) The Bankruptcy Wave changed the nature of asbestos mass tort litigation for the defendants that remained in the tort system, many of which were peripheral defendants like the Debtors. The bankruptcies and resulting 524(g) trusts created a dual system of trusts and tort defendants. Under the dual system, plaintiffs could collect from trusts without contemporaneously informing tort defendants of their exposure to the products of the companies that had created the chapter 11 trusts.[55] As a result:

[54] The size of the NARCO trust is an estimate based on initial contributions and a buyout from Honeywell, as well as claim payments from inception to 2022. The NARCO trust was initially funded by a cash and stock contribution from Honeywell as well as an obligation of Honeywell to make future payments to claimants. On November 20, 2022, Honeywell paid the trust a one-time payment of $1.325 billion to release themselves from future monetary obligations. Notice of Filing Annual Report, Financial Statements and Results of Operations of the North American Refractories Company Asbestos Personal Injury Settlement Trust for Fiscal Year Ended December 31, 2022, *In re North American Refractories Company, et al*., 8512, No. 02-20198 (Bankr. W.D. Pa., 2023).

[55] Charles E. Bates and Charles H. Mullin, "Having Your Tort and Eating It Too?" *Mealey's Asbestos Bankruptcy Report* 6, no. 4 (November 2006): 1–5.

- Entities that had previously paid most of the settlements and verdicts in asbestos cases were no longer part of those tort cases, having filed for chapter 11.[56]
- Plaintiffs' counsel now had an economic incentive to not disclose in the tort system exposures to products of the companies that had filed for chapter 11.
- Plaintiffs' counsel routinely delayed filing claims against the trusts of those former tort system defendants until after the resolution of claimants' tort claims against tort system defendants, meaning that there was no evidence in the tort case of plaintiffs' exposure to the bankrupt entities' asbestos-containing products.[57]

(50) The lack of disclosure of exposure to bankrupt companies' products increased the costs for the defendants that remained in the tort system and that, like the Debtors, previously had paid little or nothing for mesothelioma claims. These increased costs came despite nothing about the claims against the Debtors having changed, other than the absence of the bankrupt companies as codefendants.

[56] "Bankruptcy protection thus changed the tenor and tone of asbestos litigation by barring suits against bankrupt defendants…In fact, 'nearly all of the major manufacturers' have declared bankruptcy…Because the major asbestos manufacturers are protected from lawsuits, plaintiffs are left with 'peripheral' companies: those that played less prominent roles in asbestos production and use (e.g., companies that may have asbestos 'encapsulated in their products or [companies] having asbestos on their premises')." Lloyd Dixon, Geoffrey McGovern, and Amy Coombe, *Asbestos Bankruptcy Trusts: An Overview of Trust Structure and Activity with Detailed Reports on the Largest Trusts* (Santa Monica, CA: RAND, 2010): 3.

[57] Garlock Order Estimating Aggregate Liability, at ¶¶ 58–68.

# III. Application of the Law and Economics literature to the Debtors' asbestos litigation settlement history

(51) In Section II, I provided an overview of the Law and Economics literature and model for settlements, as well as case studies applying that literature to different aspects of asbestos litigation. In this section, I further apply the concepts from the Law and Economics literature to the Debtors and their specific tort system history. I provide this background to show that the Debtors settled many claims for amounts consistent with cost avoidance. I then quantify the impact of cost avoidance in Section IV as part of my Estimation Opinion.

## III.A. Post-"Bankruptcy Wave," information asymmetry increased settlements

(52) Between 1990 and 1999, the Debtors collectively paid less than $3 million in aggregate to settle mesothelioma claims. At that time, the Asbestos Industry Companies, the Debtors, and other peripheral defendants similar to the Debtors were codefendants in the tort system. All product exposure information was centralized in one lawsuit, and the Asbestos Industry Companies paid substantially all the liability for mesothelioma claims. How does one explain the fact that the Debtors paid less than $3 million collectively during a 10-year period pre-Bankruptcy Wave on mesothelioma claims but settlement payments for substantially equivalent mesothelioma claims against them grew to over $50 million per year post-Bankruptcy Wave?

(53) The Law and Economics literature explains this outcome. As described in Section II, the literature demonstrates that settlements can deviate from liability if one party in litigation has an information advantage as to the claim.[58] Prior to the Bankruptcy Wave, all product exposure information was centralized in one lawsuit, resulting in all litigants having common information about the claimant. After the Bankruptcy Wave, a dual system emerged; 524(g) trusts made payments for the liabilities of primary members of the asbestos industry reorganized through bankruptcy, while peripheral defendants remained in the tort system. But the creation of this dual system should not, and did not, change the Debtors' underlying liability for mesothelioma claims. Nevertheless, because the primary defendants were satisfying their liability outside the tort system through bankruptcy trusts (with tens of billions of dollars), the tort suits changed dramatically. In sum, even though no facts regarding the

[58] According to Law and Economics literature, in addition to the litigation costs of plaintiffs and defendants, the presence of asymmetric information between the parties also contributes to deviations in settlement from liability. *See, e.g.*, Lucian A. Bebchuk, "Litigation and Settlement Under Imperfect Information," *RAND Journal of Economics* 15, no. 3 (1984): 404–415; Kathryn E. Spier, "Chapter 4: Litigation," in *Handbook of Law and Economics*, eds. A. M. Polinsky and S. Shavell (Amsterdam: Elsevier, 2007): 259–342.

manufacture, sale, or use of the Debtors' equipment had changed, claims against the Debtors, along with settlement and trial demands, substantially increased.

(54) Prior to the Bankruptcy Wave, gasket and other low-dose defendants would typically defend their cases by pointing to plaintiffs' exposures to the products of Asbestos Industry Companies that almost invariably would be the cause of any disease.[59] With the exit of these primary defendants from the tort system, plaintiffs could now collect payments from these bankrupt entities' trusts without any longer having to disclose information about exposure to these bankrupt entities' products in their tort cases. This led to the practice in the tort system of not disclosing, or delaying disclosure, to these bankrupt entities' products. By not disclosing, or delaying disclosure, of these alternative exposures, plaintiffs' counsel drove up settlement rates and average recoveries in the tort system before recovering from the bankruptcy trusts.[60]

(55) The exact extent to which plaintiffs' tort system disclosures underrepresented their exposure to bankrupt companies' products is not fully known. However, available information supports the proposition that non-disclosure was likely widespread. Non-disclosure is most readily evident by the frequent delay by plaintiffs' counsel in the filing of bankruptcy trust claims, where evidence of exposure to many high dose asbestos products would have been revealed.

- Judge Hodges found in the *Garlock* bankruptcy that it was a "regular practice" for plaintiff law firms to delay filing trust claims until after tort cases were largely resolved, and that this practice was widespread.[61] Representatives of three different law firms testified in *Garlock* that trust claim filings were intentionally delayed in instances where such a delay could enhance the value of the pending tort claims.[62]
- Judge Hodges further noted in the *Garlock* case that in the tort system "[o]ne of the leading plaintiff law firms with a national practice published a 23-page set of directions for instructing their clients on how to testify in discovery."[63] The memo gave plaintiffs a script for depositions, including ten pages of detailed product descriptions for plaintiffs to memorize. It explained to clients that "[h]ow well you know the name of each product and how you were exposed to it will

[59] Garlock Order Estimating Aggregate Liability, at ¶ 58.

[60] Garlock Order Estimating Aggregate Liability, at ¶ 50.

[61] Garlock Order Estimating Aggregate Liability, at ¶ 58 ("[i]t was a regular practice by many plaintiffs' firms to delay filing Trust claims for their clients so that remaining tort system defendants would not have that information.").

[62] Deposition of Benjamin Shein, *In re Garlock Sealing Technologies, LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. January 16, 2013), at 183 ("Because there is no requirement under Pennsylvania law as to when I file my bankrupt claims, I told you, to maximize my client's recovery, okay, we do not file until after the tort claim is completed."); Deposition of Peter Kraus, *In re Garlock Sealing Technologies, LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. January 14, 2013), at 41–42 ("If in my judgment it would benefit the litigation case to delay the filing of a claim, and it was lawful to delay filing the claim, we would do that."); *See also*, Deposition of Stephen Bradley Cooper, *In re Garlock Sealing Technologies, LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. February 1, 2013), at 43–45.

[63] Garlock Order Estimating Aggregate Liability, at ¶ 58.

determine whether that defendant will want to offer you a settlement."[64] Reportedly, members of the law firm separately encouraged clients to avoid identifying exposure to the products of bankrupt defendants.[65]

- A study by the RAND Corporation examines the interactions between trusts and the tort system in six states that have numerous asbestos filings and that vary substantially in their statutory laws and court rules. The study notes that knowledge of a plaintiff's trust submissions can help defendants have fault assigned to bankrupt firms, support a tort system defendant's contention that it was not responsible for a plaintiff's injury, or receive setoffs for the appropriate portion of any related trust payments. However, in most of the states examined, plaintiffs are not required to file trust claims before the resolution of a tort case. The study concludes that a plaintiff strategy in certain states is to delay trust claims until after the tort concludes, as doing so can avoid disclosing information that may aid tort defendants' defenses to the claims.[66]
- The New York Civil Justice Institute released a report in 2019 that conducted an extensive review of filing and docket information for 175 asbestos-related personal injury claims that were filed in New York jurisdictions and proceeded to trial. The report finds that "most plaintiffs' asbestos bankruptcy trust claims information was made available towards the end of the case or after the tort case was closed."[67]

(56) In addition to delaying trust claims, the identification of a company's asbestos-containing products in discovery in a tort case typically declines significantly after the entity files for bankruptcy. A review of depositions taken in the Philadelphia asbestos litigation demonstrates this fact.[68] Many major manufacturers and distributors of thermal insulation and refractory products filed for bankruptcy during the 2000 to 2002 Bankruptcy Wave. Thermal insulation and refractory products accounted for nearly 35% of all products identified in asbestos exposure allegations from 1991 to 2000. That same statistic declined to 12.5% for 2006 to 2010 and 6.2% for 2017 to 2021. Changes in occupational exposure do not explain the decline. Most plaintiffs from the 2006–2010 period were found to share similar exposure histories and work in the same industrial settings—where thermal insulation products were prevalent—as plaintiffs from before the Bankruptcy Wave. Despite the decreasing rate at which these thermal insulation and refractory product defendants were identified in tort suits following the Bankruptcy Wave, the overall number of defendants and products identified in each

64 Copy of Baron & Budd Memo, attached to Judiciary Committee Report on the Fairness In Asbestos Injury Resolution Act of 2003, S. Rep. No. 108–118 (2003), at 109.

65 Christine Biederman, *et al.*, "Toxic Justice," *Dallas Observer*, August 13, 1998.

66 Lloyd Dixon and Geoffrey McGovern, *Asbestos Bankruptcy Trusts and Tort Compensation* (Santa Monica, CA: RAND, 2011), at xiii–xiv, 52, 56.

67 Mary Margaret Gay and Sarah Beth Jones, "A Matter of Trust? How Access to Asbestos Trust Claims Information Affects Cases in New York Courts," New York Civil Justice Institute (2019): 5.

68 Marc C. Scarcella, Peter R. Kelso, and Joseph Cagnoli Jr., "The Philadelphia Story: Asbestos Litigation, Bankruptcy Trusts, and Changes in Exposure Allegations From 1991–2010," *Mealey's Litigation Report: Asbestos* 27, no. 19 (2012): 1–13; Marc C. Scarcella, Peter K. Kelso, "The Asbestos Over-Naming and Trust Transparency Problem: A Philadelphia Case Study," U.S. Chamber of Commerce Institute for Legal Reform (March 2024).

case increased by approximately 60% from 2006 to 2010, constituting an observable shift away from primary defendants and their products. This led to a material increase in filing rates, exposure identification, and settlement demands against peripheral defendants, including gasket and packing manufacturers. A review of claimant exposure allegations in tort suits across the sample further demonstrated that only one-quarter of qualifying bankruptcy company exposure and compensation shares were being disclosed by claimants in deposition testimony.

(57) As a matter of economics, plaintiffs' counsel would not delay the receipt of payments from trusts unless the delay resulted in additional recoveries that exceeded the cost of delay. A rational claimant (or their counsel) will only delay the trust filing when the benefit exceeds the cost—a classic cost-benefit analysis.[69] The cost of delay is the foregone interest or value to the claimant of earlier receipt of the trust recoveries. For example, suppose a claimant could have collected $500,000 from trusts in 2018. However, we observe that the claimant delayed that recovery by two years, until 2020. Assuming the claimant has an 8% discount rate, the two-year delay cost the claimant approximately $85,000.[70] Such a delay would only be rational if the expected benefit of the delay—presumably through increased recoveries from tort defendants—exceeded $85,000.

(58) Plaintiffs' decisions to delay trust filings continues to affect asbestos litigation post-*Garlock*. Just recently, in July 2025, in the asbestos personal injury case *Petro, Sr., James v. AERCO International, Inc.*, Justice Frank of the Supreme Court of the State of New York, County of New York, ordered a new trial on damages and apportionment after post-verdict discovery revealed that plaintiff's counsel had failed to disclose in litigation 54 bankruptcy trust claims.[71] In regard to those undisclosed trust claims, the court said, "The disclosure of these newly discovered entities and products would have probably changed the apportionment of liability in the outcome, had they been part of the trial" and that "all the non-disclosed information is directly relevant to the issue of apportionment."

(59) The discovery that the Debtors obtained from various bankruptcy trusts in these cases similarly shows that the pattern of delaying trust claims persists in the tort system post-*Garlock*.[72] For example, in the period before Judge Hodges' ruling in 2014, the trust discovery data includes 112 claimants who settled with the Debtors and also litigated their claims to verdict against another defendant. Approximately 45% of these claimants filed 80% or more of their trust claims after their initial

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69 Hal R. Varian and Marc J. Melitz, "Chapter 7: Revealed Preference," in *Intermediate Microeconomics: a Modern Approach*, 10th ed. (New York: W. W. Norton & Company, 2024): 129.

70 ($500,000 × 1.08 × 1.08) – $500,000 ≈ $85,000.

71 Decision and Order on Motion, *In re Petro v. Aerco Intl., Inc.*, 1346, No. 190324, (N.Y. July 23, 2025), at 1–11.

72 In July 2022, Judge Whitley authorized the Debtors to request data from asbestos personal injury trusts and Paddock Enterprises, LLC about claimants who have resolved mesothelioma claims against the Debtors via verdict or settlement (the "Trust Discovery Order"). Order Granting Motion of the Debtors for an Ordering Authorizing the Debtors to Issue Subpoenas on Asbestos Trusts and Paddock Enterprises, LLC, 1240, No 20-BK-30608 (W.D.N.C. July 1, 2022). The data received from the parties subject to the Trust Discovery Order include information on the relevant claimants' trust claims, such as statuses, dates of filing and payment, and exposure information associated with the claim. The trust data are de-identified using an anonymized claimant ID.

verdict.[73] Of the 68 claimants whose claims reached a verdict against another defendant after the *Garlock* decision, approximately 30% filed 80% or more of their trust claims after their initial verdict. A similar pattern emerges for the claims the Debtors settled for $100,000 or more: in approximately 50% of those settlements against Aldrich (35% against Murray), 80% or more of the trust claims ultimately filed by plaintiffs' counsel were filed after the settlement with the Debtors.[74,75]

(60) The extent of the cost incurred by the Debtors from the inflation of the Debtors' settlement payments by plaintiffs' counsel failing to disclose exposure to the asbestos-containing products of companies that created bankruptcy trusts can be econometrically modeled. To perform that econometric modeling, however, the additional information still being collected related to the information that was known by the parties prior to settlement of the tort action must be analyzed and categorized. This collection would allow me to understand the scope of the information that was available to one side versus the other when settlements were reached and would allow me to construct a model that measures the costs related to that information asymmetry. That work will be part of a supplemental report after the documents have been collected and analyzed.

## III.B. Cost avoidance increased the Debtors' settlements

(61) Plaintiffs' counsel in asbestos cases almost always works on a contingency fee basis. As a result, a plaintiff's litigation costs do not significantly differ between a case that settles at its inception and a case that is litigated through trial (as the contingency fee is owed regardless of the timing of resolution). Additionally, because asbestos-related claims typically involve multiple defendants, it is virtually costless for plaintiff's counsel to include additional defendants on the plaintiff's complaint, even if it is not clear that a plaintiff had exposure to the additional defendants' products. Having to dismiss one additional defendant involves little additional cost for the plaintiff, which is outweighed by the possibility of extracting a cost-avoidance settlement from that defendant. These low avoidable costs economically incentivize plaintiffs' counsel to assert weak claims against many defendants.[76]

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[73] I limit trust filings to claims made with trusts that began accepting claims before claimants' earliest verdict date. I also exclude claimants who did not file any claims against trusts that were part of the trust discovery.

[74] This statistic restricts to claims the Debtors settled for $100,000 or more in 2014 or later, excluding group settlements. Raising the settlement threshold to $250,000 results in approximately 50% of the claimants for each Debtor filing 80% or more of their trust claims after their settlement with the Debtors. Additionally, I limit to trusts that began accepting claims before claimants' settlement with the Debtors. I also exclude claimants who did not file any claims against the trusts that were part of the trust discovery.

[75] The fact that plaintiffs' counsel filed certain trust claims prior to settlement does not necessarily mean that those trust claims were disclosed or known to the Debtors.

[76] Plaintiffs' counsel in asbestos cases understand litigation transaction costs. As outlined in Appendix E, the POC and PIQ processes enacted certain transaction costs on plaintiffs' counsel, and they responded in an economically rational manner: rather than completing detailed information requests on claims that were likely not viable, they chose to abandon those claims.

(62) By contrast, it is costly for defendants to respond to and differentiate meritless claims from claims involving exposure to a defendant's asbestos-containing products. Counsel for an asbestos tort defendant almost always work on an hourly basis. As a result, a defendant's costs differ between a case that settles at its inception and a case that is litigated through trial. While the litigation costs to a defendant that settles early can be relatively modest, it is my understanding that the cost to take an asbestos-related personal injury case to trial and potentially beyond can be more than $1 million.[77]

(63) Applying these principles to the Debtors' asbestos litigation, the higher avoidable costs for the Debtors provide economic incentives for the Debtors to settle for more than the expected liability of a case.[78] In the typical asbestos-related case, the Debtors repeatedly face the following scenario:

1. From the face of the complaint, the Debtors cannot determine whether they likely have any liability because the complaint makes only general allegations and names not only the Debtors but typically numerous other defendants.[79]
2. By answering the complaint and spending time on discovery, and thus incurring litigation costs, the Debtors can start to determine the extent of their expected liability, if any.

(64) Suppose that the Debtors would need to spend $25,000 or more to have an initial (still incomplete) assessment of their expected liability for a particular case. In this scenario, the Debtors could attempt to settle the case for up to $25,000 before even answering the complaint. For example, settling for $15,000 at the onset of the case would yield an immediate $10,000 net return (pay $15,000 to avoid $25,000 in defense costs).

(65) Now assume the Debtors attempt to settle cases early for $15,000 even though the extent of their liability, if any, is unclear. Plaintiff's counsel likely will only accept $15,000 if it believes that the Debtors' expected liability is less than that amount. If plaintiff's counsel believes the expected liability is greater than $15,000, it should not agree to a $15,000 settlement. Even if plaintiff's

[77] Declaration of Allan Tananbaum in Support of Debtors' Complaint for Injunctive and Declaratory Relief, Related Motions, and the Chapter 11 Cases, 29, No. 20-30608 (Bankr. W.D.N.C. June 18, 2020), at ¶ 22. *See also* Informational Brief of DBMP LLC, *In re DBMP LLC*, 22, No. 20-30080 (JWC) (Bankr. W.D.N.C. January 23, 2020), at 2 ("Because of substantial defense costs, Old CT settled the vast majority of the remaining claims, not because they posed a material liability risk but because it was far cheaper than trying cases to verdict. That effort can often exceed $1 million."); Declaration of Charles E. Bates, PhD, *In re Bestwall LLC*, No. 17-31795 (LTB) (Bankr. W.D.N.C. June 15, 2020), at 15 (Table 1, row "(6) Resolved after verdict," column "Total defense costs"); Expert Report of Charles H. Mullin, PhD, *In re LTL Management LLC*, 956, No. 21-30589-JCW (Bankr. D.N.J. October 29, 2021), at 8 ("The Debtor estimates that it costs some $2 million to $5 million to try a single ovarian cancer claim."); Expert Report of Charles H. Mullin, PhD, *In re Aearo Technologies LLC, et al*., 1468-1, No. 22-02890-JJG-11 (Bankr. S.D. Ind. March 27, 2023), at 16 ("I understand from counsel that future trials for these claims would cost approximately $2.5 million per trial after remand.").

[78] As Judge Hodges explained in the *Garlock* bankruptcy, "Garlock's settlement data represents insignificant [sic] part cost avoidance rather than its liability. The bankruptcy estimation process requires a pure (or more academic) analysis of Garlock's 'liability' to claimants; whereas the tort system produced a settlement based on both liability and avoidable defense costs.… The claims resolution history may be an appropriate measure only if it reliably reflects the debtor's liability, and here it does not." Garlock Order Estimating Aggregate Liability, at ¶ 93.

[79] See, for example, Shiel Complaint and Footnote 45.

counsel believes the expected liability is less than $15,000, however, it still may not agree to a settlement. For example, plaintiff's counsel may believe it can force the Debtors to agree to a higher settlement based on the prospect of the Debtors having to incur more defense costs in the lawsuit.

(66) If the Debtors' settlement offer is rejected and they spend the $25,000 to investigate the claim, the results of the investigation may be inconclusive. To more fully assess any potential liability, the Debtors would then need to incur further defense costs.[80] Alternatively, the Debtors could increase their settlement offer. In many settled cases, the Debtors had insufficient information as to their likely liability, because the cost of obtaining that information exceeded the cost of the settlement. As displayed in Figure 6, for group settlements, dismissals, and settlements under $50,000, Aldrich incurred, on average, defense expenditures of under $12,000 per case. These cases represent more than 90% of all resolved claims against Aldrich.

**Figure 6: Defense statistics for Aldrich mesothelioma claims filed and resolved in 2015 or later**

| Payment category | Total payments to plaintiffs | Average payment to plaintiffs | Total case-specific defense costs | Average case-specific defense costs | Claims resolved |
|---|---|---|---|---|---|
| Claims with zero payment | $0 | $0 | $7,213,052 | $3,027 | 2,383 |
| Group settlements | $59,377,250 | $48,830 | $1,534,773 | $1,262 | 1,216 |
| Non-group settlements | | | | | |
| $50K and less | $16,997,125 | $24,996 | $7,532,293 | $11,077 | 680 |
| $50K to $250K | $32,143,320 | $103,023 | $6,976,847 | $22,362 | 312 |
| Over $250K | $15,075,000 | $486,290 | $4,487,272 | $144,751 | 31 |
| **All resolutions** | **$123,592,695** | **$26,740** | **$27,744,236** | **$6,003** | **4,622** |

(67) As displayed in Figure 7, for group settlements, dismissals, and settlements under $50,000, Murray incurred, on average, defense expenditure of under $10,000 per case. These cases represent more than 90% of all resolved claims against Murray.

[80] The lack of disclosure of exposure information also served to increase the Debtors' defense costs. When plaintiffs stopped volunteering the brands of high-exposure asbestos products that were the source of much of their asbestos exposure, defendants such as the Debtors needed to establish through discovery those plaintiffs' exposures to such products. That is, if the Debtors had wanted to defend a case through trial, they would have to find a way, if there was one without the plaintiff's cooperation, to identify which other companies were responsible for the plaintiff's injuries.

**Figure 7: Defense statistics for Murray mesothelioma claims filed and resolved in 2015 or later**

| Payment category | Total payments to plaintiffs | Average payment to plaintiffs | Total case-specific defense costs | Average case-specific defense costs | Claims resolved |
|---|---|---|---|---|---|
| Claims with zero payment | $0 | $0 | $6,058,383 | $2,280 | 2,657 |
| Group settlements | $29,957,500 | $136,792 | $423,792 | $1,935 | 219 |
| Non-group settlements | | | | | |
| $50K and less | $9,163,500 | $25,525 | $3,397,220 | $9,463 | 359 |
| $50K to $250K | $24,268,400 | $107,382 | $4,952,270 | $21,913 | 226 |
| Over $250K | $8,900,000 | $468,421 | $1,957,483 | $103,025 | 19 |
| **All resolutions** | **$72,289,400** | **$20,773** | **$16,789,147** | **$4,824** | **3,480** |

(68) During the five years prior to the Petition Date, as Figure 8 displays, almost 90% of Aldrich's claims were dismissed (55%) or settled for no more than $50,000 (33%). Focusing on paid claims, almost three-quarters (73%) of Aldrich's paid claims received no more than $50,000, an amount that is a small fraction of the cost Aldrich avoided by not litigating these claims. Conversely, about 1% of Aldrich's paid claims received more than $250,000 in the same period.

**Figure 8: Distribution of Aldrich 2015–2019 settlements by settlement amount**

| Statistic | $0 | $1 to $50,000 | $50,001 to $100,000 | $100,001 to $250,000 | More than $250,000 | Total |
|---|---|---|---|---|---|---|
| Count of claims | 4,386 | 2,667 | 597 | 356 | 34 | 8,040 |
| Percentage of: | | | | | | |
| Resolved claims | 54.6% | 33.2% | 7.4% | 4.4% | 0.4% | 100% |
| Paid claims | N/A | 73.0% | 16.3% | 9.7% | 0.9% | 100% |

(69) Murray had a similar tort experience. As Figure 9 displays, during the five years prior to the Petition Date, 90% of Murray's claims were dismissed (81%) or settled for no more than $50,000 (9%). Focusing on paid claims, almost half (48%) of Murray's paid claims received no more than $50,000, an amount that is a small fraction of the cost Murray avoided by not litigating these claims. Conversely, less than 3% of Murray's paid claims received more than $250,000 in the same period.[81]

[81] As discussed in Footnote 4, Murray's settlement amount distribution implies that very few Murray claimants received payment consistent with exposure to boilers that included external asbestos-containing insulation. Given these boilers were no longer sold after the mid-1950s, to the extent any claimants with exposure to thermal insulation associated with these boilers remain in the claiming population, they will age out quickly.

**Figure 9: Distribution of Murray 2015–2019 settlements by settlement amount**

| Statistic | $0 | $1 to $50,000 | $50,001 to $100,000 | $100,001 to $250,000 | More than $250,000 | Total |
|---|---|---|---|---|---|---|
| Count of claims | 5,012 | 579 | 354 | 243 | 32 | 6,220 |
| Percentage of: | | | | | | |
| Resolved claims | 80.6% | 9.3% | 5.7% | 3.9% | 0.5% | 100% |
| Paid claims | N/A | 47.9% | 29.3% | 20.1% | 2.6% | 100% |

(70) The majority of Aldrich and Murray's mesothelioma settlements were for amounts consistent with cost avoidance. The tort system routinely values the harm associated with wrongful death claims generally, and mesothelioma claims specifically, at more than $1 million.[82] If a defendant were likely to be found liable as a substantial contributing factor to this harm, one would expect to observe numerous settlements for hundreds of thousands of dollars. However, the Debtors' many settlements for less than $50,000 on mesothelioma claims are much more consistent with cost avoidance than with liability. As discussed in Section II, the Law and Economics literature establishes that plaintiffs can extract cost-avoidance settlements even when their claim lacks merit.[83] Given that the Debtors in the period 2015–2019 paid $200,000 or less in 97% of their mesothelioma cases, it was almost always less costly to settle than to litigate.[84]

[82] In the *Garlock* bankruptcy, Judge Hodges concluded that "[t]he total recovery by a typical [mesothelioma] claimant was estimated between $1 and $1.5 million, including an average $560,000 in tort recoveries and about $600,000 from 22 Trusts." Order Estimating Aggregate Liability, *In re Garlock Sealing Technologies, et al.*, 3296, No. 10-31607 (Bankr. W.D.N.C. January 10, 2014), at 61–62. This aligns with the average stated total recovery in the Aldrich and Murray PIQs associated with non-withdrawn POCs of around $1.12 million, which includes an average of $720,000 in tort recoveries and $400,000 in trust recoveries. Moreover, the Debtors' PIQ total recoveries are incomplete as they do not include claims still pending against either tort defendants or trusts. Both the *Garlock* figure and the Debtors' PIQ figure are lower than the Takata Airbag Trust Fund compensation, where the scheduled value for a fatality is between $2.2 million and $5.6 million. Trust Distribution Procedures, *In re TK Holdings INC., Inc.*, 2505-2, No. 17-11375-BLS (Bankr. D. Del. March 26, 2018), at 62. However, this discrepancy is due to the strength of causality in Takata and the age of plaintiffs.

[83] Claims related to encapsulated gaskets and packing align with this cost-avoidance literature. Judge Hodges described the extent of any exposure to such encapsulated asbestos as a bucket of water in an ocean of exposure for pipefitters, referring to the "'snowstorm' of asbestos dust" caused by "the removal of the thermal insulation products." Garlock Order Estimating Aggregate Liability, at 2.

[84] Of the 4,862 mesothelioma claims settled by the Debtors between 2015 and 2019, approximately: (a) 66.8% were settled for $50,000 or less; (b) 86.3% were settled for $100,000 or less; and (c) 98.6% were settled for $250,000 or less.

# IV. Estimation Opinion

(71) While the Debtors' settlements do not equate to their liability, they do provide information about that liability. The Law and Economics literature provides a robust framework to model and estimate the Debtors' Asbestos Liability from settlement data. In particular, understanding the inputs that make up a settlement, I can apply the principles from the peer-reviewed scientific literature to estimate what portion of the Debtors' settlement payments reflects the parties' expectations as to liability considering the information available to each party (i.e., the Debtors' Asbestos Liability) and what portion reflects economically rational avoidance of additional defense costs.

(72) A straightforward application of a long-established econometric technique known as spline regression illustrates that cost-avoidance settlements dominate the Debtors' claims history.[85] Spline regression allows a researcher to divide observations into categories based on empirical evidence from the data. In the current setting, the spline regression illustrates that certain settlements were driven principally by cost avoidance and other settlements embedded consideration for potential liability.

(73) While the spline regression results illustrate that certain settlements were driven principally by cost avoidance, they do not provide a numerical quantification of the Debtors' Asbestos Liability. Quantile regression, a more powerful and precise econometric tool, enables the researcher to quantify the limited potential liability in settlements driven principally by cost avoidance and the more material liability within higher-value settlements. Those analyses demonstrate that cost-avoidance monies constitute 75% to 90% of the Debtors' historical settlement payments. This conclusion is similar to the findings in *Garlock*, where the same concepts were used by Dr. Bates in his report on which Judge Hodges relied. There, cost avoidance constituted approximately two-thirds of Garlock's 2001–2010 mesothelioma claim payments.[86]

(74) Section IV.A (i) describes the econometric techniques that allow researchers to categorize settlement data and quantify the impact of various aspects of a settlement, (ii) integrates those techniques with the relevant Law and Economics literature, and (iii) applies them to the Debtors' historical settlement data. Section IV.B uses the results from Section IV.A, as well as comparability analyses, to estimate

[85] Daniel B. Suits, Andrew Mason, and Louis Chan, "Spline Functions Fitted by Standard Regression Methods," *Review of Economics and Statistics* 60, no. 1 (1978): 132–139.

[86] Dr. Bates's *Garlock* report attributed about 11% of historical Garlock payments after 2000 to legal liability. Of the remaining 89% of payments, Dr. Bates attributed approximately 75% to cost avoidance. Thus, Dr. Bates attributed about 67% (=75% of 89%) of total payments to cost avoidance. I replicate these findings from *Garlock* when I apply the quantile regression methodology to estimate the cost avoidance share of Garlock's historical settlement payments. The proportion is higher in the Debtors' cases based on their tort system settlement strategy, under which they settled an even higher proportion of cases than Garlock. *See* Expert Report of Charles E. Bates, PhD, *In re Garlock Sealing Technologies LLC, et al*., No. 10-BK-31607 (Bankr. W.D.N.C. Feb. 15, 2013), at GST-0996, 88–89; Rebuttal Report of Dr. Charles E. Bates, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. April 23, 2013), at Exh. GST-0997, 105; Testimony of Dr. Charles E. Bates (presentation *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607, August 2, 2013), 78; Transcript of Estimation Trial, *In re Garlock Sealing Technologies LLC, et al.*, 3451 10-BK-31607 (Bankr. W.D.N.C. Aug 2, 2013), at 2825–2832.

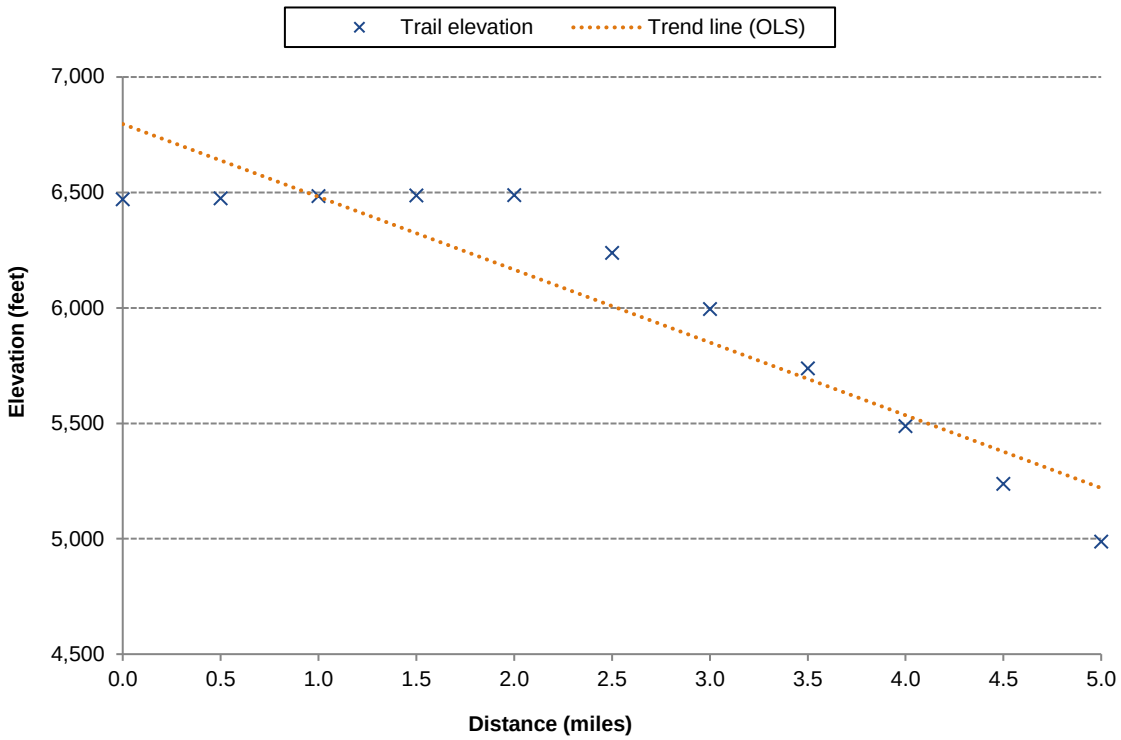
the Debtors' Asbestos Liability, which falls between $50 million and $200 million.[87] The high end of the range, as explained below, is an upper bound. I anticipate reducing this upper bound when I have the data to quantify the impact of non-disclosure of plaintiffs' exposure information, such as delay of bankruptcy trusts claims.

## IV.A. The impact of cost avoidance on the Debtors' historical settlements

(75) Spline regression allows a researcher to divide observations into categories based on empirical evidence. A spline regression lays two (or more) standard regression lines end-to-end, where the lines are allowed different slopes to best fit the observed data. For example, consider a hike that traverses relatively flat terrain for the first two miles, then has a relatively steady descent at 500 feet per mile for the next three miles, as depicted in Figure 10. A standard Ordinary Least Squares ("OLS") regression line would not "fit" the data well, as it forces a single slope over the entire hike even though the trail has two distinct sections.

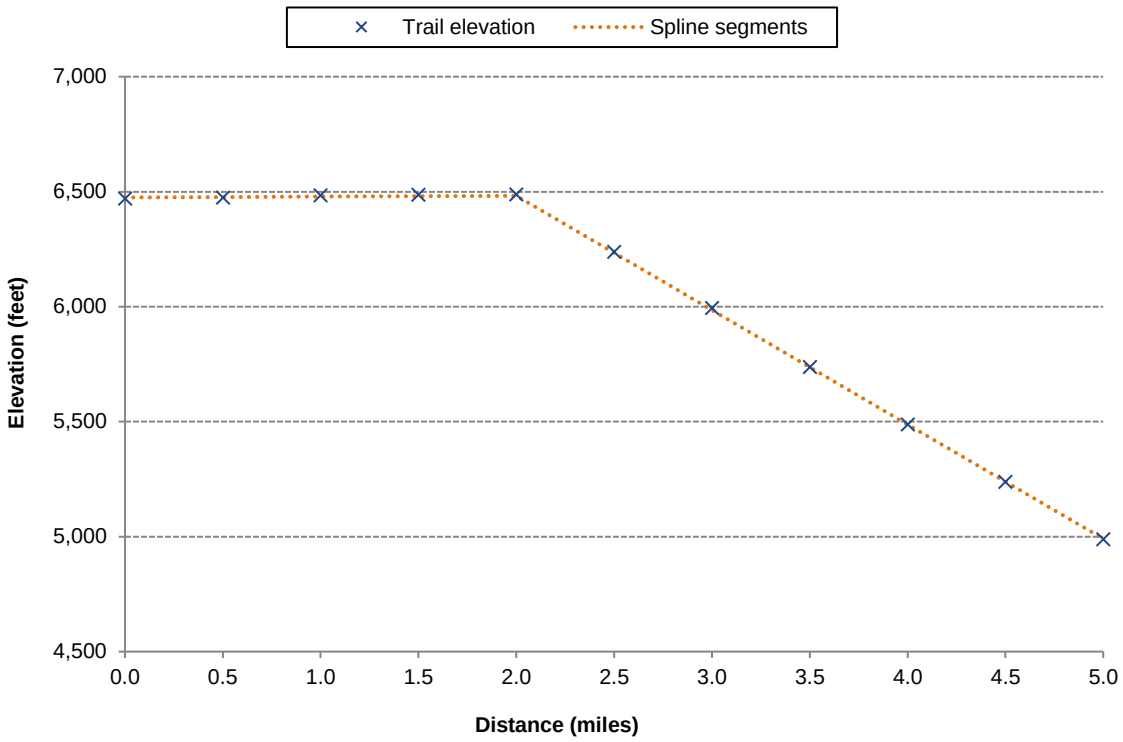
[87] As described in Footnotes 17 and 141, this estimate does not include approximately $10 million to $15 million for liquidated claims that were settled pre-petition and either not documented or not negotiated.

**Figure 10: Hiking trail—a standard OLS regression line provides a poor fit**




(76) Suppose now instead of using one line across the entire distance, we test whether two separate regression lines fit the data better than using one regression line. Specifically, one could compute a spline regression to estimate both the location of the "kink" (i.e., the transition between the two lines) and the slope of the two portions of the hiking trail. Under this example, the two-segment spline model outperforms (i.e., provides a much better fit than) an OLS regression line. The spline regression correctly divides the hike into two parts, a flat section and a downward sloping section, as shown in Figure 11.

**Figure 11: Hiking trail—spline regression lines provide a better fit**




(77) In the context of this case, a spline regression can be used to test whether low- and high-value settlements have a different mix of cost avoidance and liability components. The spline regression also can be used to identify the threshold at which settlement values transition from principally cost avoidance to settlements that include more material consideration for potential liability. The underlying methodology is as follows:

- For principally cost-avoidance settlements, the defendant's expected harm does not materially impact the settlement amount. In this situation, there would be no clear pattern between the settlement amounts and the expected harm. Therefore, a single regression line depicting these settlements should be flat, reflecting the lack of a relationship between harm and settlement amounts for cost-avoidance settlements.
- For a settlement that contains consideration for harm to a plaintiff, the settlement amount will (all else equal) be higher when the plaintiff's harm is higher and lower when the plaintiff's harm is lower. A single regression line for such settlements would therefore have a slope that corresponds to the observed relationship between harm and settlement amounts.
- A spline regression combines these situations into one analysis, where the methodology will identify a threshold or "kink" value where settlements below that value are driven by cost avoidance and settlements above that value contain more material consideration for harm to the

plaintiffs. The researcher does not select or manually input this kink point; rather, the regression methodology selects the kink value based on what provides the best fit for the data.

(78) Not only does theory support the use of spline regression in this context, but three empirical tests validate its reliability in assessing the role of cost avoidance in settlements:

- Mesothelioma plaintiff verdicts
  Plaintiff verdicts should not be driven by a party's desire to avoid litigation costs, as these claims have been litigated to completion. Therefore, verdict amounts should lack a flat section and place all verdicts on a sloped line, categorizing all the plaintiff verdicts as containing liability.
- CCR mesothelioma settlements
  CCR defendants manufactured an array of asbestos-containing products that resulted in one or more member defendants facing potential liability for most mesothelioma claims. Therefore, spline regression should identify a kink point between the two regression lines that is relatively low in the distribution of CCR settlements, categorizing most CCR settlements as driven by the broad liability of the CCR members.
- CCR non-malignant settlements
  The CCR also settled hundreds of thousands of non-malignant claims during the 1990s. Following US District Court Judge Janis Graham Jack's rulings in 2005 in the multidistrict litigation regarding silica claims, it is now understood that more than 95% of those claims were "manufactured for money."[88] After her rulings, the count of non-malignant claims filed in the tort system declined abruptly by about 95%.[89] While most non-malignant settlements were principally driven by cost avoidance, some claimants suffered from severe asbestosis. Those claimants suffered material harm, and one would expect one or more CCR defendants to face potential liability for most of those severe asbestosis claims. Therefore, spline regression should identify a kink point between the two regression lines that is high in the distribution of settlements, categorizing most CCR settlements of these non-malignant claims as driven by cost avoidance.

(79) Figure 12 displays the results of these tests. All three tests support the reliability of spline regression for categorizing asbestos claims. Consistent with expectations, spline regression categorizes none of the plaintiff verdicts as cost-avoidance resolutions. Similarly, spline regression categorizes a minority of the CCR mesothelioma settlements as cost-avoidance settlements (22% of claims and 4% of claim payments). In contrast, spline regression categorizes almost all the CCR non-malignant settlements (98%) as cost-avoidance settlements.

[88] *In re: Silica Products Liability Litigation*, MDL Docket No. 1553 (S.D. Tex., June 30, 2005), at 629, 635.

[89] For example, non-malignant claims against Garlock peaked in 2002 with almost 48,000 filings and subsequently declined to approximately 2,300 non-malignant filings in 2009, the year prior to Garlock's bankruptcy petition.

**Figure 12: Spline regression robustness tests affirm its ability to reliably categorize asbestos claims**

| Test | Description | Cost avoidance | Liability |
|---|---|---|---|
| 1 | Verdicts | 0% | 100% |
| 2 | CCR mesothelioma settlements | 22% | 78% |
| 3 | CCR non-malignant settlements | 98% | 2% |

(80) To use spline regression in the context of the Debtors' Asbestos Liability, one needs a proxy for the harm or damages to a plaintiff with whom the Debtors settled in the tort system. In the context of asbestos litigation, actual damages for settled claims constitute what is known as an "unobserved variable." While each party to the litigation and the researcher can form opinions on an individual claimant's damages, the actual damages remain a contested question at the time of settlement. Having an unobserved variable arises frequently in econometric work. Econometric techniques can recover the direction of the underlying relationship between two variables even when one of them is unobserved so long as one can substitute a proxy variable in place of the unobserved variable.[90] There is such a proxy variable here. All these claimants suffer from the same ailment, mesothelioma. Thus, these claimants make similar claims, with similar medical costs, life expectancies, and pain and suffering. While these claims have many similarities, age at diagnosis constitutes a distinguishing factor regarding damages: younger claimants, on average, receive substantially greater damage awards than older claimants due to the increased numbers of lost years of life. A 60-year-old who dies of mesothelioma suffers greater harm in lost life expectancy and likely economic damages than the same person would suffer if he or she died of mesothelioma at 80 years old.

(81) Indeed, total recoveries by claimants, 524(g) Trust Distribution Procedures ("TDPs"), and defendant settlement patterns all reflect the strong impact of age on claim value. TDPs include the age of the injured party in the valuation of claims. For example, the Western Asbestos Settlement Trust ("WAST") and its progeny adjust each claimant's recovery based on age at diagnosis; these trusts reduce the "Liquidated Value" of a claim against the trust by 1.5 percentage points for each year of

[90] The proxy variable should be correlated with the unobservable variable. Jeffrey M. Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, 2nd ed. (Cambridge, MA: The MIT Press, 2010): 63.

age.[91,92] The Thorpe Insulation trust subsequently incorporated the age adjustment from the WAST Case Valuation Matrix after validating its accuracy:[93]

> When the Case Valuation Matrix was submitted, the age adjustments were modified in an attempt to correct a perceived deficiency with mathematical factor as a result of other trusts' experience. With the passage of time, it has become clear that the original age factors used in the Western Asbestos Settlement Trust are in fact correct.

(82) Further, verdicts data serve as empirical evidence to support age as a proxy for overall harm and damages. Bates White maintains a database that contains information on asbestos verdicts, including the age of the claimant when it could be identified (the "Asbestos Verdicts Database").[94] The average verdict for a plaintiff with mesothelioma around 80 years old is about 40% lower than that of a plaintiff around 60 years old. This corresponds to a decrease of 2.5% for each year of age, which is comparable to the adjustment for age that WAST uses after accounting for additional age-related adjustments such as loss of consortium claims.

(83) Hence, age of the claimant at diagnosis of mesothelioma provides a reliable proxy for quantifying a claimant's harm. As age correlates negatively with harm, settlements should decrease as age at diagnosis increases. Age also has the benefit of being an objective data point, as opposed to other possible proxies that include substantial subjectivity (e.g., jurisdiction, quality of counsel, etc.). Finally, I used age at diagnosis of mesothelioma as the proxy for harm in the three tests summarized in Figure 12. Thus, not only does age as a proxy for harm have theoretical support, empirical support

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91 "The adjustment factor for age shall be decreased .015 for every year over 75 years of age up to a maximum downward adjustment to .7M, and shall be increased .015 for every year under 75 years of age up to a maximum upward adjustment to 1.4M." The reduction ranges from 1.2% to 1.6% per year for claimants in the age range of 60 to 80. Western Asbestos Settlement Trust, *Third Amendment to and Complete Restatement of Western Asbestos Settlement Trust Case Valuation Matrix*, https://www.wastrust.com/wp-content/uploads/2020/08/WAST-Third-Amendment-to-and-Complete-Restatement-of-Matrix.pdf, 4.

92 The J.T. Thorpe CA, Plant Insulation, and Thorpe Insulation trusts (which are operated by the same facility that administers WAST), as well as the Garlock trust, all account for age when determining claim values. Garlock Settlement Facility, *Settlement Facility Second Amended and Restated Claims Resolution Procedures*, April 2021, https://garlocksettlementfacility.com/assets/uploadedFiles/8eedc7d3-3283-4663-b851-3a929d102e94.pdf, I9–I10; J.T. Thorpe Settlement Trust, *Third Amendment to and Complete Restatement of J.T. Thorpe Case Valuation Matrix*, https://www.jttstrust.com/sites/default/files/documents/JTTST%20Third%20Amendment%20to%20and%20Complete%20Restatement%20of%20Matrix.pdf, 4; Plant Insulation Company Asbestos Settlement Trust, *Third Amended and Completely Restated Plant Insulation Company Asbestos Settlement Trust Case Valuation Matrix*, https://www.pastrust.com/drupal/sites/default/files/documents/PAST%20Third%20Amended%20and%20Completely%20Restated%20Matrix.pdf, 4; Thorpe Insulation Company Asbestos Settlement Trust, Fourth Amendment to and Complete Restatement of Thorpe Insulation Company Asbestos Settlement Trust Case Valuation Matrix, https://www.tistrust.com/sites/default/files/documents/TIST%20Fourth%20Amendment%20to%20and%20Complete%20Restatement%20of%20Matrix.pdf.

93 Thorpe Insulation Settlement Trust, *Thorpe Insulation Voluntary Claims Submission Program*, September 22, 2010.

94 I reviewed Mealey's reports, data from Westlaw, and other public news sources to identify and record information on asbestos verdicts. The Asbestos Verdicts Database includes 1,350 verdicts from 1997 to 2024.

from verdict data, and the endorsement of the courts and plaintiffs' counsel through TDP designs, but it also performs well in empirical assessments of settlement data.

(84) With age as a proxy, I now assess the Debtors' historical settlements.[95] Figure 13 provides a graphical depiction of the results of the spline regression for Aldrich. The spline regression considers the thousands of Aldrich mesothelioma settlements from 2010 through the Petition Date.[96] Displaying those thousands of individual settlements on the graphic produces an unintelligible cloud to most lay readers. Instead, I summarize those thousands of settlements with the blue crosses. Each blue cross depicts the average age at diagnosis associated with each settlement value bin.[97] The orange lines represent the two regression lines laid end-to-end resulting from the spline regression. The two lines meet at the kink corresponding to a settlement amount of $137,000. For settlements below $137,000, age and settlement amount have correlation close to zero.[98] Cost avoidance considerations drive settlements in this portion of the settlement distribution. For settlement above $137,000, younger claimants, on average, receive greater compensation than older claimants, as would be expected when settlements contain consideration for harm.[99] As depicted by the solid orange region (the 95% confidence interval), the change in slope is statistically significant.

[95] Additionally, the regression is performed using the logarithm of the settlement amount, as the relationship between age at diagnosis and claim value is expected to be log linear. This means that a one-year increase in age at diagnosis corresponds to a fixed percentage decrease in settlement value on average, akin to the WAST age-adjustment formula.

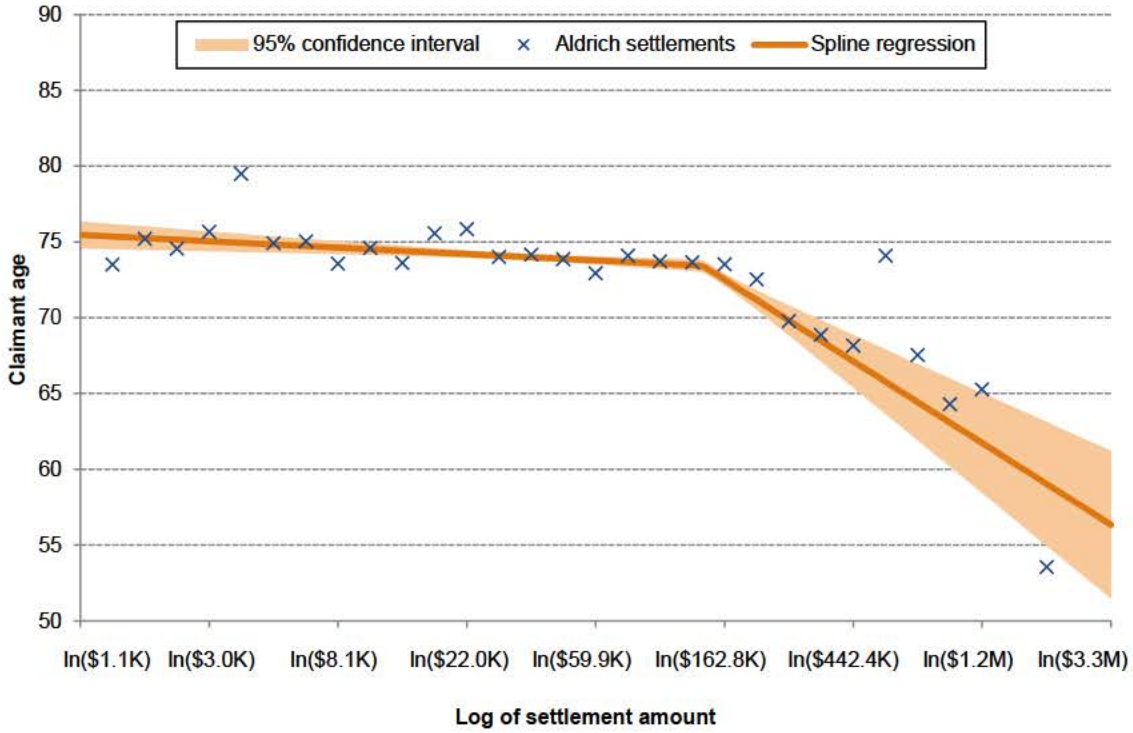
[96] The spline regression includes Aldrich's historical settlements since 2010 (except claims that were settled but unpaid), CPI-adjusted to 2020 dollars. US Bureau of Labor Statistics, "Databases, Tables & Calculators by Subject: CPI for All Urban Consumers (CPI-U)," Series CUUR0000SA0L1E, (accessed September 4, 2025), https://data.bls.gov/timeseries/CUUR0000SA0L1E [hereinafter "CPI-U Series CUUR0000SA0L1E"].

[97] In statistical parlance, this graph displays the condition mean of the y-axis variable.

[98] The 95% confidence interval for the slope before the kink point is [–0.17, –0.67].

[99] The 95% confidence interval for the slope after the kink point is [–7.06, –3.72].

**Figure 13: Graphical depiction of spline regression results for Aldrich**




(85) Figure 14 provides a numerical description of these same spline regression results. Since 2010, 91% of Aldrich's historically settled claims were for amounts below the identified kink point of $137,000 and were driven primarily by cost avoidance. That 91% of claims received 67% of Aldrich's total settlement dollars.[100]

**Figure 14: Numerical description of spline regression results for Aldrich**

| Category | Observations | Percent of observations | Settlement amount | Percent of total amount |
|---|---|---|---|---|
| Settlement <= $137K | 6,598 | 91% | $292 MM | 67% |
| Settlement > $137K | 674 | 9% | $142 MM | 33% |
| **Total** | **7,272** | **100%** | **$434 MM** | **100%** |

(86) The spline regressions above categorize Aldrich's historical mesothelioma settlements into those principally motivated by cost avoidance and those containing consideration for potential liability. However, within each of those categories, the spline regressions do not directly estimate the portion of settlement payments attributable to cost avoidance and the portion attributable to potential liability. It would be incorrect to assume that Aldrich had zero liability for 100% of the claims categorized as

[100] While settlements with amounts above the $137,000 kink point demonstrate a significant relationship with plaintiff age, it is likely that a portion of these settlement amounts was also driven by cost avoidance. I investigate this in more detail below.

motivated by cost avoidance (i.e., claims below the kink point). Similarly, it would be incorrect to assume the entire payment as liability for settlements categorized as containing material consideration for potential liability (i.e., claims above the kink point); cost avoidance remains a component for those claims as well.

(87) Quantile regression is a statistical technique that generalizes the spline regression concept, has stronger statistical properties than spline regression and therefore facilitates more precise estimates, and directly estimates the portion of settlement payments attributable to cost avoidance versus potential liability.[101] A quantile is the same as a percentile: the 50th percentile (or median) equates to the 0.50 quantile, the 75th percentile equates to the 0.75 quantile, and the 90th percentile equates to the 0.90 quantile. Thus, some researchers refer to quantile regressions as percentile regressions.

(88) Quantile regression is widely used in empirical applications where the components in the underlying data have significant variability or, in statistical jargon, "heterogeneity."[102] Mesothelioma settlements fit this paradigm. The combination of differing state law, CMOs, litigation strategies, and claimant-specific fact patterns results in significant variability in the underlying influence of transaction costs on settlement amounts. For example, a jurisdiction that places greater initial litigation costs on a defendant may produce $75,000 cost-avoidance settlements, while a jurisdiction that places lesser initial litigation costs on a defendant may produce $25,000 cost-avoidance settlements. Quantile regressions adapt to these changing circumstances. Quantile regressions account for differences in avoidable transaction costs over the entire range of settlements, from low- to high-value settlements, and across various jurisdictions and other relevant factors that likely influenced the settlement, instead of imposing rigid constraints across large, potentially disparate sets of claims.

(89) Most importantly, quantile regression enables direct quantification of the Debtors' payments attributable to cost avoidance. As set forth in more detail in Appendix F, through basic algebra based on the Law and Economics model, one can express settlement values as an intercept determined by avoidable transaction costs plus a portion of the claimant's harm. A standard OLS regression fitting the settlement data to the Law and Economics model would estimate a single intercept and a single slope that best fit the data on average. For example, it may return an intercept of $50,000 in average cost avoidance. While knowing the average impact of cost avoidance on settlements may be

[101] Quantile regression has the advantage that it is more robust to outliers than the traditional OLS regression. *See* Roger Koenker, "Quantile Regression: 40 Years On," *Annual Review of Economics* 9 (2017): 156; Furthermore, when the distribution of the error term is non-normal, quantile regression estimates are generally more efficient than OLS estimates. Moshe Buchinsky, "Recent Advances in Quantile Regression Models: A Practical Guideline for Empirical Research," *Journal of Human Resources* 33, no. 1 (Winter 1998): 89.

The statistical precision of estimating quantiles typically outperforms the estimation of means, especially when the data contain outlying observations. Roger Koenker, "Quantile Regression: 40 Years On," *Annual Review of Economics* 9 (2017): 156. For example, the estimate of an average can be sensitive to a single large outlier, while the estimate of a quantile, such as the median (0.50 quantile), is relatively insensitive to outliers. Given that settlement data contain large outliers, this general principle applies in the current setting.

[102] Labor economics and empirical finance, among other fields, frequently use quantile regression. Roger Koenker and Kevin F. Hallock, "Quantile Regression," *Journal of Economic Perspectives* 15, no. 4 (Fall 2001): 143–156.

instructive, it is not helpful in assessing the components of a $25,000 settlement. Clearly, the Debtors did not pay $50,000 in cost avoidance on a $25,000 settlement.

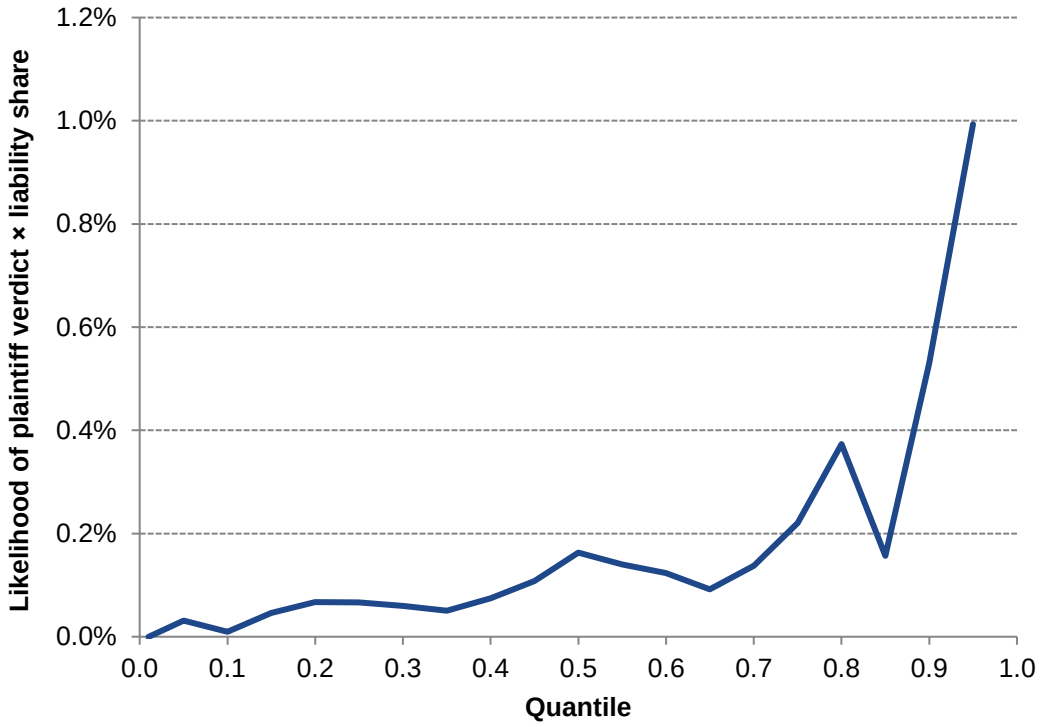
(90) Quantile regressions permit the researcher to assess the cost-avoidance component and the liability component of settlements at $25,000 or any other dollar amount. Figure 15 displays the quantile regression results by settlement quantile for Aldrich.[103,104] Specifically, the figure shows the slope of the regression line at each quantile, which captures the impact of harm on settlements.[105] Consistent with the spline regression results, the amount of the settlement attributable to potential liability in the lower range of the distribution is close to zero. Notably, while this amount is close to zero, it is not actually zero. Even low-value settlements may contain some liability component. A different pattern appears in the high end of the distribution: the amount attributable to harm (potential liability) increases sharply. This pattern affirms the spline regression results that low-value settlements are driven principally by cost avoidance and high-value settlements contain both cost avoidance and more material consideration for potential liability.

[103] Quantile regression accommodates additional control variables to mitigate the potential bias from confounding factors. For example, it can include jurisdictional or law firm effects. Further below in this section, I assess the robustness of my findings as to these potential confounding factors.

[104] Just as OLS estimates the best fit on average, each quantile regression estimates the best fit at the specified quantile. Thus, the researcher needs to estimate numerous quantile regressions to produce Figure 15; each quantile regression estimates a slope and intercept for that given quantile and only that given quantile. I calculated the quantile regression in 0.05 quantile increments and interpolated results for intermediate values. Also, quantile regression must be estimated through "empirical seek" algorithms. Those algorithms are computationally intensive. Due to both the computationally intensive nature of quantile regressions and the needs to calculate numerous regressions, these techniques were rarely used (despite being well established) prior to the presence of inexpensive computational power. For example, SAS (a common statistical analysis package) published its quantile regression procedure (PROC QUANREG) in 2005. Colin Chen, "An Introduction to Quantile Regression and the QUANTREG Procedure," *SUGI 30* (January 2005): 1–24.

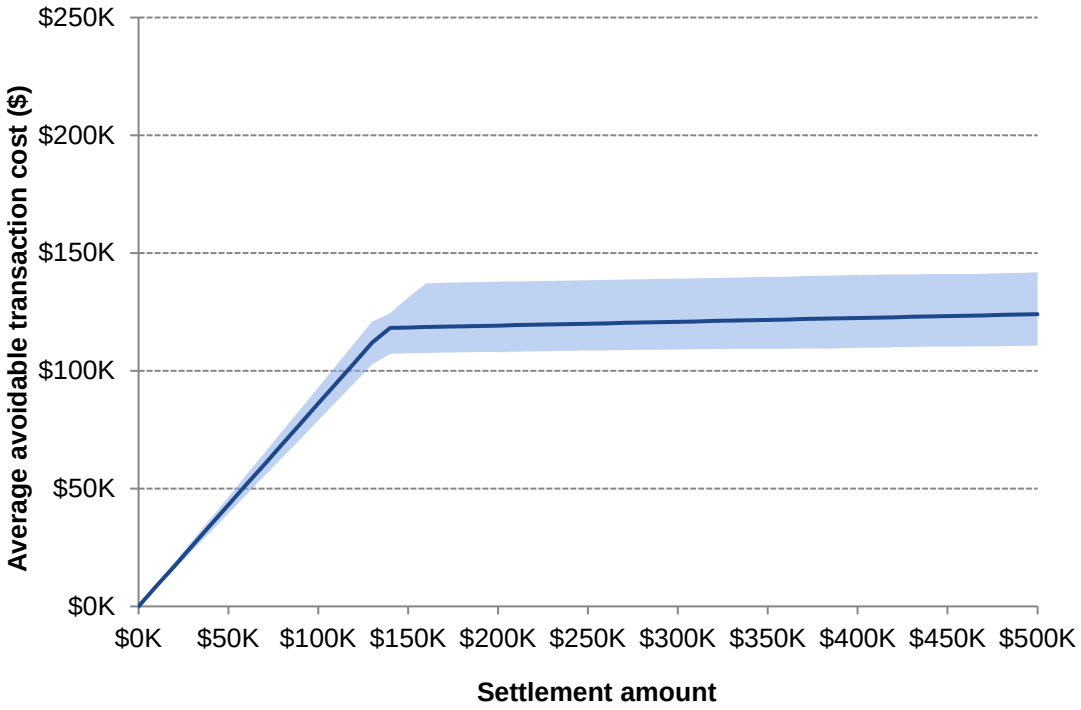
[105] Formally, the slope corresponds to the estimated likelihood of plaintiff verdict multiplied by the defendant's liability share.

**Figure 15: Quantile regression results for Aldrich**



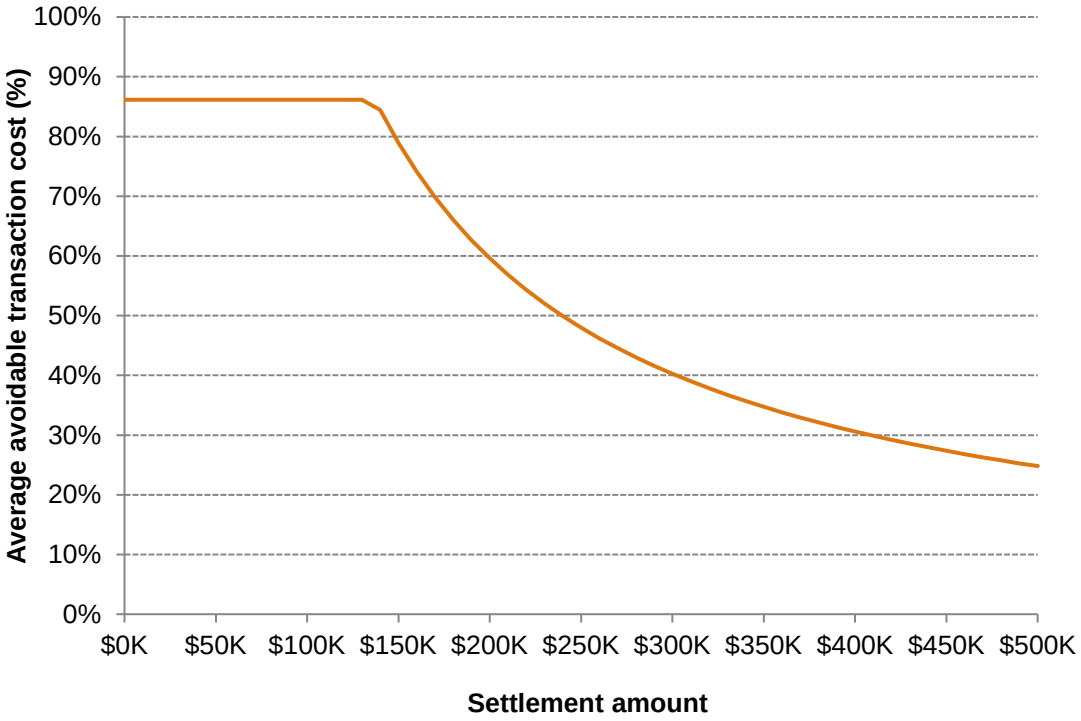

(91) To most lay readers, data viewed through quantiles (the x-axis in Figure 15) lacks intuitive meaning. Fortunately, it is straightforward to transform the quantile regression results back into settlement dollars. Figure 16 displays the same quantile regression results but displays the estimated avoided transaction costs on the y-axis with the x-axis converted into settlement dollars. The magnitude of avoidable transaction costs embedded within settlements increases with settlement amount, but at a decreasing rate. Notably, the avoidable transaction cost component of settlements below $120,000 increases at a greater rate than for settlements of more than $160,000. The region between $120,000 and $160,000 represents the inflection range. The blue shading around the line represents the 95% confidence interval. The confidence interval widens as settlement values increase, reflecting the relatively lower number of Aldrich settlements at higher settlement amounts and the greater ambiguity resulting from that smaller sample size.

**Figure 16: Estimated avoidable transaction costs by settlement amount for Aldrich**




(92) Figure 17 displays the same information on avoidable transaction costs, but as a percentage of the settlement amount. Settlements lower than $120,000 average 86% avoidable transaction cost and 14% potential liability. Subsequently, the avoidable transaction cost portion steadily declines, falling below 25% for settlements of more than $500,000. Correspondingly, the potential liability portion steadily increases, exceeding 75% for settlements of more than $500,000.

**Figure 17: Estimated avoidable transaction costs by percentage of settlement amount for Aldrich**




(93) Figure 18 displays the overall estimated impact of cost-avoidance payments on 2010–2020 Aldrich settlements. The first panel displays the point estimate and 95% confidence interval for the model with no controls for confounding factors, which corresponds to the above graphics. That more simplistic model estimates that 77% of settlement payments were for cost avoidance. This estimate understates the impact of cost avoidance on Aldrich payments. Every application of controls for confounding factors results in greater transaction cost avoidance payments. The second panel introduces one set of controls for potential confounding factors at a time. For instance, the lawyer fixed effects specification includes controls by plaintiff law firm, which econometrically constrains comparisons between claimants represented by the same law firm and thereby controls for the potential confounding effects that could result from systematic differences across plaintiff law firms.[106] Similarly, the jurisdiction fixed effects specification includes controls by jurisdiction, which econometrically constrains comparisons between claimants filed in the same jurisdiction and thereby controls for the potential confounding effects that could result from systematic differences across jurisdictions.[107] In every instance in the second panel, the estimate of the percentage of a settlement attributable to cost avoidance resides between 80% and 90%. Finally, the third panel introduces

[106] For each Debtor, plaintiff law firms that comprise at least 3% of claimants each have a fixed effect in the quantile regressions, and all other law firms are grouped into an "other" category.

[107] For each Debtor, filing jurisdictions that comprise at least 3% of claimants each have a fixed effect in the quantile regressions, and all other jurisdictions are grouped into an "other" category.

multiple controls at the same time. Including multiple controls further supports that cost avoidance resides between 85% and 90% of settlement payments.

**Figure 18: Sensitivity analyses of 2010–2020 cost-avoidance payments by Aldrich**

| Specification | Estimate | 95% confidence interval |
|---|---|---|
| No controls | 76.5% | (69.9%, 83.6%) |
| Individual control | | |
| Lawyer fixed effects | 88.2% | (84.1%, 91.3%) |
| Jurisdiction fixed effects | 83.4% | (77.6%, 88.9%) |
| State fixed effects | 83.7% | (76.5%, 89.6%) |
| Life status | 80.7% | (73.8%, 86.8%) |
| Multiple controls | | |
| Lawyer and jurisdiction fixed effects | 88.3% | (84.2%, 91.5%) |
| Lawyer and state fixed effects | 89.2% | (85.3%, 92.3%) |
| Lawyer fixed effects and life status | 89.4% | (85.9%, 92.3%) |
| State fixed effects and life status | 85.7% | (79.3%, 91.0%) |

(94) From these analyses, I can conclude that cost-avoidance payments likely constitute more than 85% of Aldrich's 2010–2020 settlement expenditures, and almost assuredly more than 80%. Based on these conclusions, I adopt the model with lawyer and jurisdiction fixed effects as a baseline when calculating my Estimation Opinion range for Aldrich. Further, I replicate all calculations assuming only 80% of Aldrich settlement payments are attributable to cost avoidance to assess the robustness of my conclusions.

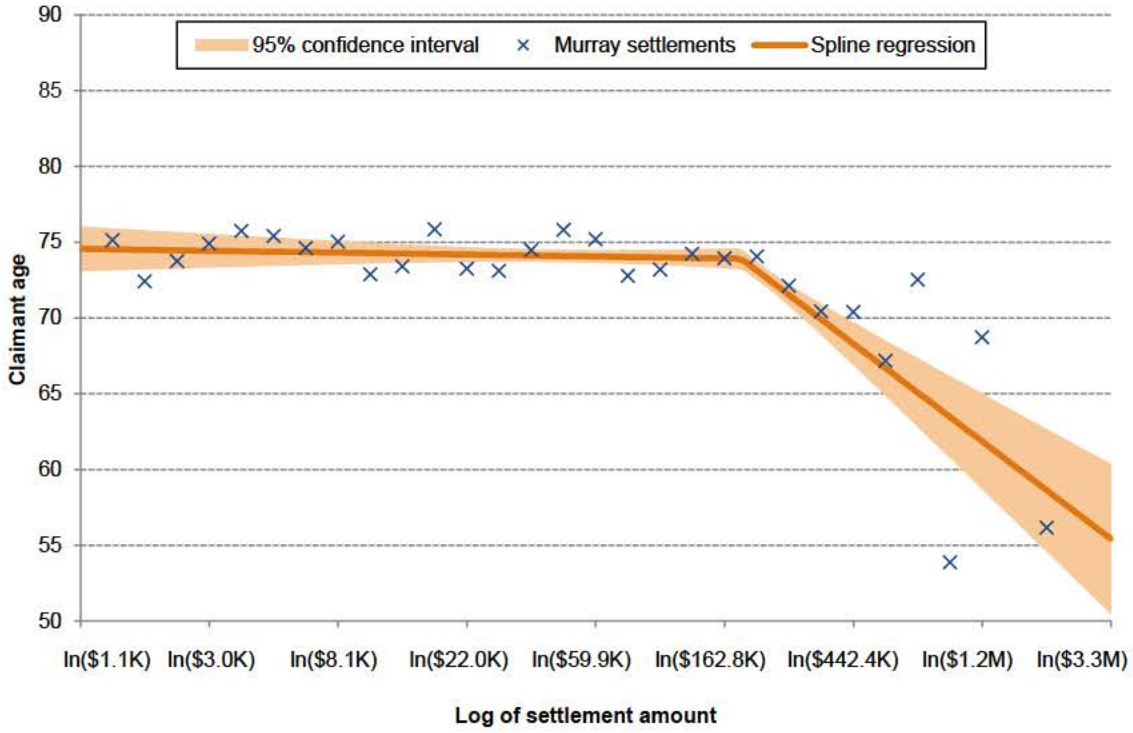
(95) Figure 19 provides the corresponding graphical depiction of the result of the spline regression for Murray. For Murray, the two lines meet at the kink corresponding to a settlement amount of $185,000.[108] For settlements below $185,000, age and settlement amount have a correlation that is close to zero.[109] Cost-avoidance considerations drive settlements in this portion of the settlement distribution. For settlements above $185,000, age and settlement amount have a statistically significant correlation.[110] These settlements contain more material consideration for potential liability.

[108] The differences in kink amount between Aldrich ($137,000) and Murray ($185,000) likely result from several different factors (e.g., differences in products, jurisdictional composition, footprint of the products, plaintiff law firm composition, and defense strategy). Both results indicate a qualitatively similar pattern and are consistent with my overall Estimation Opinion.

[109] The 95% confidence interval for the slope before the kink point is [–0.51, 0.26].

[110] The 95% confidence interval for the slope after the kink point is [–8.43, –4.46].

**Figure 19: Graphical depiction of spline regression results for Murray**




(96) Figure 20 provides a numerical description of these same spline regression results. Since 2010, 85% of Murray's historically settled claims were for amounts below the $185,000 kink point and driven by cost avoidance.[111,112] That 85% of claims received 51% of Murray's total settlement dollars.

**Figure 20: Numerical description of spline regression results for Murray**

| Category | Observations | Percent of observations | Settlement amount | Percent of total amount |
|---|---|---|---|---|
| Settlement <= $185K | 1,945 | 85% | $116 MM | 51% |
| Settlement > $185K | 336 | 15% | $112 MM | 49% |
| **Total** | **2,281** | **100%** | **$228 MM** | **100%** |

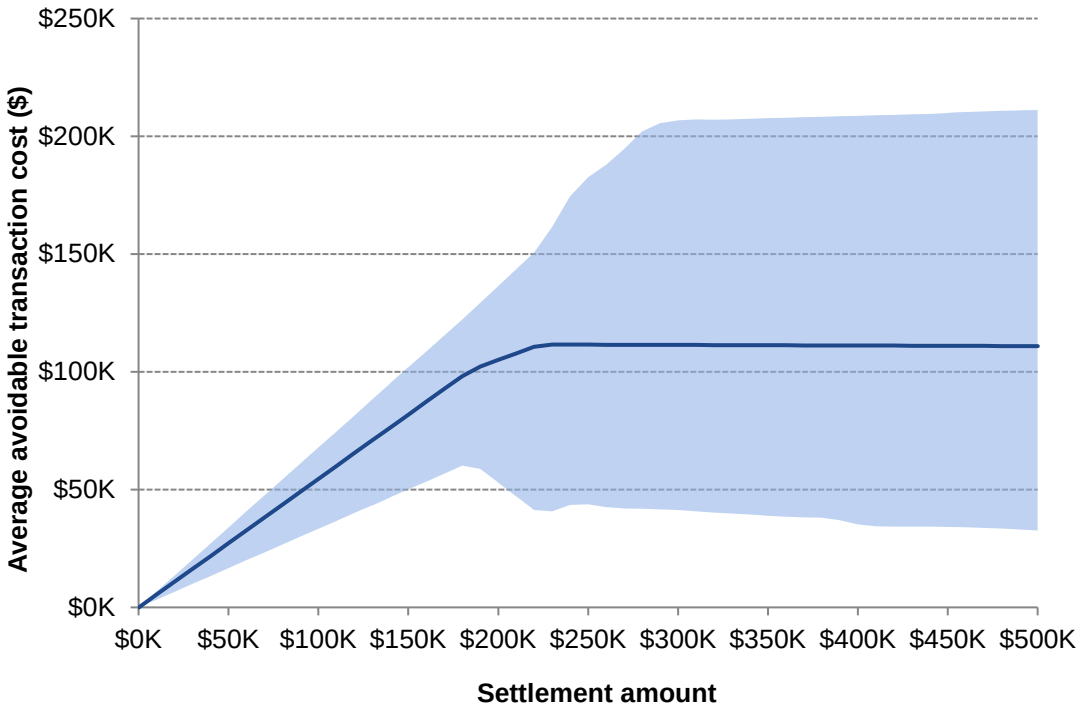
(97) Figure 21 graphs the estimated avoidable transaction costs by settlement amount for Murray. The magnitude of avoidable transaction costs embedded within settlements increases with settlement amount, but at a decreasing rate. Notably, the avoidable transaction cost component of settlements below $180,000 increases at a greater rate than for settlements of more than $220,000. The region

[111] As with Aldrich, while settlements with amounts above the $185,000 kink point demonstrated a significant relationship with plaintiff age, it is likely that a portion of these settlement amounts was also driven by cost avoidance. I investigate this in more detail below.

[112] The settlements are CPI-adjusted to 2020 dollars. The analysis excludes claims that were settled but unpaid. CPI-U Series CUUR0000SA0L1E.

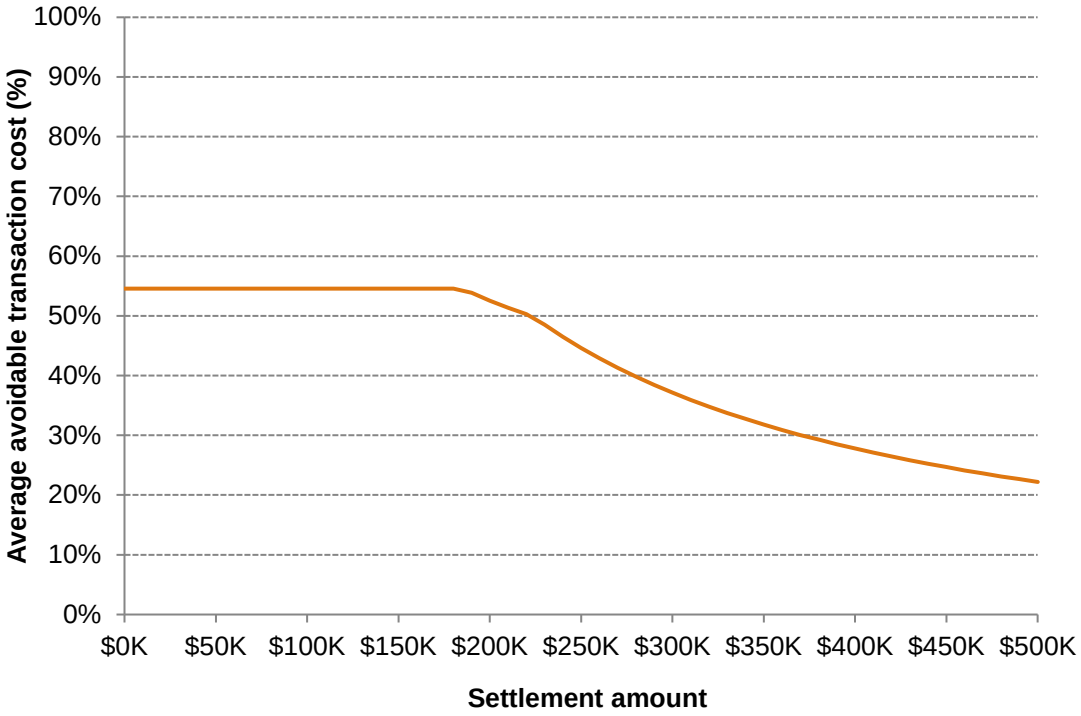
between $180,000 and $220,000 represents the inflection range. The blue shading around the line represents the 95% confidence interval. The confidence interval widens as settlement values increase, reflecting the relatively lower number of Murray settlements at higher settlement amounts and the greater ambiguity resulting from that smaller sample size.

**Figure 21: Estimated avoidable transaction costs by settlement amount for Murray**




(98) Figure 22 displays the same information on avoidable transaction costs, but as a percentage of the settlement amount. Settlements lower than $180,000 average 55% avoidable transaction cost. Subsequently, the avoidable transaction cost portion steadily declines, falling below 25% for settlements of more than $500,000. Correspondingly, the potential liability portion steadily increases, exceeding 75% for settlements of more than $500,000.

**Figure 22: Estimated avoidable transaction costs by percentage of settlement amount for Murray**




(99) Figure 23 displays the overall estimated impact of cost-avoidance payments on 2010–2020 Murray settlements. The first panel displays the point estimate and 95% confidence interval for the model with no controls for confounding factors. That simplistic model estimates that 44% of settlement payments were for cost avoidance. This estimate understates the impact of cost avoidance on Murray payments. As with Aldrich, every application of controls for confounding factors results in greater transaction cost avoidance payments. The second panel introduces one set of controls at a time. In every instance in the second panel, the estimate of the percentage of a settlement for cost avoidance resides between 50% and 75%. Finally, the third panel introduces multiple controls at the same time. Including multiple controls indicates that cost avoidance reliably resides between 65% and 80%.

**Figure 23: Sensitivity analyses of 2010–2020 cost-avoidance payments by Murray**

| Specification | Estimate | 95% confidence interval |
|---|---|---|
| No controls | 44.0% | (22.9%, 61.4%) |
| Individual control | | |
| Lawyer fixed effects | 63.5% | (45.8%, 76.9%) |
| Jurisdiction fixed effects | 73.6% | (56.7%, 83.9%) |
| State fixed effects | 75.0% | (57.8%, 85.2%) |
| Life status | 50.0% | (30.4%, 67.4%) |
| Multiple controls | | |
| Lawyer and jurisdiction fixed effects | 76.7% | (62.4%, 86.7%) |
| Lawyer and state fixed effects | 79.1% | (64.0%, 87.5%) |
| Lawyer fixed effects and life status | 67.2% | (49.3%, 79.8%) |
| State fixed effects and life status | 77.3% | (59.5%, 88.1%) |

(100) From these analyses, I can conclude that cost-avoidance payments likely constitute more than 70% of Murray's 2010–2020 settlement expenditures, and almost assuredly more than 60%. Based on these conclusions, I adopt the model with lawyer and jurisdiction fixed effects as a baseline when calculating my Estimation Opinion range for Murray. Further, I replicate all calculations assuming only 60% of Murray settlement payments are attributable to cost avoidance to assess the robustness of my conclusions.

## IV.B. Debtors' Asbestos Liability for pending and future claims

(101) The available information suffices to determine that the Debtors' Asbestos Liability resides between $50 million and $200 million. Section IV.B.1 describes the upper end of that range. The general approach starts with my Tort System Opinion and removes the cost-avoidance portion of future tort system expenditures based on the empirical results from Section IV.A. This methodology creates an upper bound range on the Debtors' Asbestos Liability, as I have made no adjustment in those calculations for potential non-disclosure of evidence or delay of trust claims, which occurred, but for which I await further information.

(102) Section IV.B.2 describes potential reductions for lack of disclosure. Given that I currently lack the data necessary to directly estimate any impact of evidence non-disclosure and delay of trust claims, I determine the potential reductions through two distinct comparability analyses—Garlock and JCI—as well as a direct measure of the harm caused by the inclusion of asbestos in gaskets and packing in the US marketplace. I review each of those analyses in turn.

### IV.B.1. Upper bound range of Debtors' Asbestos Liability

(103) The upper bound range corresponds to interacting tort system extrapolations with the cost avoidance scenarios from Section IV.A above. As described in more detail in Section V, had the Debtors

remained in the tort system and maintained their historical litigation strategy, I estimate they would have paid asbestos-related claims between $425 million and $750 million on a net present value basis as of the Petition Date. However, most of those payments would have been for cost avoidance, not liability. Removing cost-avoidance payments reduces that range to $65 million to $200 million.

(104) The high end of that range derives from the $750 million tort system scenario, which corresponds approximately to $500 million for Aldrich and $250 million for Murray. The low-end cost-avoidance scenario equates to 80% of Aldrich payments attributable to cost avoidance and 60% of Murray payments attributable to cost avoidance. Thus, reducing the $500 million in Aldrich settlements by 80% results in $100 million in potential liability. Reducing the $250 million in Murray settlements by 60% results in an additional $100 million in potential liability. Combining the Debtors' high-end liability estimates produces the $200 million upper end of the range.

(105) The low end of the range derives from the $425 million tort system scenario, which corresponds to $280 million for Aldrich and $145 million for Murray. The baseline cost avoidance scenario equates to 88% of Aldrich payments attributable to cost avoidance and 77% of Murray payments attributable to cost avoidance. Thus, reducing the $280 million in Aldrich settlements by 88% results in about $33 million in potential liability. Reducing the $145 million in Murray settlements by 77% results in an additonal $32 million in potential liability. Combining the Debtors' low-end liability estimates produces the $65 million lower end of the range.

(106) In addition to the calculations above, I have reduced historical settlements on a claim-by-claim basis for payments attributable to cost avoidance and extrapolated the remaining potential liability. These claim-by-claim calculations produce qualitatively and quantitatively similar results.[113]

### IV.B.2. Lower bound on Debtors' Asbestos Liability

(107) The $65 million to $200 million range discussed above solely accounts for settlement payments attributable to cost avoidance and does not address the impact of evidence non-disclosure or delay in filing trust claims. As I noted in Section III.A, I currently lack the data to precisely model or quantify the amount of the Debtors' historical settlements that were caused by evidence non-disclosure or delay from the Debtors' own tort experience. However, I have access to two distinct comparability analyses—Garlock and JCI—and a direct assessment of the harm caused by the inclusion of asbestos in gaskets and packing that define the low end of the range for the Debtors' Asbestos Liability. Combined, these three analyses demonstrate that the low end of the range is $50 million. I review each of these analyses in turn.

[113] These calculations are included in my reliance materials.

#### IV.B.2.a. Garlock comparability analysis

(108) As discussed in Appendix C, Garlock provides a strong comparable to the Debtors.[114] Garlock was sued for similar products and had similar, although slightly higher, tort system claim payments. In the *Garlock* chapter 11 case, Judge Hodges estimated Garlock's current and future mesothelioma liability to be $125 million in net present value as of its petition date (June 5, 2010). The $125 million comprised $25 million for pending claims and $100 million in net present value ($160 million nominally) for future mesothelioma claims.[115] However, the estimation result in the *Garlock* opinion by Judge Hodges needs to be adjusted for the 10 years that elapsed between Garlock's and the Debtors' petition dates.

(109) To make this adjustment, I begin with Garlock's estimated nominal mesothelioma liability and remove the nominal liability for pending claims and future claims diagnosed from 2010 to 2017, as the corresponding claims have already been largely settled or dismissed as to the Debtors. This adjustment removes approximately $85 million in nominal dollars from the Garlock estimate. Next, I discount the remaining $100 million in nominal expenditure to the Debtors' Petition Date, resulting in a net present value of pending and future mesothelioma claims as to the Debtors of approximately $60 million.[116] Finally, I account for the stipulated non-mesothelioma share agreed to in *Garlock*, which results in a total net present value of pending and future asbestos-related claims of approximately $70 million.[117]

#### IV.B.2.b. JCI comparability analysis

(110) As discussed in Appendix C, JCI provides a strong comparable to the Debtors.[118] JCI manufactured or sold encapsulated asbestos-containing gaskets and packing. From information supplied both in public filings and from counsel, the claims made by plaintiffs against JCI are highly similar, if not identical, to those made against the Debtors.[119] However, JCI differs from the Debtors in that JCI litigated cases to trial rather than settling to avoid defense costs. As a result, JCI incurred relatively low claim payments and relatively high defense expenditures.

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[114] Schwertz Affidavit, at ¶¶ 10, 11, 13, 15, 20; Informational Brief, at 6.

[115] Garlock Order Estimating Aggregate Liability, at 1, 65.

[116] In this comparability analysis, I follow the discount rate assumptions in Garlock and use a 2.5% inflation rate and a 3% real discount rate. Expert Report of Charles E. Bates, PhD, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. February 15, 2013), at Exh. GST-0996, ¶ 231.

[117] In *Garlock*, parties stipulated that non-mesothelioma claims accounted for 17.65% of the mesothelioma aggregate total. Stipulation and Order, *In re Garlock Sealing Technologies LLC, et al.*, 5134, No. 10-31607 (Bankr. W.D.N.C. December 8, 2015), at 3.

[118] Schwertz Affidavit, at ¶¶ 10, 11, 13, 15, 20.

[119] Schwertz Affidavit, at ¶¶ 10, 11, 13, 15, 20.

(111) JCI averaged claim payments of approximately $4 million annually from 2015 to 2024.[120] If JCI paid $4 million per year in perpetuity, then the net present value of its future asbestos claim payments would be approximately $75 million.[121] These claims will not persist in perpetuity. Accounting for the forecasted decline in occupationally induced rates of mesothelioma reduces the net present of JCI's asbestos-related payments into the range of $35 million to $50 million.[122] However, the low end of this range understates the Debtors' Asbestos Liability for two reasons. First, assuming an absence of evidence non-disclosure, this amount understates JCI's asbestos liability. As I described earlier, the Debtors' strategy in settling all claims in the tort system causes their payments to plaintiffs to exceed their asbestos liability. In contrast, JCI's strategy may cause its payments to be less than its liability, as it discourages claims with lower probabilities of success from pursuing claims. Second, the Debtors are two distinct defendants, while JCI is one defendant. While the available information allows me to conclude that, combined, the Debtors likely have lower liability than Garlock, the data do not permit analogous conclusions regarding JCI. Thus, combined, the Debtors may have more liability than JCI. Due to these two caveats, this analysis is consistent with a lower bound of $50 million.

#### IV.B.2.c. Excess mesothelioma attributable to all gaskets and packing

(112) The Reference Manual on Scientific Evidence defines damages as a comparison between the actual world and the but-for world in which the alleged tortious action never occurred.[123] In the current context, the alleged tortious action is asbestos exposure derivative of the asbestos-containing gaskets and packing in the Debtors' equipment. Thus, such a damages calculation compares the actual world to the but-for world in which asbestos-containing gaskets and packing did not exist.

(113) The US Environmental Protection Agency ("EPA") published its well-established risk equation for estimating mesothelioma incidence in 1982.[124] To estimate the mesothelioma incidence attributable to asbestos exposure from gasket and packing materials, I asked Dr. Jorge Gallardo-García to replace the overall asbestos exposure intensity in the EPA risk equation with exposure specifically from

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[120] JCI paid about $40 million over that 10-year period for an annual average of $4 million. Smiths Group PLC, *Annual Report*, October 2024, https://www.smiths.com/media/35hdqmol/smiths-annual-report-2024.pdf, 185; Smiths Group PLC, Annual Report, October 2019, https://www.smiths.com/media/k51nzdkl/smiths_group_annual-report_fy19.pdf, 183–184; Smiths Group PLC, Annual Report, October 2018, https://www.smiths.com/media/zvfeqnxp/smiths-group-annual-report-fy2018.pdf, 167–168.

[121] This net present value is calculated using a discount rate of 5.5% ($73 million).

[122] The low end corresponds to extrapolating $4.0 million in historical payments along the mesothelioma incidence curve with a 6.5% discount rate. The high end corresponds to extrapolating $5.0 million, a 25% increase of JCI's historical average, along the mesothelioma incidence curve with a 4.5% discount rate. The forecast includes expenditures from mid-2020 forward.

[123] Federal Judicial Center, *Reference Manual on Scientific Evidence*, 3rd ed. (Washington, DC: Federal Judicial Center, 2011): 429.

[124] William J. Nicholson, George Perkel, and Irving J. Selikoff, "Occupational exposure to asbestos: Population at risk and projected mortality-1980–2030," *American Journal of Industrial Medicine* 3, no. 3 (1982): 259–311; Environmental Protection Agency, "Airborne Asbestos Health Assessment Update," (Report EPA/600/8-84/003F, June 1986).

gaskets and packing. Mr. Henshaw provided such exposure estimates in his expert report in the Garlock estimation litigation.[125] There, he studied asbestos exposure by occupation-industry combinations and placed them into one of five exposure categories measuring the amount of exposure with asbestos gasket and packing materials for those occupation-industry combinations.[126] He then provided asbestos exposure estimates for each of those five exposure categories from gaskets and packing.[127] By isolating exposure from gaskets and packing, this analysis quantifies those products' contribution to the incidence of mesothelioma. In sum, this analysis assumes that (i) exposure to gaskets and packing that contain encapsulated chrysotile asbestos can, in fact, cause mesothelioma; (ii) the overall EPA risk equation is accurate in its estimate of how many mesotheliomas will arise from a certain intensity of exposure; and (iii) the estimates provided by Mr. Henshaw and relied upon in the *Garlock* estimation and confirmation approximate the intensity of the exposures that occurred in the workplace due to the use of asbestos-containing gaskets and packing in equipment.

(114) Figure 24 displays the "excess mesothelioma diagnoses" by decade caused by gaskets and packing.[128] Given that the Debtors' manufactured equipment connected to only a subset of the gaskets and packing in the stream of commerce, the Debtors' equipment would, therefore, have caused even fewer mesothelioma diagnoses. However, even if I unrealistically attribute 50% of excess gasket and packing mesothelioma diagnoses to the Debtors and value each corresponding excess mesothelioma diagnosis at $5 million, then I would still value the Debtors' Asbestos Liability at no more than $50 million for claims as of the Petition Date.[129]

**Figure 24: Excess mesothelioma from gaskets and packing**

| Decade | Excess mesothelioma |
|---|---|
| 1990–1999 | 28 |
| 2000–2009 | 29 |
| 2010–2019 | 22 |
| 2020–2029 | 12 |
| 2030 forward | 5 |
| **Total** | **96** |

[125] Expert Report of John L. Henshaw, CIH, *In re Garlock Sealing Technologies LLC, et al*., No. 10-BK-31607 (Bankr. W.D.N.C. February 8, 2013), at 1 [hereinafter "Henshaw Report"].

[126] Henshaw Report at 1–3.

[127] Henshaw Report at 3–5.

[128] Dr. Gallardo-García provided me estimates based on the current status of his incidence model. Details of Dr. Gallardo-García's final analysis and supporting calculations will be included in his expert report at the time other expert reports are due pursuant to any CMO or other case schedule set by the Court. Dr. Gallardo-García is finalizing his incidence model, but, upon completion, he does not expect it to differ materially from the version of the model applied herein. However, should his final model qualitatively alter my opinions herein, I will supplement this report accordingly.

[129] I calculate approximately 10 claims valued at $5 million each. The ten claims represent half of the 17 future (post-2019) diagnoses plus half of an estimated 3 pre-2020 diagnoses likely to still be pending.

# V. Tort System Opinion

(115) As I noted earlier in this report, settlements differ from liability for several reasons, including that the parties' respective costs, litigation strategies, and information asymmetries—all factors separate and distinct from liability—affect settlement amounts. However, to provide the Court with as much information as possible, Debtors' counsel requested that I estimate the amount the Debtors would have paid (since the Petition Date and into the future) in settlements for asbestos-related claims had they not filed for chapter 11 but instead always remained in the tort system (the "Tort System Opinion").

(116) As discussed in Section II.B, the amount a defendant pays in tort system settlements depends on the litigation strategy it pursues. Had the Debtors stayed in the tort system and maintained their "settlement approach," I estimate they would have paid asbestos-related claims between $425 million and $750 million on a net present value basis as of the Petition Date. Alternatively, the JCI data indicate that had the Debtors adopted a "litigation approach" similar to that of JCI, that litigation approach would have had a drastic impact on the Debtors' tort system settlements, and, under that scenario, I estimate they would have paid asbestos-related claims between $50 million and $100 million on a net present value basis as of the Petition Date.[130] The upper end of this range corresponds to twice the upper end of the $35 million to $50 million estimated net present value for 2020 forward JCI asbestos-related payments (see Section IV.B.2.b). The remainder of this section addresses the $425 million and $750 million range under the Debtors' historical defense approach.

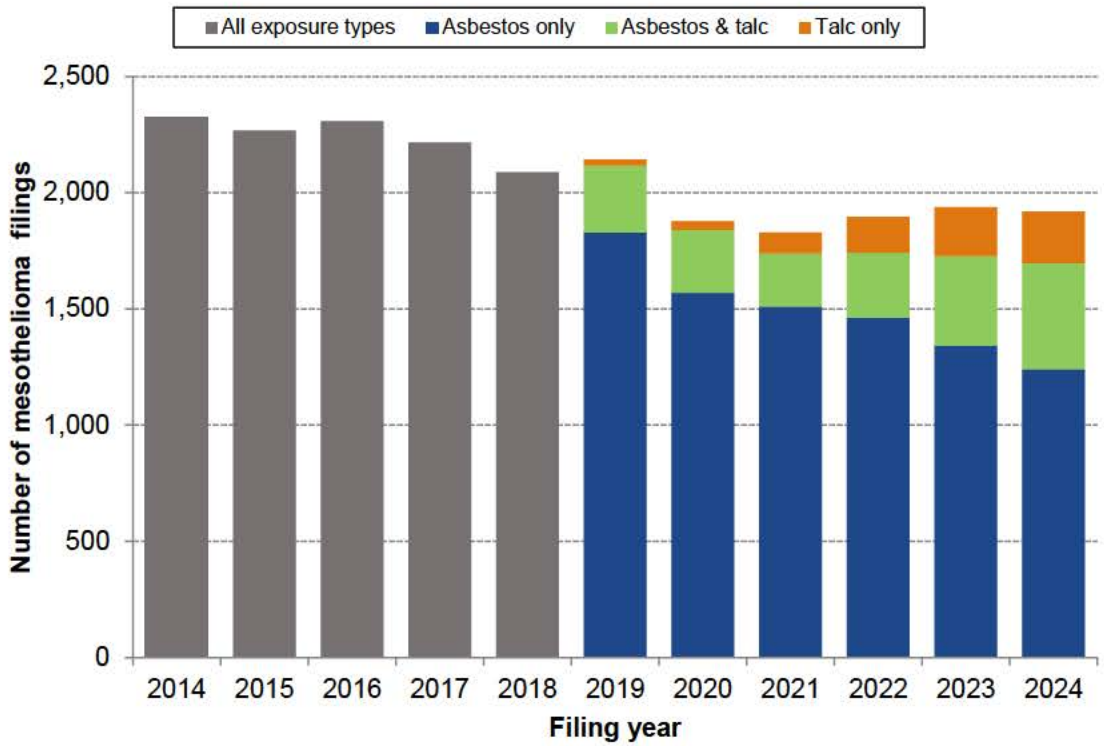
## V.A. Mesothelioma filings have been declining

(117) My Tort System Opinion as of the Petition Date has the benefit of observing the tort system experience since the Petition Date for other defendants still in the tort system. Figure 25 displays annual mesothelioma claim filings among major defendants since 2014. As seen in the figure, asbestos-related mesothelioma filings have declined over the past decade and since 2019.[131]

[130] In order to transition from a "settlement approach" to a "litigation approach," the Debtors would incur substantial defense expenditures beyond their historical defense expenditure levels, and would likely be required to complete a number of trials to verdict.

[131] The data on claim filings used for this figure comes from KCIC, a claim processing consulting firm. KCIC publishes annual reports that document asbestos filing trends based on the public complaints they process. KCIC estimates that they process at least 90% of all asbestos filings. "Asbestos Litigation: 2024 Year in Review," KCIC, April 2025, https://www.kcic.com/media/2462/kcic_report_asbestos-annual-report_2024-1.pdf, 3. KCIC provided Bates White with mesothelioma claim filings data for 2014–2024. Prior to 2019, the data does not distinguish the type of exposure alleged in the complaint. Starting in 2019, KCIC categorized the exposure alleged in the complaint into three distinct categories as shown in the figure based on the number and type of defendants named on the complaint.

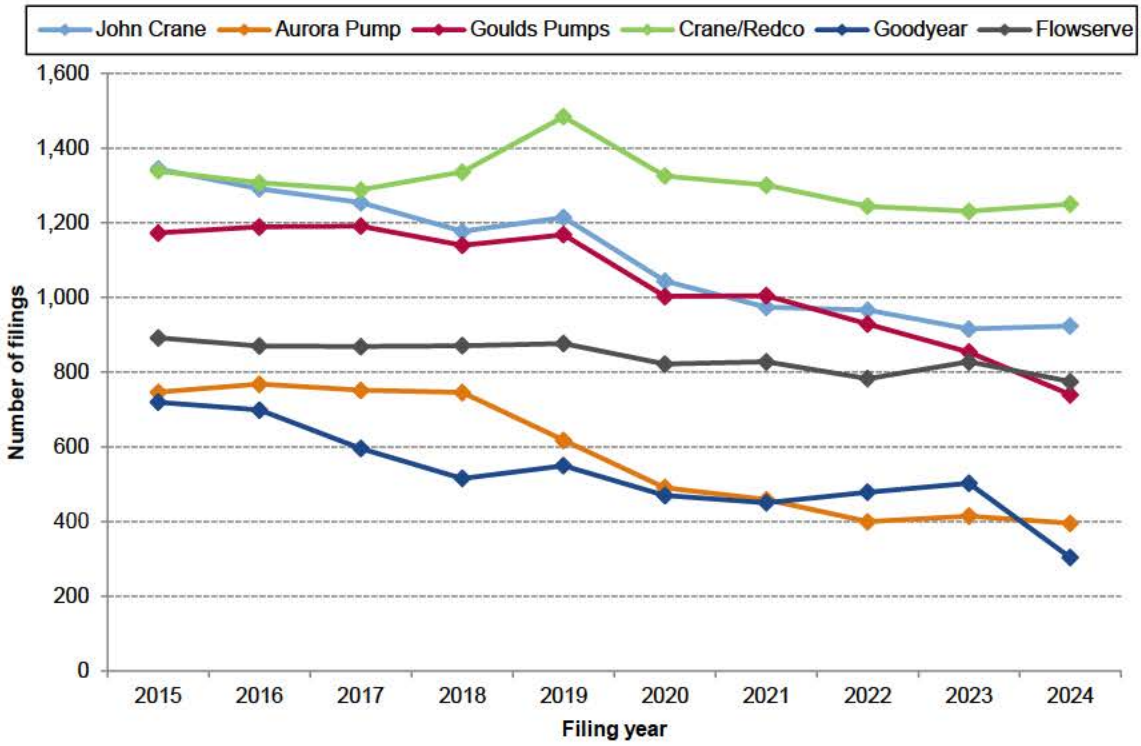
**Figure 25: Annual publicly tracked mesothelioma claim filings**




(118) Not only have mesothelioma claim filings been declining generally, but also there has been a transition from filings against traditional asbestos defendants to filings against talc defendants. Consistent with that trend, filings have also been declining against gasket and packing defendants. Figure 26 displays the annual mesothelioma claim filings against gasket and packing defendants, with annual filings in a similar range to that of the Debtors.[132] Regardless of defendant, filings have declined. The rate of decline has accelerated since 2019, the Debtors' last full pre-petition year in the tort system. From 2019 to 2024, declines have ranged from a 12% decrease in filings (Flowserve) to a 45% decrease in filings (Goodyear). Across all codefendants shown in Figure 26, mesothelioma filings have declined by about a quarter between 2019 and 2024.

[132] These data were derived from public complaints tracked by PACE, the claims processing and consulting firm that maintains the Debtors' claims database.

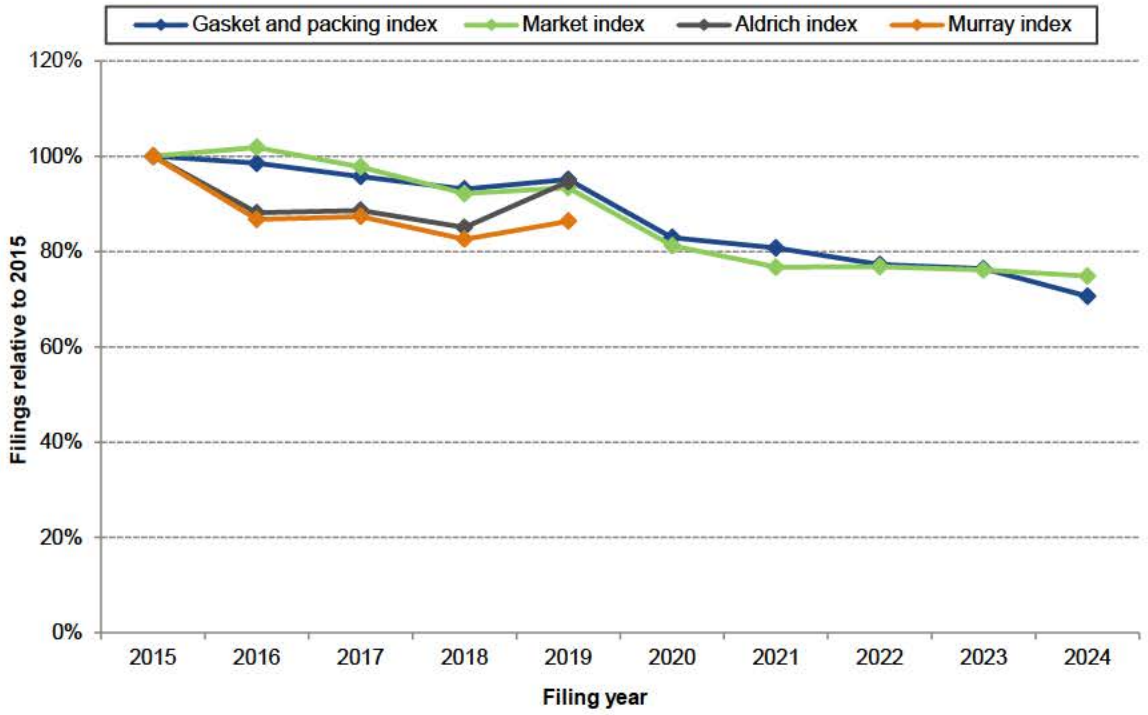
**Figure 26: Annual mesothelioma claim filings among gasket and packing defendants**




(119) Figure 27 demonstrates that claim filings against gasket and packing defendants have followed the overall trend of claim filings against all traditional asbestos defendants. The market index of claim filing rates against gasket and packing defendants (the blue line) closely tracks the overall market index (the green line).[133] Between 2015 and 2019, Aldrich claim filings (the black line) and Murray claim filings (the orange line) declined at the same rate or faster than filings against other codefendants and asbestos defendants in general. Given this trend and the decline in mesothelioma claim filings observed since then among traditional asbestos defendants generally and gasket and packing defendants specifically, one would expect to have seen similar declines for the Debtors had they remained in the tort system.

[133] The overall market index excludes the talc-only claims from Figure 25, as those claims do not name any traditional asbestos defendants.

**Figure 27: Trends in annual mesothelioma filings since 2015**




(120) While no longer an active tort system defendant, the experience of the Garlock trust reinforces these conclusions. The Garlock trust increased its Maximum Settlement Values twice, once in 2021 and again in 2025.[134] With these increases, the trust's Maximum Settlement Values are now more than twice the level at which they were initially set—a fact consistent with the trust receiving fewer compensable claims than historically forecasted.

## V.B. Component-based forecasts

(121) Prior to my retention in the Debtors' bankruptcy cases, two economic consulting firms estimated the Debtors' future tort-based claim payments for Securities and Exchange Commission ("SEC") disclosure purposes. Ankura performed that work from 2008 to 2018 and NERA subsequently.[135] Generally accepted accounting principles ("GAAP") requires companies to book the nominal value of

[134] Garlock Settlement Facility, *Notice of Increase to Maximum Settlement Values*, January 2025, https://garlocksettlementfacility.com/assets/uploadedFiles/59cdd4b5-aa63-4b05-96ce-6b4e4e267c75.pdf; Garlock Settlement Facility, *Notice of Increase to Maximum Settlement Values*, November 2021, https://garlocksettlementfacility.com/assets/documents/GST-Notice-re-MSV-Increase.pdf; Garlock Settlement Facility, *Settlement Facility Second Amended and Restated Claims Resolution Procedures*, June 2018, Archived, July 11, 2019, https://web.archive.org/web/20190711102749/http:/garlocksettlementfacility.com/wp-content/uploads/2018/07/Settlement-Facility-Amended-and-Restated-Claims-Resolution-Procedures-as.._.pdf.

[135] ARPC performed this work prior to their merger with Ankura. I include historical ARPC analysis in all references to Ankura's work.

forecasted expenditure (not discounted to net present value) and also allows companies to book the low end of the likely range of those nominal future tort expenditures.[136] Figure 28 summarizes the booked value based on the Ankura and NERA estimates over time. The forecasts came down over time, as the Debtors paid claims in the tort system.

**Figure 28: Financial disclosure estimates[137]**

| Fiscal year | Forecasting firm | Forecast |
|---|---|---|
| 2008 | Ankura | $1,195.2 MM |
| 2009 | Ankura | $1,113.1 MM |
| 2010 | Ankura | $1,020.5 MM |
| 2011 | Ankura | $938.3 MM |
| 2012 | Ankura | $879.5 MM |
| 2013 | Ankura | $846.2 MM |
| 2014 | Ankura | $776.6 MM |
| 2015 | Ankura | $713.7 MM |
| 2016 | Ankura | $631.2 MM |
| 2017 | Ankura | $604.8 MM |
| 2018 | Ankura | $611.6 MM |
| 2019 | NERA | $547.4 MM |
| 2020 | NERA | $508.1 MM |

(122) As mentioned above and explained in more detail below, I estimate that the Debtors' tort system payments would have been between $425 million and $750 million on a net present value basis as of the Petition Date had they maintained their prior settlement strategy. The lower end of that range, which is in net present value, aligns with the most recent nominal financial disclosure estimate provided to the Debtors by NERA prepetition (at the end of 2019).

(123) To estimate my Tort System Opinion range under the "settlement approach" strategy, I first calculated forecasts based on the forecasting approach typically used in financial reporting. That approach typically calculates aggregate nominal potential future tort system expenditures as the product of five components ("component-based forecasts"):

$$Payments = incidence \times PTS \times (resolution\ rate) \times (pay\ rate) \times ASV.$$

The first term is the incidence, or the total number of diagnoses on the incidence curve used for the forecast. The second term is the propensity to sue ("PTS"), which equates to the proportion of

[136] KPMG, *Accounting for legal claims: IFRS compared to US GAAP,* February 2019, kpmg.com/us/en/articles/2023/measuring-provisions.html.

[137] All numbers were aggregated from Trane Technologies' financial reports. The financial reports do not list the forecasting firm after 2011, so I received that information for later years from counsel. Trane Technologies PLC, Annual Report (Form 10-K) (2020), F-49; Trane Technologies PLC, Annual Report (Form 10-K) (2018), F-43; Trane Technologies PLC, Annual Report (Form 10-K) (2016), F-40; Trane Technologies PLC, Annual Report (Form 10-K) (2014), F-42; Trane Technologies PLC, Annual Report (Form 10-K) (2012), F-44; Trane Technologies PLC, Annual Report (Form 10-K) (2010), F-50; Trane Technologies PLC, Annual Report (Form 10-K) (2009), F-54.

diagnosed claimants who will file a lawsuit. Not every person diagnosed with a disease will eventually file a lawsuit. The third term is the resolution rate, which equates to the portion of filed claims likely to be resolved. While asbestos defendants typically resolve most of the claims filed against them, some claims remain unresolved (abandoned or not updated in defendants' claims databases) for decades. The fourth term is the pay rate, which equates to the proportion of resolved claims that receive payment. Mass tort forecasters also frequently reference the dismissal rate. The dismissal rate equals one minus the pay rate. For example, if a defendant pays 30% of its resolved claims, then it dismisses 70% of its resolved claims. The final term is the average settlement value ("ASV"), which equates to the average payment received by paid claims.

(124) In practice, forecasters recognize that the incidence, PTS, resolution rate, pay rate, and ASV can differ across subpopulations of claims:

$$Aggregate\ payments = \sum_{i=1}^{n} incidence_i \times PTS_i \times (resolution\ rate)_i \times (pay\ rate)_i \times ASV_i.$$

Depending on the characteristics of a defendant and the purpose of the forecast, one may separate claims into occupational and non-occupational claims, by plaintiff law firm, or by jurisdiction.[138]

(125) Figure 29 displays 24 forecasts for future claim payments as of the Debtors' Petition Date under the Debtors' historical litigation strategy, sorted from lowest to highest net present value of future payments. Across all scenarios, about 25% of the potential Debtors' future claim payments accrue to pending claims and 75% accrue to future claims.[139]

[138] The law firms Law Firm 3, Law Firm, 1, and the Law Firm 2 had group settlement agreements with the Debtors. Counsel informed me that the Law Firm 3 agreement began as early as 2013, while the Law Firm 1 agreements began around 2002 (Aldrich) and 2014 (Murray). The Law Firm 2 agreement was with Aldrich only and was in place from mid-2004 through May 2019. Under these agreements, claims did not name the Debtors in the tort system, so the claims reflected in the Debtors' claims database for these firms during the time period of their settlement agreements are largely the claims that were submitted for settlement. The Debtors only settled a subset of Law Firm 3 Law Firm 1, and Law Firm 2 claims that were filed in the tort system against other defendants, so many other claims filed by these law firms against other defendants do not appear in the Debtors' claims database. This results in a data gap for these firms for calculations such as the propensity to sue and dismissal rate. Given this data consideration and that the Law Firm 3 and Law Firm 1 deals were effectively in place until the Debtors' Petition Date, I only project paid claims for these law firms. For Law Firm 2, given the deal was terminated more than a year before the Petition Date, I forecast all five components of the component-based analysis, but at the low end of my range, I adjust to account for an observed reduction in paid claims post-termination of the deal.

[139] Given the Law Firm 3 and Law Firm 1 agreements described in Footnote 138, I calculate the pending to future ratio using a forecast that excludes the Law Firm 3 and Law Firm 1 claims.

**Figure 29: Component-based range of future claim payments by the Debtors as of their Petition Date[140]**

| Scenario parameters | | | | Aldrich | | Murray | | Total |
|---|---|---|---|---|---|---|---|---|
| Calibration period | ASV trend | Discount rate | Non-ACP incidence | Pending[141] | Future | Pending | Future | |
| 5 years | Hist. trend | 6.50% | 0% Non-ACP | $85 MM | $270 MM | $40 MM | $130 MM | $525 MM |
| 3 years | Hist. trend | 6.50% | 0% Non-ACP | $80 MM | $260 MM | $45 MM | $140 MM | $525 MM |
| 10 years | Hist. trend | 6.50% | 0% Non-ACP | $90 MM | $280 MM | $40 MM | $140 MM | $545 MM |
| 5 years | None | 6.50% | 0% Non-ACP | $85 MM | $280 MM | $45 MM | $155 MM | $565 MM |
| 3 years | None | 6.50% | 0% Non-ACP | $80 MM | $270 MM | $45 MM | $165 MM | $565 MM |
| 5 years | Hist. trend | 6.50% | 20% Non-ACP | $90 MM | $300 MM | $40 MM | $140 MM | $575 MM |
| 3 years | Hist. trend | 6.50% | 20% Non-ACP | $85 MM | $295 MM | $45 MM | $150 MM | $580 MM |
| 10 years | None | 6.50% | 0% Non-ACP | $90 MM | $290 MM | $40 MM | $165 MM | $585 MM |
| 5 years | Hist. trend | 4.50% | 0% Non-ACP | $85 MM | $315 MM | $45 MM | $150 MM | $590 MM |
| 3 years | Hist. trend | 4.50% | 0% Non-ACP | $80 MM | $305 MM | $45 MM | $160 MM | $595 MM |
| 10 years | Hist. trend | 6.50% | 20% Non-ACP | $95 MM | $320 MM | $40 MM | $150 MM | $605 MM |
| 10 years | Hist. trend | 4.50% | 0% Non-ACP | $90 MM | $325 MM | $40 MM | $160 MM | $615 MM |
| 5 years | None | 6.50% | 20% Non-ACP | $90 MM | $320 MM | $45 MM | $170 MM | $620 MM |
| 3 years | None | 6.50% | 20% Non-ACP | $85 MM | $310 MM | $45 MM | $180 MM | $630 MM |
| 5 years | None | 4.50% | 0% Non-ACP | $85 MM | $330 MM | $45 MM | $180 MM | $640 MM |
| 3 years | None | 4.50% | 0% Non-ACP | $85 MM | $320 MM | $50 MM | $195 MM | $645 MM |
| 10 years | None | 6.50% | 20% Non-ACP | $95 MM | $335 MM | $40 MM | $180 MM | $655 MM |
| 5 years | Hist. trend | 4.50% | 20% Non-ACP | $90 MM | $355 MM | $45 MM | $165 MM | $655 MM |
| 3 years | Hist. trend | 4.50% | 20% Non-ACP | $90 MM | $350 MM | $45 MM | $175 MM | $660 MM |
| 10 years | None | 4.50% | 0% Non-ACP | $90 MM | $345 MM | $40 MM | $190 MM | $665 MM |
| 10 years | Hist. trend | 4.50% | 20% Non-ACP | $95 MM | $380 MM | $40 MM | $175 MM | $690 MM |
| 5 years | None | 4.50% | 20% Non-ACP | $95 MM | $380 MM | $45 MM | $200 MM | $715 MM |
| 3 years | None | 4.50% | 20% Non-ACP | $90 MM | $370 MM | $50 MM | $215 MM | $720 MM |
| 10 years | None | 4.50% | 20% Non-ACP | $95 MM | $400 MM | $45 MM | $215 MM | $750 MM |

(126) The scenarios vary per the selections of the four left-hand columns of Figure 29:

- Calibration period: The calibration period selects the historical period of data used to estimate the PTS, resolution rate, pay rate, and baseline ASV. Longer windows (10 years) provide more data, which can improve estimates in a stable environment. Shorter windows (3 years) use only the most recent data, which reflect the most recent tort experience but provide less precise estimates due to the limited data employed. I have modeled 3-, 5-, and 10-year calibration windows through 2019. Given the relative stability of both the litigation environment and the experience of these

[140] I have included the gross-up to account for non-mesothelioma claims as discussed in Appendix D.2.c. Additional scenarios that use a 5.5% discount rate and a 10% weight on the non-ACP incidence curve are included in my reliance materials. All additional scenarios are within the range presented in this figure.

[141] The stated amounts exclude claims that were settled pre-petition and either not documented or not negotiated ("SBND" claims). Many, but not all, of those claims will eventually provide the necessary information for compensation. I understand from counsel that $10 million to $15 million of the approximately $18 million of SBND claims listed in the Debtors' database may receive compensation. Counsel's estimate corresponds with my own experience with SBND claims.

Debtors, the forecasts are relatively insensitive to the selection of the calibration period. For example, the PTS for Murray moves from 60% with a 10-year calibration period to 63% with a 5-year calibration period. Similarly, the PTS for Aldrich moves from 73% to 77% (for more detail see Appendix D.1.b).[142]

- ASV trend: The baseline ASV calculated from the calibration period may change through time. The Debtors have experienced declining nominal claim values for more than a decade and relatively steeply declining CPI-adjusted claim values. I have modeled a continued decline along the historical trend ("Hist. trend" scenario) and a more conservative approach having the nominal ASVs immediately cease declining ("None" scenario).
- Discount rate: The scenarios in the figure use one of two discount rates: 4.5% and 6.5%. During the 2010–2024 low-interest-rate environment, 524(g) trusts experienced a 4.5% rate of return, which constituted a 2% premium above the 2.5% rate of return on US Treasury notes during that same period. Today, US Treasury notes have about a 4.5% rate of return. The 6.5% scenario assumes 524(g) trusts continue to realize a 2% premium relative to US Treasury notes in today's higher interest rate environment. The 4.5% scenario reverts to the rate of return observed during the low-interest-rate environment. The 4.5% rate would appear to be too low based on forecasts of future rates (described in Appendix D.2.a), but I include that rate for completeness.[143]
- Non-ACP incidence: Mesothelioma incidence has two sources, asbestos-related incidence (generally, occupational mesothelioma) and non-asbestos-related incidence. Claimants alleging exposure to gaskets and packing generally have occupational asbestos exposure, and the annual count of such claimants follows the occupational mesothelioma curve. However, the Debtors do receive some claims outside of that population. The scenarios in the figure either exclude non-asbestos incidence ("0% Non-ACP") or include 20% of the non-asbestos incidence curve ("20% Non-ACP").[144]

Appendix D provides a more detailed overview of the various components considered and the estimation approach for those components. Those estimation approaches disaggregate the incidence, PTS, resolution rate, pay rate, and ASV components by law firms or groups of law firms.[145]

(127) My forecast in this Initial Expert Report is applied only to mesothelioma claims against the Debtors. Historically, the Debtors incurred 82% of claim payments on mesothelioma claims and 18% on non-

[142] For reasons stated in Footnote 138, this statistic excludes Law Firm 3 and Law Firm 1 claims for both Debtors and Law Firm 2 claims for Aldrich.

[143] My reliance materials also contain the scenarios with a 5.5% discount rate.

[144] My reliance materials also contain the scenarios that include 10% of the non-ACP incidence ("10% Non-ACP").

[145] I forecast these components for law firms with sufficient mesothelioma claims to build reliable models of law firm-specific behavior. All other law firms are modelled collectively as a single group. For example, it would not be statistically reliable to model a law firm with only five historical claims. The results are insensitive to the exact threshold that defines sufficient data for law firms.

mesothelioma claims.[146] To estimate the full amount of the Debtors' Asbestos Liability, I therefore have "grossed up" the Debtors' estimated mesothelioma liability so that the estimated mesothelioma liability represents approximately 82% of the aggregate amount of the estimated Debtors' Asbestos Liability.

## V.C. Annual-expenditure-based forecasts

(128) The component-based methodology discussed above assesses multiple components of a defendant's litigation experience and can adjust individual components for trends or other changes in an unstable litigation environment. The asbestos litigation environment underwent numerous, material changes from 1990 through 2010 (see Section II.C). Thus, practitioners almost universally employed component-based forecasts through 2010. From an estimation perspective, the cost-benefit analysis was simple—the benefit of being able to adjust for trends and other changes in the litigation environment outweighed the cost of introducing (statistical) estimation error and potentially introducing selection bias. However, the 2010–2019 litigation environment has been relatively stable, as evidenced by the relative insensitivity of the component-based forecasts to 3-, 5-, and 10-year calibration periods. During stable periods, an annual-expenditure-based approach can provide more reliable forecasts than the component-based forecasts.

(129) Annual-expenditure-based forecasts extrapolate annual settlement payments along a projected future mesothelioma incidence curve adjusting solely for claim-value inflation. This approach has two advantages. First, it mitigates (statistical) estimation error by reducing the number of parameters to be estimated. Second, it eliminates potential selection bias. The calibration period for component-based forecasts typically selects claims by filing year (e.g., PTS and resolution rate) or resolution year (e.g., pay rate and ASV). However, both filing year and resolution year depend on plaintiff and defendant litigation strategies. Thus, they are endogenous variables—outcomes of choices made by litigants. Using endogenous variables as a model input can introduce selection bias.[147] In contrast, extrapolating annual expenditures by diagnosis year (an exogenous variable independent of litigation environment, plaintiff strategy, and defense strategy) avoids this form of selection bias.

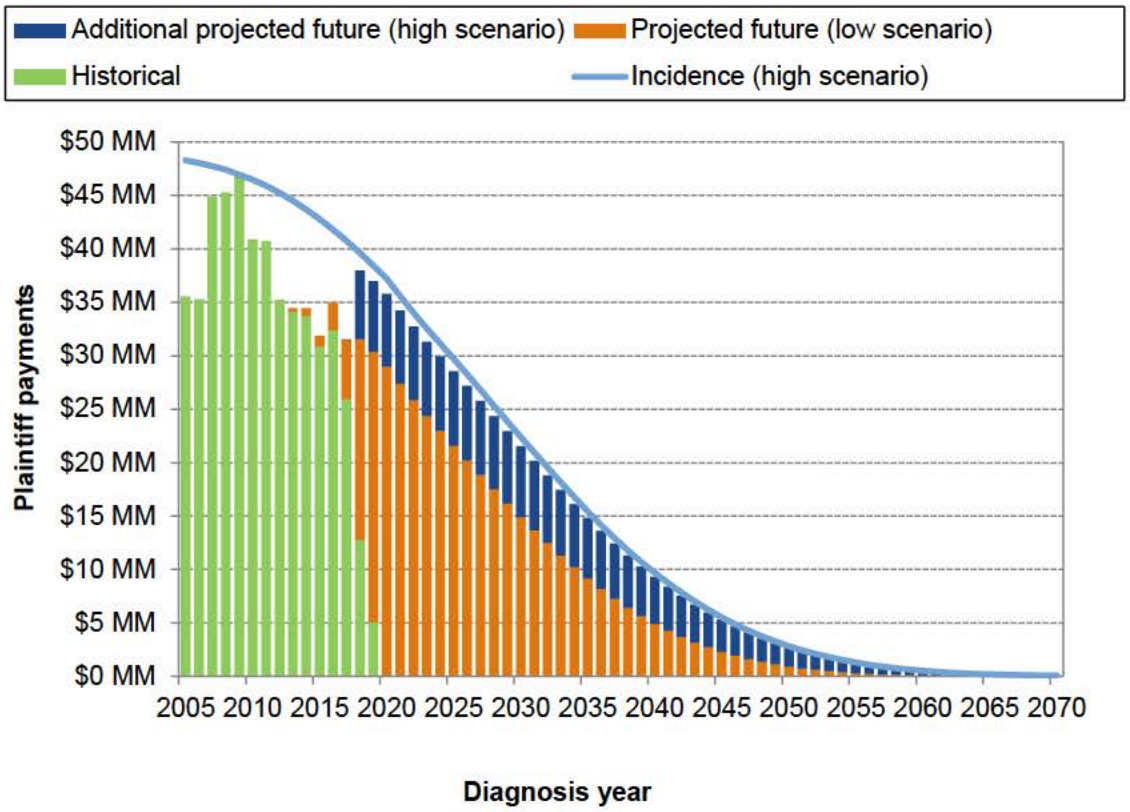
(130) Figure 30 shows the forecasted values of the annual-expenditure-based approach for Aldrich calculated by diagnosis year. Aldrich has effectively completed claim payments for the 2007 to 2014 diagnosis cohorts (see Appendix D.1.c on resolution rates). Aldrich's historical payments have steadily declined across those diagnosis cohorts. Aldrich has nearly completed claim payments for diagnosis years 2015 to 2017. Those years continue the downward trend. The orange bars depict the

[146] Non-mesothelioma claims payments accounted for approximately 17.3% and 19.4% of Aldrich and Murray claim payments, respectively. Information supporting these percentage calculations is set forth in Appendix D.2.c.

[147] Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 8th ed. (Boston, MA: Cengage Learning, 2025): 255.

low-end future tort system payments. The height of the blue bars represent the high-end tort system payments.

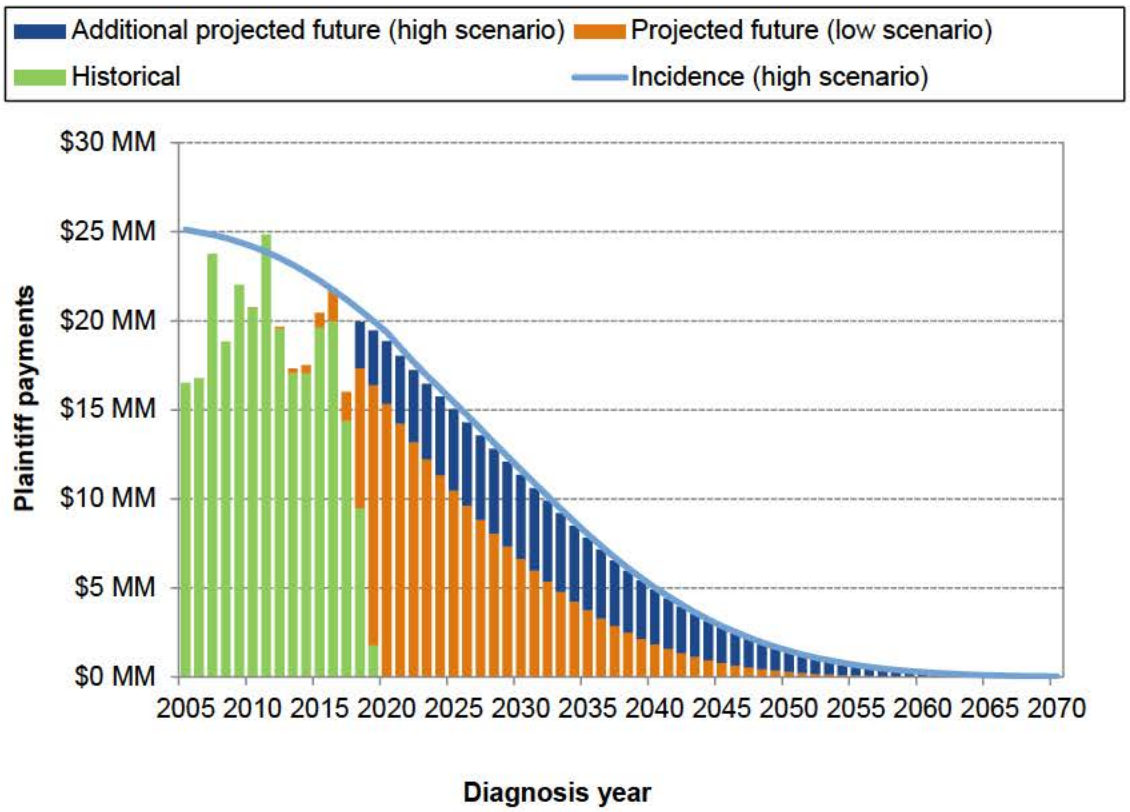
**Figure 30: Graphical representation of the annual-expenditure-based forecast for Aldrich**




(131) Viewing the Aldrich litigation experience by diagnosis year illustrates the higher settlement payments associated with the 2007–2011 diagnosis years. The three highest diagnosis years, 2007–2009, were effectively resolved before the 2014 *Garlock* decision. The 2010–2011 diagnosis years were partially resolved as of the *Garlock* decision and partially overlap with the evidence suppression found by Judge Hodges. In contrast, the 2012 and later diagnosis years effectively post-date the *Garlock* decision from a settlement perspective. The low scenario extrapolates the 2012 to 2017 annual-expenditure, which isolates the extrapolation to claims filed and litigated after the *Garlock* January 2014 decision. To the degree the *Garlock* decision changed the litigation environment for gasket and packing defendants generally or these Debtors specifically, this forecast isolates the extrapolation to claims litigated in that post-*Garlock* environment. The high scenario, in contrast, extrapolates from the peak of the pre-*Garlock* decision expenditure years.

(132) Figure 31 shows the forecasted values of the annual-expenditure-based approach for Murray. As observed for Aldrich, Murray also experienced declining expenditures through time by diagnosis cohort and elevated expenditures for the 2007–2011 cohorts.

**Figure 31: Graphical representation of the annual-expenditure-based forecast for Murray**

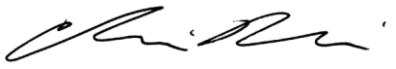



(133) As displayed in Figure 32, the annual-expenditure-based approach produces similar results to the prior analyses, but with the low end of the range shifted down. This lower result derives explicitly from isolating the forecast to claims filed and litigated in the post-*Garlock* litigation environment.

**Figure 32: Likely range of future claim payments by the Debtors as of their Petition Date[148]**

| Expenditure forecast scenario | Aldrich | Murray | Total |
|---|---|---|---|
| Low | $280 MM | $145 MM | $425 MM |
| High | $450 MM | $245 MM | $695 MM |

[148] I have included the gross-up to account for non-mesothelioma claims as discussed in Appendix D.2.c.



Charles H. Mullin, PhD

September 15, 2025

Date

# Appendix A. Curriculum vitae of Charles H. Mullin

## A.1. Summary of experience

Charles H. Mullin provides advice and expert analysis on issues involving mass torts, class actions, bankruptcies, insurance coverage, and due diligence for mergers, acquisitions, and spin-offs. He is a recognized expert on statistical and data analysis, econometrics, economic and microsimulation modeling, sample design, insurance allocation, and the valuation of mass torts. The Lexology Index (formerly *Who's Who Legal*) named him Insurance Expert of the Year on three occasions, and he has been a Lexology Index Insurance and Reinsurance Expert Witness Thought Leader since 2016 and Global Elite Thought Leader since 2018. Dr. Mullin has authored more than 100 expert reports and provided expert testimony in more than 50 matters, as well as provided due diligence reports for corporate transactions. He has more than 25 years of experience providing this expertise in both the private and public sectors.

He taught courses in statistics, econometrics, and labor economics while on the faculty in the Department of Economics at Vanderbilt University and at the University of California at Los Angeles. Dr. Mullin has published papers on applied and theoretical econometrics and labor economics in peer-reviewed journals, and he is frequently invited to speak at industry conferences.

## A.2. Education

- PhD, Economics, University of Chicago
- BA, Mathematics and Economics, University of California at Berkeley

## A.3. Selected experience

- Authored expert reports, provided deposition testimony, and provided hearing testimony on behalf of the Debtor in *In re Red River Talc LLC*, No. 24-90505 (Bankr. S.D.T.X.): 2024–2025.
- Assessed the value of pending and future PFAS-related claims on behalf of the Debtor in *In re Kidde-Fenwal, Inc.*, No. 23-10638 (Bankr. D. Del.): 2021–present.
- Authored expert report, provided deposition testimony, and provided hearing testimony on behalf of the Debtors in *In re Aearo Technologies LLC, et al.*, No. 22-02890-JJG-11 (Bankr. S.D. Ind.): 2022–present.

- Assessed the value of pending and future asbestos-related personal-injury claims on behalf of the Debtor in *In re HONX, Inc.*, No. 22-90035 (MI) (Bankr. S.D.T.X.): 2022–2024.
- Authored expert report and provided deposition testimony on behalf of multiple insurance companies in *AmerisourceBergen Drug Corporation, et al., v. ACE American Insurance Co., et al.*, No. 17-C-36 (W.V. Cir. Ct., Boone Cnty): 2021–present.
- Authored expert reports, provided deposition testimony, and provided hearing testimony on behalf of the Debtor in *In re LTL Management LLC*, No. 21-30589 (MBK) (Bankr. D.N.J.) (formerly No. 21-30589 (JCW) (Bankr. W.D.N.C.)): 2021–2023.
- Authored expert report, provided deposition testimony, and provided hearing testimony in *In re Mallinckrodt PLC, et al.*, No. 20-12522 (Bankr. D. Del.): 2021.
- Authored expert report and provided deposition testimony in *Kevin Brown et al. v. Saint-Gobain Performance Plastics Corporation and Gwenael Busnel*, No. 1:16-cv-00242 (U.S. Dist. Ct. D. N.H.): 2020–present.
- Authored expert report, provided deposition testimony, and provided hearing testimony on behalf of the Debtors in *In re Aldrich Pump LLC, et al*., No. 20-30608 (Bankr. W.D.N.C.): 2020–present.
- Assessed the value of pending and future abuse claims on behalf of the Debtors in *In re Boy Scouts of America and Delaware BSA, LLC*, No. 20-10343 (Bankr. D. Del.): 2020–2023.
- Assessed the value of pending and future asbestos-related personal-injury claims on behalf of the Debtors in *In re DBMP, LLC*, No. 20-30080 (Bankr. W.D.N.C.): 2020–present.
- Assessed the value of pending and future asbestos-related personal-injury claims on behalf of the Debtors in *In re Paddock Enterprises, LLC*, No. 20-10028 (Bankr. D. Del.): 2020–2022.
- Authored expert report and provided deposition testimony on behalf of the Johnson & Johnson in *In re Imerys Talc America, Inc., et al*., No. 19-10289 (Bankr. D. Del.): 2019–present.
- Authored presentation for investor group and provided model of potential losses related to bodily-injury claims alleged related to agricultural pollutant: 2019.
- Retained on behalf of the Debtors in *In re Purdue Pharma L.P., et al*., No. 19-23649 (Bankr. S.D.N.Y.): 2019–present.
- Authored expert report in *In re Midwest Generation, LLC, et al.*, No. 12-49218 (Bankr. N.D. Ill.): 2019.
- Provided testimony in PERB Interest Arbitration between PBA and the City of New York: 2019–2023.
- Authored expert report and provided deposition testimony on behalf of excess insurers in *In re Kaiser Gypsum Company, Inc., et al.*, No. 16-31602 (Bankr. W.D.N.C.): 2018–2021.

- Authored expert report in *Consumer Financial Protection Bureau v. Navient Corporation and Navient Solutions, Inc.*, No. 3:17-cv-00101 (M.D. Pa., Jan. 18, 2017). 2018–2024.
- Authored expert report and provided deposition testimony in *Keyes Law Firm v. Napoli Bern Ripka Shkolnik, LLP, et al*., No. 1:17-cv-02972 (U.S. Dist. Ct. D. Md.): 2018–2020.
- Authored expert report and provided deposition testimony in *St. Paul Surplus Lines Insurance Company v. Wright Medical Group, Inc., et al.*, No. CH-14-0927 (Tn. Ch. Ct. 13th Jud. Dist. Memphis): 2018–2019.
- Authored expert report, provided deposition testimony, and testified in *Cannon Electric, Inc., now known as ITT Cannon, Inc., et al. v. ACE Property and Casualty Company, et al.*, No. BC 290354 (Super. Ct. Cal. L.A. Cnty. Ct.): 2018.
- Assessed the value of pending and future asbestos-related personal-injury claims on behalf of the Debtors in *In re Bestwall, LLC*, No. 17-31795 (Bankr. W.D.N.C.): 2017–present.
- Assessed the value of pending and future airbag-related personal-injury claims on behalf of automobile manufacturers in the matter of *In re TK Holdings Inc., et al*., No. 17-11375 (Bankr. D. Del.) and related proceedings: 2017–2018.
- Authored expert reports and testified in *James D. Sullivan et al. v. Saint-Gobain Performance Plastics Corporation*, No. 5:16-cv-00125 (U.S. Dist. Ct. D. Vt.): 2017–2019.
- Authored expert report, provided deposition testimony, and testified in *In re the Receivership of Fraser's Boiler Service, Inc.*, No. 15-2-01791-8 (Wash. Super. Ct., King Cnty.): 2017.
- Authored expert report in *Gerrit H. Brouwer et al. v. Wyndham Vacation Resorts, Inc. et al*., No. 2014-CA-008533 (Fl. Cir. Ct. 9th Jud. Cir. Orange Ct.): 2017–2022.
- Authored expert report in *Ernest Yaeger, Jr. et al. v. Wyndham Vacation Resorts, Inc. et al*., No. 2014-CA-008054 (Fl. Cir. Ct. 9th Jud. Cir. Orange Ct.): 2017–2022.
- Authored declarations and testified in a reinsurance arbitration: 2017–2022.
- Authored declarations and reports, provided deposition testimony, and testified in interconnected reinsurance arbitrations: 2016–2024.
- Analyzed coverage issues on behalf of Columbia Casualty Co. regarding pharmaceutical-based losses: 2016.
- Authored expert reports on behalf of HDI-Gerling Industrial Insurance Co. regarding pharmaceutical-based losses: 2015–2016.
- Authored expert report and declaration and provided deposition testimony in *Appleton Papers Inc. & NCR Corp. v. George A. Whiting Paper Co. et al*., No. 08-C-16 (U.S. Dist. Ct. E.D.WI): 2015–2017.

- Authored expert reports on behalf of ACE Bermuda insurance Ltd. regarding an arbitration claim by 3M Company regarding allegedly defective masks and respirators against Bermuda-Form policies: 2015–2016.
- Authored expert report on behalf of Allstate Insurance Company regarding an insurance contribution claim in *Certain Underwriters at Lloyd's London v. Allstate et al*., No. C101-1674 (Ohio Ct. Com. Pl., Lucas Cnty.): 2015–2016.
- Analyzed coverage issues stemming from agricultural-related water contamination claims: 2015–2018.
- Analyzed coverage issues stemming from MTBE-related claims filed: 2015–2018.
- Authored expert report and provided deposition testimony in *Direct General Ins. Co. v. Indian Harbor Ins. Co.*, No. 1:14-CV-20050 (S.D. Fla.): 2015.
- Authored expert report, provided deposition testimony, and testified during arbitration on behalf of General Re Corporation and SCOR SE in a reinsurance matter: 2014–2017, 2018–2021.
- Analyzed coverage issues stemming from Benzene claims filed in *Radiator Specialty Company vs. Arrowood Indemnity Company et al*., No. 13 CVS 2271 (NC Super. Ct. Mecklenburg Cnty.): 2014–2015.
- Coauthored letters supporting the approximately $700 million international legacy asbestos liability and related insurance valuations for the newly combined AMEC Foster Wheeler across US GAAP and IFRS accounting frameworks, as well as periodic updates to said analyses: 2014–2020.
- Authored declaration on behalf of insurance companies in *AIU Ins. Co. v. Philips Elecs. N. Am. Corp.*, No. 9852 (Del. Ch.): 2014–2015.
- Authored declaration on behalf of insurance companies in *In re T.H. Agric. & Nutrition, LLC*, No. 08-14692 (Bankr. S.D.N.Y.): 2014.
- Analyzed coverage issues stemming from environmental loss in *Olin Corporation v. Insurance Company of North America et al.*, No. 84 CIV. 1968 (TPG) (U.S. Dist. Ct. S.D.N.Y.): 2014–2015.
- Provided legacy liability valuation report that parsed liability for a large-scale energy generator across specific facilities and over time: 2014.
- Authored expert report, provided deposition testimony, and testified during arbitration on behalf of Allstate Insurance Company in a reinsurance matter: 2013–2015.
- Provided deposition testimony on behalf of National Indemnity Company in *Nat'l Indem. Co. v. State*, No. XDDV 2012-140 (Mont. Dist. Ct., Lewis & Clark Cnty.): 2013–2018.

- Authored expert report, provided deposition testimony, and testified on behalf of insurance companies in *Nooter Corp. v. Allianz Underwriters Ins. Co*., No. 1022-CC01145-01 (Mo. Cir. Ct. 22nd Jud. Cir. St. Louis City): 2013–present.
- Coauthored expert report, provided deposition testimony, and testified on behalf of multiple insurance companies in *In re Blitz U.S.A.,* No. 11-13603 (PJW) (Bankr. D. Del.): 2013–2014.
- Provided deposition testimony on behalf of The Hartford Accident and Indemnity Company in the matter *Fluor Corp. v. Hartford Accident & Indem. Co*., No. 06CC00016 (Cal. Super. Ct., Orange Cnty.): 2013.
- Authored expert report on behalf of The Hartford Accident and Indemnity Company in the matter *Hartford Accident & Indemnity Co. v. Travelers Indem.* Co., No. X07-HHD-CV-11-6021732-S (Conn. Super. Ct., Hartford Cnty.): 2013–2015.
- Provided deposition and trial testimony on behalf of The Travelers Indemnity Company in *US Silica Co. v. ACE Fire Underwriters Ins. Co*., No. 06-C-2 (W. Va. Cir. Ct., Morgan Cnty.): 2013.
- Authored expert report and testified during arbitration proceedings on behalf of the Massachusetts Insurance Insolvency Fund in *In re the Liquidation of Midland Ins. Co*., No. 41294/86 (N.Y. Sup. Ct.): 2012–2013.
- Authored expert report, provided deposition testimony, and testified at trial on behalf of Defendant in *Cannon Elec., Inc. v. Affiliated FM Ins. Co*., No. BC 290354 (Cal. Super. Ct., L.A. Cnty.): 2012–2013.
- Authored expert report and provided deposition testimony on behalf of multiple insurance companies in *Goodrich Corp. v. A.G. Securitas et al*.: 2013–2015.
- Authored expert reports and testified during arbitration proceedings on behalf of Munich Re regarding pharmaceutical-based losses: 2011–2013.
- Authored expert report on behalf of Zurich International (Bermuda) Ltd. in a Wellington ADR: 2011.
- Authored expert reports, provided deposition testimony, and testified during arbitration on behalf of Liberty Mutual Insurance Company in a series of related reinsurance arbitration matters: 2011–2013.
- Authored expert reports and declarations, provided deposition testimony, and testified during the confirmation hearing on behalf of multiple insurance companies in *In re Plant Insulation Co*., No. 09-31347 (Bankr. N.D. Cal.): 2011–2014.
- Provided consulting services for a coalition of direct-action plaintiffs in *In re Puerto Rican Cabotage Antitrust Litigation*.

- Analyzed liability and damages resulting from the indirect claim on behalf of a large coalition of direct-action plaintiffs in the United States, Asia, and Europe in *In re TFT-LCD (Flat Panel) Antitrust Litig*., MDL No. 1827 (N.D. Cal.): 2011–2015.
- Authored expert reports, provided deposition testimony, and testified assessing the value of pending and future asbestos-related personal-injury claims on behalf of the Debtors in *In re Specialty Prods. Holding Corp.*, No. 10-11780 (Bankr. D. Del.): 2010–2015.
- Assessed the value of pending and future asbestos-related personal-injury claims on behalf of the Debtors in *In re Garlock Sealing Techs., LLC*, No. 10-BK-31607 (Bankr. W.D.N.C.): 2010–2018.
- Assisted a Fortune 500 company in the completion of a limited portfolio transfer of thousands of asbestos claims to a major insurance company: 2010–2011.
- Authored declaration and provided deposition testimony on behalf of multiple insurance companies in *In re Leslie Controls, Inc*., No. 10-12199 (Bankr. D. Del.): 2010–2011.
- Authored declarations on behalf of Century Indemnity Company in *In re Thorpe Insulation Co*., No. CV 10-1493 (Bankr. C.D. Cal.): 2010–2011.
- Assessed the value of pending and future asbestos-related personal-injury claims on behalf of the Official Committee of Unsecured Creditors in *In re Motors Liquidation Co*., No. 09-50026 (Bankr. S.D.N.Y.): 2010–2011.
- Assessed the value of diacetyl claims on behalf of the Official Committee of Equity Security Holders in *In re Chemtura Corp*., No. 09-11233 (Bankr. S.D.N.Y.): 2010.
- Provided deposition and trial testimony in *Cannon Electric, Inc., now known as ITT Cannon, Inc., et al. v. Affiliate FM Insurance Company, et al*., No. BC 290354 (Super. Ct. Cal. L.A. Cty. Ct.) Goulds: 2009–2017.
- Authored expert report on behalf of FM Global and Utica in an arbitration matter: 2009–2010.
- Authored expert reports and provided deposition testimony on behalf of Aviva Insurance Company in *Flintkote Co. v. Gen. Accident Assurance Co. of Can*., No. C04-01827 (N.D. Cal.): 2009–2010.
- Provided deposition testimony on behalf of NL Industries, Inc., in *Brown v. NL Indus., Inc*., No. 06-602096-CZ (Mich. Cir. Ct., Wayne Cnty.): 2009–2010.
- Authored expert report on behalf of taxpayers in *Cencast Servs., L.P. v. United States*, Nos. 02-1916 T through 02-1925 T (Fed. Cl.): 2009–2012.
- Authored declaration on behalf of the State of Israel in *In re Holocaust Victim Assets Litig*., No. 09-160 (ERK) (JO) (E.D.N.Y.): 2009–2010.

- Provided deposition testimony on behalf of multiple insurance companies in the matter *State of Minnesota v. Associated Medical Assurance Ltd.*, No. 27-CV-08-1912 (Minn. Dist. Ct., Hennepin Cnty.): 2008–2010.
- Authored expert reports, provided deposition testimony, and testified on behalf of multiple insurance companies in *Continental Casualty Co. v. BorgWarner Inc*., No. 04 CH 01708 (Ill. Cir. Ct., Cook Cnty.): 2007–present.
- Authored expert reports, provided deposition testimony, and testified on behalf of multiple insurance companies in *Continental Ins. Co. v. Honeywell Int'l., Inc*., No. MRS-L-1523-00 (N.J. Super. Ct., Morris Cnty.): 2007–2018.
- Authored expert report and provided deposition testimony on behalf of insurance company in *Nat'l. Serv. Indus., Inc. v. Appalachian Ins. Co*., No. E-22807 (Ga. Super. Ct., Fulton City): 2007.
- Authored expert report, provided deposition testimony, and testified on behalf of policyholder in *Imo Indus., Inc. v. Transamerica Corp*., No. L-2140-03 (N.J. Super. Ct., Mercer Cnty.): 2007–2011.
- Authored expert report and provided deposition testimony on behalf of insurance company in *Degussa Corp. v. Century Indem. Co*., No. UNN-L-2163-03 (N.J. Super. Ct., Union Cnty.): 2007.
- Authored expert report and provided deposition testimony on behalf of insurance joint defense group in *Foster Wheeler LLC v. Affiliated FM Ins. Co*., No. 600777/01 (N.Y. Sup. Ct., N.Y. Cnty.): 2007–2011.
- Authored expert reports, provided deposition testimony, and testified on behalf of Argonaut Insurance Company in several reinsurance arbitrations: 2006–2007.
- Coauthored a report on the economic viability of the Trust Fund proposed under S.852, the Fairness in Asbestos Injury Resolution (FAIR) Act of 2005, which highlights how compensation criteria specified for the proposed Fund would change the number and composition of claims relative to the current tort environment: 2005.
- Authored due diligence reports on asbestos, silica, opioids, PFAS, pharmaceuticals, talc, and other mass tort matters for corporate transactions that assessed potential future tort expenditures and evaluated the insurance assets that may provide coverage for those tort expenditures: 2005–present.
- Authored expert reports and provided deposition testimony assessing the Trust-based liquidated values and insurance allocation on behalf of Plaintiff in *Nat'l. Union Fire Ins. Co. of Pittsburgh, Pa. v. Porter Hayden Co.*, No. 1:03-CV-03408 (D. Md.): 2004–2015.
- Authored expert report and provided deposition testimony to address the fraction of expenditures associated with a company's asbestos installation operations on behalf of Defendants in *Owens*

*Corning v. Birmingham Fire Ins. Co. of Pa*., No. C10200104929 (Ohio Ct. Com. Pl., Lucas Cnty.): 2003–2005.

- Authored expert report focused on the design and implementation of claims file samples in *Hercules Inc. v. OneBeacon Am. Ins. Co*., No. 02C-11-237 (Del. Super. Ct., New Castle Cnty.): 2004.
- Assisted with settlement negotiations by analyzing the total value of a national refractory company's products and nonproducts coverage associated with claims for both asbestos and potential silica liabilities.
- Evaluated future liabilities and projected insurance recoveries under various scenarios, such as geographic constraints regarding a regional insulation contractor and supply company.
- Served on behalf of the US Department of Labor in providing statistical analysis for discriminatory hiring cases and assessing damages.
- Analyzed demand-side management programs for utility companies. Evaluated different contract structures, software development options, and returns on subsidization programs.
- Investigated potential collusion and redlining by auto-insurance companies on behalf of the Office of the Chicago Mayor.

## A.4. Other professional experience

Prior to joining Bates White, Dr. Mullin worked at Chicago Partners, where he provided damages assessments for antitrust matters. Previously, he worked at Quantum Consulting, where he conducted demand-side management for utility companies, and at Litigation Resolution Group, where he assessed mass tort liabilities. In addition to his industry experience, Dr. Mullin was on the faculty in the Departments of Economics at Vanderbilt University and the University of California at Los Angeles.

## A.5. Industry presentations

- "Potential Impact of Science and Policy Decisions on the Scope of Tort Claims." Alliance for Risk Assessment, Beyond Science and Decision Workshop XIV, October 18, 2023.
- "Update on Talc Litigation." Perrin Conferences—National Asbestos Litigation Conference, October 1, 2018.
- "Corporate Roundtable: In-House Perspectives on Asbestos Litigation." Perrin Conferences—Asbestos Litigation Conference: A National Overview & Outlook, September 13, 2016.

- "Emerging Risks & Insurance Issues in 2016 Coverage Litigation." Perrin Conferences—Emerging Insurance Coverage & Allocation Issues Conference, May 18, 2016.
- "Impact of Bankruptcies on Litigation Strategies." Perrin Conferences—Asbestos Litigation Conference: A National Overview & Outlook, September 28, 2015.
- "Emerging Issues, Coverage Trends and Key Jurisdictional Updates for 2015." Perrin Conferences—Emerging Insurance Coverage & Allocation Issues, May 19, 2015.
- "National Trends Driving Asbestos Litigation." Perrin Conferences—Asbestos Litigation Conference: A National Overview & Outlook, September 17, 2013.
- "Asbestos Bankruptcy Update." Perrin Conferences—Asbestos Litigation Conference: A National Overview & Outlook, September 16, 2013.
- "Charting the Right Course in 2013: A Closer Look at This Year's Emerging Insurance Coverage Issues." Perrin Conferences—Emerging Insurance Coverage & Allocation Issues in 2013, May 14, 2013.
- "National Trends Driving Asbestos Litigation." Perrin Conferences—Asbestos Litigation Conference: A National Overview & Outlook, September 10, 2012.
- "Mathematical Estimates of Carrier Exposures." Perrin Conferences—Emerging Insurance Coverage & Allocation Issues, February 23, 2012.
- "Quantifying the Exposure: Reinsurance, Reserves, and Practical Considerations." Perrin Conferences—Emerging Insurance Coverage & Allocation Issues, January 24, 2011.
- "Adding Up the Parts—Settlement Offsets in All Sums Jurisdictions." Perrin Conferences—Emerging Insurance Coverage & Allocation Issues, January 24, 2011.
- "Impact of Current Tort Environment on Asbestos Reserves." 2010 Casualty Actuary Society Annual Meeting, November 8, 2010.
- "Litigating Asbestos Cases in 2010: National Trends Driving the Litigation." Perrin Conferences—Asbestos Litigation Conference: A National Overview & Outlook, September 13, 2010.
- "Trusts On-Line: The Impact of Asbestos Bankruptcies on the Tort System." Perrin Conferences—Asbestos Bankruptcy Conference, June 21, 2010.
- "Asbestos Litigation in 2010 & Beyond—Current and Emerging Trends." Perrin Conferences—Cutting Edge Issues in Asbestos Litigation, February 25–26, 2010.
- "A National Update on Current Cases & Trends that are Driving Asbestos Bankruptcy Litigation." Perrin Teleconference Series, December 1, 2009.

- "Asbestos Bankruptcy: New Filings, Confirmations & Dismissals." Perrin Conferences—Asbestos Litigation Mega Conference, September 14–16, 2009.
- "Claims Estimation in Mass Tort Cases." ABA Section of Business Law Spring Meeting Committee on Business Bankruptcy, April 16–18, 2009.
- "Role of the Bankruptcy Trusts in Civil Asbestos." BVR Legal/Mealey's Emerging Trends in Asbestos Litigation Conference, March 9–11, 2009.
- "Damages in a Bad Faith Case." BVR Legal/Mealey's Bad Faith Litigation Conference, November 6–7, 2008.
- "Emerging Issues and Important Developments." West Legalworks, Insurance and Reinsurance Allocation 2008: A Comprehensive Workshop, June 12, 2008.
- "Impact of Underlining Litigation Developments." West Legalworks, Insurance and Reinsurance Allocation, November 7, 2007.
- "Removing the Asbestos Overhang—Is There an Alternative to Asbestos Bankruptcy?" Mealey's Publications, Mealey's National Asbestos Litigation SuperConference, September 26, 2007.
- "Another Chapter in Asbestos Bankruptcy Litigation: What Does the Future Hold?" Mealey's Publications, Asbestos Bankruptcy Conference, June 8, 2007.
- "Impact of Underlining Litigation Developments." West Legalworks, Insurance and Reinsurance Allocation Superbowl 2007, March 20, 2007.
- "Quantifying the Risk: The Impact Investigations into Fraudulent Silica/Asbestos Suits Will Have on the Rate of Filing and Value of Current & Future Claims." Mealey's Publications, Silica & Asbestos Claims Conference: What Effect Will Investigations into Fraudulent Suits Have on the Litigation? November 11, 2006.
- "How State and Federal Tort-Reform Efforts Are Changing the Asbestos Litigation Landscape." Mealey's Teleconference: Asbestos Legislation—Is a Solution to the Crisis around the Corner? July 20, 2006.
- "Asbestos Legislative Initiatives for Federal and State Tort Reform." American Conference Institute's (ACI) 7th Annual Litigating, Settling, and Managing Asbestos Claims, June 15, 2006.
- "The FAIR Act: An Economic Analysis." American Legislative Exchange Council, 2005 States and Nation Policy Summit, December 2005.
- "The Impact of Different Approaches to Settlement Credits." Mealey's Publications, All Sums: Reallocation & Settlement Credits Conference, November 7, 2005.
- "Assessing the Merits of Reallocation." American Enterprise Institute, Industry Roundtable Discussion, April 21, 2005.

- "The Effect of Joint and Several Liability on the Incentive of Defendants to Declare Bankruptcy: Evidence from Asbestos Litigation." American Law and Economics Association, Annual Meeting, May 2004.
- "Assessing the Merits of Reallocation." American Law and Economics Association, 14th Annual Meeting (with Anup Malani), May 3, 2004.

## A.6. Publications

- Mullin, Charles H., Karl N. Snow, and Noah B. Wallace. "Unresolved Issues in Allocation of Loss to Insurance." *Coverage* 21, no. 1 (2011): 13–23.
- Mullin, Charles H., Karl N. Snow, and Noah B. Wallace. "Proper Settlement Credits in All Sums Jurisdictions." *Coverage* 20, no. 3 (2010): 26–31.
- Mullin, Charles H., Charles E. Bates, and Marc Scarcella. "The Claiming Game." *Mealey's Litigation Report: Asbestos* 25, no. 1 (2010).
- Mullin, Charles H., Charles E. Bates, and A. Rachel Marquardt. "The Naming Game." *Mealey's Litigation Report: Asbestos* 24, no. 15 (2009).
- Mullin, Charles H., and Charles E. Bates. "State of the Asbestos Litigation Environment." *Mealey's Litigation Report: Asbestos* 23 no. 19 (2008).
- Mullin, Charles H., and Charles E. Bates. "Show Me the Money." *Mealey's Litigation Report: Asbestos* 22, no. 21 (2007).
- Mullin, Charles H., and Charles E. Bates. "The Bankruptcy Wave of 2000—Companies Sunk by an Ocean of Recruited Asbestos Claims." *Mealey's Litigation Report: Asbestos* 21, no. 24 (2007).
- Mullin, Charles H., and Charles E. Bates. "Having Your Tort and Eating It Too?" *Mealey's Asbestos Bankruptcy Report* 6, no. 4 (November 2006).
- Mullin, Charles H. "Identification and Estimation with Contaminated Data: When Do Covariate Data Sharpen Inference?" *Journal of Econometrics* 130, no. 2 (2006): 253–72.
- Mullin, Charles H., and David H. Reiley. "Recombinant Estimation for Normal-Form Games, with Applications to Auctions and Bargaining." *Games and Economic Behavior* 54, no. 1 (2006): 159–82.
- Mullin, Charles H. "Bounding Treatment Effects with Contaminated and Censored Data: Assessing the Impact of Early Childbearing on Children." *Advances in Economic Analysis & Policy* 5, no. 1, (2005): article 8.

- Mullin, Charles H., Kelly A. Dugan, and John J. Siegfried. "Undergraduate Financial Aid and Subsequent Alumni Giving Behavior." *Quarterly Review of Economics and Finance* 45, no. 1 (2005): 123–43.
- Mullin, Charles H., and Anandi Mani. "Choosing the Right Pond: Social Approval and Occupational Choice." *Journal of Labor Economics* 22, no. 4 (2004): 835–62.
- Mullin, Charles H., V. Joseph Hotz, and John K. Scholz. "Welfare, Employment, and Income: Evidence on the Effects of Benefit Reductions from California." *American Economic Review* 92, no. 2 (2002): 380–84.
- Mullin, Charles H., V. Joseph Hotz, and John K. Scholz. "Welfare Reform, Employment and Advancement." *Focus* 22, no. 1, Special Issue (2002).
- Mullin, Charles H., V. Joseph Hotz, and John K. Scholz. "The Earned Income Tax Credit and Labor Market Participation of Families on Welfare." In *The Incentives of Government Programs and the Well-Being of Families*, eds. Bruce Meyer and Greg Duncan (Evanston, IL: Joint Center for Poverty Research, 2001).
- Mullin, Charles H., V. Joseph Hotz, and John K. Scholz. "The Earned Income Tax Credit and Labor Market Participation of Families on Welfare." *Poverty Research News* (May/June 2001).
- Mullin, Charles H., and John J. Siegfried. "Grants Today, Gifts Tomorrow." *Currents* 27, no. 4 (2001): 9–10.
- Mullin, Charles H., Carolyn J. Hill, V. Joseph Hotz, and John K. Scholz. "EITC Eligibility, Participation, and Compliance Rates for AFDC Households: Evidence from the California Caseload," May 1999, prepared for the State of California.
- Mullin, Charles H., V. Joseph Hotz, and Seth Sanders. "Bounding Causal Effects Using Data from a Contaminated Natural Experiment: Analyzing the Effects of Teenage Childbearing." *Review of Economic Studies* 64, no. 4 (1997): 575–603.

## A.7. Grants

- 2004–2007: Principal Investigator (with V. J. Hotz and J. K. Scholz), National Science Foundation Grant, "Tax Policy and Low-Wage Labor Markets: New Work on Employment, Effectiveness and Administration."
- 2000–2001: Principal Investigator (with V. J. Hotz and J. K. Scholz), Grant to the University of Wisconsin–Madison from Assistant Secretary of Planning and Evaluation, US Department of Health and Human Services.
- 1997–1998: National Institutes of Health Predoctoral Training Grant.

## A.8. Professional associations and honors

- Lexology Index (formerly Who's Who Legal) Insurance Expert of the Year, 2018–2020
  - Thought Leader: Global Elite list, 2018–present
- Lexology Index (formerly Who's Who Legal) Insurance & Reinsurance Expert Witnesses Thought Leader, 2016–present
  - Thought Leader: Global Elite list, 2020–present
- American Bar Association
- American Economic Association
- American Law and Economics Association
- Econometric Society
- Society of Labor Economists

# Appendix B. Materials relied upon

(134) In addition to all the materials below, I incorporate by reference all materials used or cited in footnotes, my reliance materials, and analyses.

## B.1. Litigation

### B.1.a. Documents and materials related to *in re ALDRICH PUMP LLC, et al.*

- Affidavit of Carl R. Schwertz, No. 20-BK-30608 (W.D.N.C. September 12, 2025).
- Amended Order Authorizing the Debtors to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date, 267, No. 20-BK-30608 (W.D.N.C. August 18, 2020).
- Corrected Transcript of Status Conference Before the Honorable Lena Mansori James, 2535, No. 20-BK-30608 (W.D.N.C. February 4, 2025).
- Declaration of Allan Tananbaum in Support of Debtors' Complaint for Injunctive and Declaratory Relief, Related Motions, and the Chapter 11 Cases, 29, No. 20-BK-30608 (W.D.N.C. June 18, 2020).
- Ex Parte Application of the Debtors for an Order Authorizing Them to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date, 21, No. 20-BK-30608 (W.D.N.C. June 18, 2020).
- Ex Parte Order Authorizing the Debtors to Retain and Employ Bates White, LLC as Asbestos Consultants as of the Petition Date, 64, No. 20-BK-30608 (W.D.N.C. June 18, 2020).
- Informational Brief of Aldrich Pump LLC and Murray Boiler LLC, 5, No. 20-BK-30608 (W.D.N.C. June 18, 2020).
- Notice of Bar Date for Certain Mesothelioma Claims, 1098, No. 20-BK-30608 (W.D.N.C. April 4, 2022).
- Notice of Filing of Plan Support Agreement, 832, No. 20-BK-30608 (W.D.N.C. September 24, 2021).
- Order Approving Personal Injury Questionnaire and Granting Related Relief, 1246, No. 20-BK-30608 (W.D.N.C. July 6, 2020).
- Order Authorizing Estimation of Asbestos Claims, 1127, No. 20-BK-30608 (W.D.N.C. April 18, 2022).

- Order Granting Motion of the Debtors for an Ordering Authorizing the Debtors to Issue Subpoenas on Asbestos Trusts and Paddock Enterprises, LLC, 1240, No. 20-BK-30608 (W.D.N.C. July 1, 2022).

### B.1.b. Documents and materials in other legal matters

- Amended Memorandum, Orders, and Final Judgment, *In re Johns-Manville Corporation, et al.*, No. 90-3973 (E.D.N.Y.), 90-7518 (S.D.N.Y.), 82 B 11656 (BRL)–82 B 11676 (BRL) (January 19, 1995).
- Complaint filed in the Court of Common Pleas of Beaver County, Pennsylvania, *Richard Shiel, et al. vs A.O. Smith Corporation, et al.*, No. 11548-2019 (Ct. Com. Pl. P.A. November 16, 2019).
- Copy of Baron & Budd Memo, attached to Judiciary Committee Report on the Fairness In Asbestos Injury Resolution Act of 2003, S. Rep. 108-118 (2003).
- Debtors' Informational Brief, *In re Boy Scouts of America and Delaware BSA, LLC*, 4, No. 20-10343 (Bankr. D. Del. February 18, 2020).
- Decision and Order on Motion, *In re Petro v. Aerco Intl., Inc.*, 1346, No. 190324 (N.Y. July 23, 2025).
- Declaration of Charles E. Bates, PhD, *In re Bestwall LLC*, No. 17-31795 (LTB) (Bankr. W.D.N.C. June 15, 2020).
- Declaration of Dr. Charles E. Bates in Support of Confirmation of the Third Modified Fifth Amended Plan of Reorganization for Boy Scouts of America and Delaware BSA, LLC, *In re Boy Scouts of America and Delaware, LLC*, 9388, No. 20-10343 (Bankr. D. Del. March 17, 2022).
- Declaration of Thomas Vasquez, PhD, *In re Paddock Enterprises LLC*, 1369, No. 20-10028-LSS (Bankr. D. Del. May 15, 2022).
- Deposition of Benjamin Shein, *In re Garlock Sealing Technologies, LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. January 16, 2013).
- Deposition of Peter Kraus, *In re Garlock Sealing Technologies, LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. January 14, 2013).
- Deposition of Stephen Bradley Cooper, *In re Garlock Sealing Technologies, LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. February 1, 2013).
- Estate of William Voelker v. John Crane Inc., No. 801886-2013 (N.Y. Sup., 8th Jud. Dist.).
- Expert Report of Charles E. Bates, PhD, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. February 15, 2013), at Exh. GST-0996.

- Expert Report of Charles H. Mullin, PhD, *In re Aearo Technologies LLC, et al.*, 1468-1, No. 22-02890-JJG-11 (Bankr. S.D. Ind. March 27, 2023).
- Expert Report of Charles H. Mullin, PhD, *In re LTL Management LLC*, 956, No. 21-30589-JCW (Bankr. D.N.J. October 29, 2021).
- Expert Report of John L. Henshaw, CIH, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. February 8, 2013).
- Garlock Order Estimating Aggregate Liability, *In re Garlock Sealing Technologies, et al.*, 3296, No. 10-31607 (Bankr. W.D.N.C. January 10, 2014).
- George and Peggy Parker v. John Crane, No. CL1402913F-15 (Va. Cir.).
- Holder Personal Representative of Holder, Estate of v. John Crane Inc., et al., 2017-05-004459, No. 1909250035 (Pa. Com. Pl. August 20, 2019).
- *In re Silica Products Liability Litigation*, MDL Docket No. 1553 (S.D. Tex. June 30, 2005).
- Informational Brief of DBMP LLC, *In re DBMP LLC*, 22, No. 20-30080 (JWC) (Bankr. W.D.N.C. January 23, 2020).
- Moore, Estate of v. John Crane Inc., 06-2013-CA-011729, No. 1708210012 (Fla. Cir. Ct. May 9, 2013).
- Murray v. John Crane, Inc. 2015-07-001334. No. 1704270041 (Bankr. 1st Jud. Dist. PA March 1, 2017).
- Order Estimating Aggregate Liability, *In re Garlock Sealing Technologies, et al.*, No. 10-31607 (Bankr. W.D.N.C. January 10, 2014).
- Order Recommending Confirmation of the Modified Joint Plan of Reorganization of Garlock Sealing Technologies LLC, et al. and Oldco, LLC, Successor by Merger to Coltex Industries INC, *In re Garlock Sealing Technologies LLC, et al.*, 5972, No. 10-BK-31607 (Bankr. W.D.N.C. May 24, 2017).
- Pimpinello v. John Crane, Inc. 2015-10-002343. No. 1807160024 (Bankr. 1st Jud. Dist. PA November 30, 2017).
- Sharon Daniels, et al. v. John Crane Inc., et al., No. 1-19-0170 (Ill App., 1st Dist.).
- Shaw v. John Crane Inc., CGC-15-276481, No. 1705040026 (Cal. Super. December 23, 2015).
- Rebuttal Report of Dr. Charles E. Bates, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-31607 (Bankr. W.D.N.C. April 23, 2013), at Exh. GST-0997.
- Robert G. Sprague Jr., et al. v. A.W. Chesterton Co., et al., No. 15CV14771 (Oregon Cir., Multnomah Co.).

- Stipulation and Order, *In re Garlock Sealing Technologies LLC, et al.*, 5134, No. 10-31607 (Bankr. W.D.N.C. December 8, 2015).
- Testimony of Dr. Charles E. Bates, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. August 2, 2013), at Exh. GST-8005.
- Transcript of Estimation Trial, *In re Garlock Sealing Technologies LLC, et al.*, 3451, No. 10-BK-31607 (Bankr. W.D.N.C. Aug 2, 2013).
- Vera Letha Adams, et al. v. John Crane Inc., No. STCV1003924 (Ga. State, Chatham Co.).
- William Roverano, et al. v. John Crane Inc., et al. Nos. 58 EAL 2018 (Pa. Sup.).
- Wysocki v. John Crane Inc., J.A. Sexauer Manufacturing Co., Amtico, Weil McLain, 2016-10-002888, No. 1901230030 (Bankr. 1st Jud. Dist. PA December 19, 2018).

## B.2. Publicly available documents

### B.2.a. Annual reports

- ACandS Asbestos Settlement Trust Special-Purpose Financial Statements, *In re ACandS, Inc.*, No. 02-12687 (Bankr. Del.).
  - Reporting years: 2008–2024.
- AGP Asbestos Trust Special-Purpose Financial Statements and Accountants' Compilation Report, *In re Global Industrial Technologies, INC., et al.*, No. 02-12626-JKF (Bankr. W.D. PA.).
  - Reporting years: 2013–2020.
- Armstrong World Industries, INC. Asbestos PI Settlement Trust Special-Purpose Financial Statements with Reports of Independent Auditors, *In re Armstrong World Industries, INC., et al.*, No. 00-4471-RJN (Bankr. D. Del.).
  - Reporting years: 2006–2020.
- ASARCO Asbestos Personal Injury Settlement Trust Special-Purpose Financial Statements, *In re ASARCO LLC, et al*., No. 05-21207 (Bankr. S.D. Tex.).
  - Reporting years: 2010–2024.
- Burns and Roe Asbestos Personal Injury Settlement Trust Special-Purpose Financial Statements, *In re Burns and Roe Enterprises, Inc., et al.,* No. 00-41610 (Bankr. N.J.).
  - Reporting years: 2009–2024.

- Combustion Engineering 524(g) Asbestos PI Trust Special-Purpose Financial Statements, *In re Combustion Engineering, Inc.*, No. 03-10495 (Bankr. D. Del.).
  - Reporting years: 2006–2024.
- Congoleum Plan Trust Special-Purpose Financial Statements, *In re Congoleum Corporation, et al.*, No. 03-51524 (Bankr. D.N.J.).
  - Reporting years: 2011–2020.
- Eagle Pitcher Industries Inc. Personal Injury Settlement Trust Financial Statements and Independent Auditor's Report, *In re Eagle-Picher Industries, Inc., Daisy Parts, Inc., Transcoil, Inc., Michigan Automotive Research Corporation, Eagle-Picher Minerals, Inc. And Hillsdale Tool And Manufacturing Co.*, No. 1-91-10100 (Bankr. W.D. Ohio).
  - Reporting years: 2010–2024.
- Federal-Mogul Asbestos Personal Injury Trust Audited Special-Purpose Financial Statements with Supplemental Information, *In re Federal-Mogul Global, INC., T&N Limited, et al.,* No. 01-10578 (Bankr. D. Del.).
  - Reporting years: 2008–2018.
- Flintkote Asbestos Trust Audited Special-Purpose Financial Statements with Supplementary Information, *In re The Flintkote Company and Flintkote Mines Limited,* No. 04-11300 (Bankr. D. Del.).
  - Reporting years: 2016–2020.
- Garlock Settlement Trust Audited Special-Purpose Financial Statements with Supplementary Information, *In re Garlock Sealing Technologies LLC, et al.,* No. 10-31607 (Bankr. W.D.N.C.).
  - Reporting years: 2017–2024.
- G-I Holdings INC. Asbestos Personal Injury Trust Special-Purpose Financial Statements and Report of Independent Auditors, *In re G-I Holdings INC., et al.,* No. 01-30135-RG (Bankr. D.N.J.).
  - Reporting years: 2009–2020.
- J.T. Thorpe Company Successor Trust Financial Statements, *In re J.T. Thorpe Company*, No. 02-41487-H5-11 (Bankr. S.D. Tex.).
  - Reporting years: 2004–2020.
- J.T. Thorpe Settlement Trust Financial Statements and Report of Independent Certified Public Accountants, *In re J.T. Thorpe INC., a California corporation; J.T. Thorpe, INC., a dissolved California corporation; Thorpe Technologies, INC., a California corporation, and Thorpe Holding Company, INC., a California corporation,* No. LA-02-14216-BB (Bankr. C. D. Cal.).

- Reporting years: 2004, 2006–2020.

- Kaiser Aluminum & Chemical Corporation Asbestos Personal Injury Trust Audited Financial statements, *In re Kaiser Aluminum Corporation, a Delaware corporation, et al.,* No. 02-10429 (Bankr. Del.).
  - Reporting years: 2006–2024.
- Manville Personal Injury Settlement Trust Account of Trustees, *In re Johns-Manville Corporation, et al.,* No. 82 B 11656 (Bankr. S.D.N.Y.).
  - Reporting years: 2010–2024.
- North American Refractories Company Asbestos Personal Injury Settlement Trust Audited Special-Purpose Financial Statements with Supplementary Information, *In re North American Refractories, Company, et al.,* No. 02-20198-TPA (Bankr. W. D. Pa.).
  - Reporting years: 2013–2020, 2023.
- Owens Corning/FibreBoard Asbestos Personal Injury Trust Audited Special-Purpose Financial Statements, *In re Owens Cornin, et al.,* No. 00-3837 (Bankr. Del.).
  - Reporting years: 2006–2024.
- Pittsburgh Corning Corporation Asbestos Personal Injury Settlement Trust Audited Special-Purpose Financial Statements with Supplementary Information, *In re Pittsburgh Corning Corporation,* No. 00-22876-TPA (Bankr. W.D. Pa.).
  - Reporting years: 2015–2020.
- Plibrico 524(g) Asbestos Trust Audited Asbestos Financial Statements, *In re Plibrico Company, et al.,* No. 02-09952 (Bankr. N.D. Ill.).
  - Reporting years: 2006–2024.
- Quigley Asbestos PI Trust and Subsidiary Audited Consolidated Special-Purpose Financial Statements with Supplementary Information, *In re Quigley Company, INC.,* No. 04-15739-SMB (Bankr. S.D.N.Y.).
  - Reporting years: 2014–2020.
- Smiths Group PLC. *Annual Report.*
  - Reporting years: 2018–2019, 2024.
- Swan Asbestos and Silica Settlement Trust Consolidated Financial Statements, *In re Swan Transportation Company,* No. 01-11690 (Bankr. D. Del.).
  - Reporting years: 2003–2020.

- T H Agriculture & Nutrition, LLC Asbestos Personal Injury Trust Special-Purpose Financial Statements, *In re T H Agriculture & Nutrition, L.L.C.,* No. 08-14692 (Bankr. S.D.N.Y.).
  - Reporting years: 2010–2024.
- The Babcock & Wilcox Company Asbestos PI Trust Audited Special-Purpose Financial Statements, *In re The Babcock & Wilcox Company,* No. 00-10992 (Bankr. E.D. La.).
  - Reporting years: 2006–2024.
- Trane Technologies PLC. Annual Report (Form 10-K).
  - Reporting years: 2008–2020.
- United States Gypsum Asbestos Personal Injury Settlement Trust Audited Special-Purpose Financial Statements, *In re USG Corporation, et al.,* No. 01-2094 (Bankr. Del.).
  - Reporting years: 2006–2024.
- Western Asbestos Settlement Trust Financial Statements and Report of Independent Certified Public Accountants, *In re Western Asbestos Company, Western MacArthur Co. and Mac Arthur Co.,* No. 02-46284-T (Bankr. N.D. Cal.).
  - Reporting years: 2004–2020, 2024.
- WRG Asbestos PI Trust Audited Special-Purpose Financial Statements with Supplementary Information, *In re W. R. Grace & Co., et al.,* No. 01-1139 (Bankr. D. Del.).
  - Reporting years: 2014–2020.

### B.2.b. Trust Distribution Procedures and Claims Resolution Procedures

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### B.2.c. Academic literature


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- Thorpe Insulation Settlement Trust. *Thorpe Insulation Voluntary Claims Submission Program*. September 22, 2010.
- Western Asbestos Settlement Trust. *Third Amendment to and Complete Restatement of Western Asbestos Settlement Trust Case Valuation Matrix*. https://www.wastrust.com/wp-content/uploads/2020/08/WAST-Third-Amendment-to-and-Complete-Restatement-of-Matrix.pdf.

## B.3. Data

- Aldrich Murray Claims Database, maintained by PACE and provided to Bates White by counsel:[149]

[149] These data were provided to Bates White in the form of a Microsoft Access database. Bates White converted the Access tables into the text files listed here.

- *"ALLEGATION.txt"*
- *"AUTHORITY.txt"*
- *"BIOGRAPHICAL.txt"*
- *"CLAIM_LAWSUIT.txt"*
- *"COUNSEL.txt"*
- *"COVERAGE_ALLOCATION"*
- *"DISEASE.txt"*
- *"EXPOSURE.txt"*
- *"ILO.txt"*
- *"LAWSUIT.txt"*
- *"PAYMENT.txt"*
- *"PFT.txt"*
- *"PHYSICIAN.txt"*
- *"PLAINTIFF.txt"*
- *"PRODUCT.txt"*
- *"RELATED_PARTY.txt"*
- *"RELEASE.txt"*
- *"SERVICE.txt"*
- *"SETTLEMENT.txt"*
- *"SMOKE_HISTORY.txt"*
- *"STATUS_HISTORY.txt"*
- *"TRIAL_DATE.txt"*

- Aldrich Murray Defense Data, provided to Bates White by counsel. The Defense Data tracks the Debtors' defense expenditures in the tort system: "*Defense Spend Aldrich Pump and Murray Boiler.xlsx.*"
- List of Aldrich Murray claims that were settled but the check for payment was not negotiated, as provided by counsel: "*APL and MBL SETT claims not negotiated.xlsx*."
- List of Aldrich Murray claims sampled as part of the resolved claims sample, as listed in Agreed Order With Respect to Resolved Claims Sampling For Purposes of Estimation Discovery, 2048, No. 20-30608 (Bankr. W.D.N.C. December 28, 2023): "*Sampled claims.xlsx*."
- Information and other data produced in response to Order (I) Establishing a Bar Date For Certain Known Mesothelioma Claims, (II) Approving Proof of Claim Form, (III), Approving Notice to Claimants, and (IV) Granting Related Relief, *In Re: Aldrich Pump LLC, et al.*, Case No 20-BK-30608 (W.D.N.C. June 18, 2020), Docket No. 1093 ("POC Data"), including files "*00_Aldrich - Meso POC Report - [date updated].xlsx*" provided to Bates White by Verita Global.
- Information and other data produced in response to Order Approving Personal Injury Questionnaire And Granting Related Relief, *In Re: Aldrich Pump LLC, et al.*, Case No 20-BK-30608 (W.D.N.C. July 6, 2020), Docket No. 1246 ("PIQ Data") provided to Bates White by Donlin Recano.
- Information provided by counsel on a subset of claimants who included trust authorizations as part of their PIQ submissions: "*Trust authorization claimants.xlsx*."

- Public Bondex Analytical Database (Debtors' Exhibit No. 1). *In re Specialty Products Holding Corp.*, No. 10-11780 (Bankr. D. Del.):[150]
  - "*Claim Data.txt*"
  - "*Company Data.txt*"
  - "*Disease Data.txt*"
  - "*Events Data.txt*"
  - "*Exposure Data.txt*"
  - "*Lawsuit Data.txt*"
  - "*Physician Data.txt*"
  - "*Product Data.txt*"
  - "*Resolution Data.txt*"
  - "*Test Score Data.txt*"
  - "*Tobacco Data.txt*"
- Public Garlock Analytical Database (GST-8002). *In re Garlock Sealing Technologies LLC*, No. 10-31607 (Bankr. W.D.N.C.):
  - "*claims data-all disease-REDACTED.dta*"
  - "*claims data-meso only-REDACTED.dta*"
  - "*claims data-meso only-with fitted values-REDACTED.dta*"
  - "*expense_data.dta*"
  - "*exposure data - all disease-REDACTED.dta*"
  - "*exposure data - meso-REDACTED.dta*"
  - "*garlockplaintiffs-redacted.txt*"
  - "*namings data-meso only-REDACTED.dta*"
  - "*namings data-REDACTED.dta*"
- CCR Bundled Claims Data, provided to Bates White by one of the CCR member companies.
- Social Security Administration Death Master File, "*FOIA_DMF_Request1.txt*," which lists the "retired" Social Security Numbers and names of deceased individuals; see *https://www.ssa.gov/dataexchange/request_dmf.html*.
- Social Security Administration Name and Gender Data, which contain public birth name and gender data from the Social Security Administration; see *https://www.ssa.gov/oact/babynames/limits.html*.
- John Crane Inc. filings data, covering John Crane Inc. mesothelioma claims from 2005 through 2024 and provided to Bates White by counsel: "*ALD_JohnCraneMesoAnalysis.xlsx*."

[150] Bates White converted these data from a Microsoft Access database into the text files listed here.

- Select defendants PACE filing data, covering select defendants' mesothelioma claims from 2015 through 2025 and provided to Bates White by counsel: "*ALD_SelectDefendant_MesoFilings.xlsx*."
- Bates White's New York Docket Data, compiled by Bates White from case filings from *WestLaw* using the search term "asbestos" to identify cases filed in New York since 1990.
- Bates White's Verdicts Database, compiled by Bates White from asbestos-related verdicts from 2011 through February 2020 reported by *Mealey's Litigation Report*, *Westlaw*, and other public sources: "*Asbestos verdicts trial data.dta.*"
- Information and other data produced in response to Order Overruling Official Committee of Asbestos personal Injury Claimants' Objection to and Denying Motion to Strike Subpoenas Issued by Debtors to Bestwall LLC and DBMP LLC, 2307, No. 20-30608 (Bankr. W.D.N.C. July 12, 2024), ("Bestwall Discovery Analytical Database" and "DBMP Discovery Analytical Database"):[151]
  - Bestwall Discovery Analytical Database
    - "Bestwall_PC.xlsx"
    - "MAIN.txt"
    - "OCC_EXPOSURE.txt"
    - "PLAINTIFF_COUNSEL.txt"
  - DBMP Discovery Analytical Database
    - "CTD_PC.xlsx"
    - Mesothelioma data
      - "MAIN.txt"
      - "OCC_EXPOSURE.txt"
      - "PLAINTIFF_COUNSEL.txt"
    - Non-mesothelioma data
      - "MAIN.txt"
      - "OCC_EXPOSURE.txt"
      - "PLAINTIFF_COUNSEL.txt"
- Aldrich Murray Trust Discovery Database, provided to Bates White by various asbestos trusts and Paddock Enterprises LLC:

[151] Bates White converted these data from a Microsoft Access database into the text files listed here.

- Manville: *"mv-aldrich-240521.xlsx*"
- DCPF: "*AWI.xlsx*", "*B&W.xlsx*", "*CEL.xlsx*", "*FB.xlsx*", "*FER.xlsx*", "*FK.xlsx*", "*FLX.xlsx*", "*FMP.xlsx*", "*HAL.xlsx*", "*HW.xlsx*", "*OC.xlsx*", "*PCC.xlsx*", "*T&N.xlsx*", "*USG.xlsx*", "*WRG.xlsx*", "DCPF lookup tables.xlsx"
- Verus: "*Aldrich Pump - ACS.xlsx*", "*Aldrich Pump - CE.xlsx*", "*Aldrich Pump - G-I.xlsx*", "*Aldrich Pump - GST.xlsx*", "*Aldrich Pump - Kaiser.xlsx*", "*Aldrich Pump - Quigley.xlsx*", "*Aldrich Pump - THAN.xlsx*", "*Aldrich Pump - Yarway.xlsx*"
- Paddock: "*CONFIDENTIAL - Aldrich-Paddock - REVISED Matched Claims Data.xlsx*"

- Mesothelioma Incidence Model, current estimates: Mesothelioma incidence data sourced from two authoritative cancer incidence databases managed by the National Cancer Institute and Center for Disease Control and Prevention – Surveillance, Epidemiology and End Results (SEER) and U.S. Cancer Statistics (USCS). The model uses data for years 1973 through 2000 from SEER and for years 2001 through 2019 from USCS. Final version of model to be provided with the expert report of Dr. Jorge Gallardo-García.
- Public Asbestos Trust database, compiled by Bates White from asbestos trusts annual reports.
- KCIC Mesothelioma Case List (Bates White received claim-level mesothelioma data for 2014–2024 tracked by KCIC from counsel): "*KCIC Mesothelioma Case List.xlsx*"
- Federal Reserve Bank of St. Louis. "Inflation, consumer prices for the United States." Series FPCPITOTLZGUSA. https://fred.stlouisfed.org/series/FPCPITOTLZGUSA.
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- US Bureau of Labor Statistics. "*Databases, Tables & Calculators by Subject: CPI for All Urban Consumers (CPI-U).*" Series CUUR0000SA0L1E, (accessed June 2, 2021). https://data.bls.gov/timeseries/CUUR0000SA0L1E.

# Appendix C. Establishing JCI and Garlock as comparable defendants to the Debtors

(135) Most claims against Aldrich and Murray assert gasket and packing exposures, the same exposure alleged against both Garlock and JCI. In fact, Garlock and JCI were among the Debtors' suppliers of asbestos-containing gaskets and packing.[152] Claims filed against any of these gasket defendants in the tort system present similar allegations of liability, similar defenses, and essentially the same issues.[153]

(136) Available tort system statistics confirm these similarities. Regarding filings, although Garlock was sued in the largest number of mesothelioma claims among these defendants, there is a significant degree of overlap between claims filed against Garlock, claims filed against JCI, and claims filed against the Debtors. In terms of settlements, the spending of Garlock and the Debtors followed a similar pattern, albeit with Garlock's spend eclipsing that of the Debtors combined. Likewise, Garlock, which employed a very similar defense strategy to that employed by the Debtors, had a similar per case average resolution cost for mesothelioma claims to that of the Debtors. Hence, all these statistics are affirmatory of the similarity of the claims against these three entities.

## C.1.a. Claims filed against the Debtors and Garlock had significant overlap

(137) Garlock left the tort system through its bankruptcy filing on June 5, 2010.[154] Claimants with Garlock exposure now assert their Garlock claims against the Garlock Settlement Facility, the 524(g) trust established at the end of the Garlock bankruptcy. In the decade prior to Garlock's petition date, 84% of the mesothelioma claims filed against Aldrich also were filed against Garlock, as shown in Figure 33.[155] That statistic increased to almost 90% for the most recent five years (2005 to 2009).

[152] Schwertz Affidavit, at ¶ 10.

[153] Schwertz Affidavit, at ¶ 24.

[154] Order Recommending Confirmation of the Modified Joint Plan of Reorganization of Garlock Sealing Technologies LLC, et al. and Oldco, LLC, Successor by Merger to Coltex Industries INC, *In re Garlock Sealing Technologies LLC, et al.*, 5972, No. 10-BK-31607 (Bankr. W.D.N.C. May 24, 2017), at ¶ 35.

[155] I calculated these statistics by matching claimants in the Debtors' claims database to the public data from the *Garlock* case.

**Figure 33: Overlap with Garlock claims for Aldrich mesothelioma claims**

| Aldrich filing year | Aldrich claim count | Matches to Garlock claims | Percent match |
|---|---|---|---|
| 2000 | 471 | 317 | 67.3% |
| 2001 | 535 | 382 | 71.4% |
| 2002 | 1,292 | 949 | 73.5% |
| 2003 | 1,387 | 1,164 | 83.9% |
| 2004 | 1,187 | 971 | 81.8% |
| 2005 | 1,336 | 1,119 | 83.8% |
| 2006 | 1,233 | 1,081 | 87.7% |
| 2007 | 1,392 | 1,233 | 88.6% |
| 2008 | 1,438 | 1,296 | 90.1% |
| 2009 | 1,548 | 1,381 | 89.2% |
| **Total** | **11,819** | **9,893** | **83.7%** |
| **2005–2009** | **6,947** | **6,110** | **88.0%** |

(138) Murray had a similar experience, as shown in Figure 34. In the decade prior to Garlock's petition date, 82% of the mesothelioma claims filed against Murray also were filed against Garlock. That statistic increased to 86% for the most recent five years (2005 to 2009).

**Figure 34: Overlap with Garlock claims for Murray mesothelioma claims**

| Murray filing year | Murray claim count | Matches to Garlock claims | Percent match |
|---|---|---|---|
| 2000 | 334 | 229 | 68.6% |
| 2001 | 450 | 276 | 61.3% |
| 2002 | 1,000 | 729 | 72.9% |
| 2003 | 868 | 720 | 82.9% |
| 2004 | 944 | 786 | 83.3% |
| 2005 | 1,018 | 806 | 79.2% |
| 2006 | 847 | 723 | 85.4% |
| 2007 | 968 | 845 | 87.3% |
| 2008 | 1,074 | 970 | 90.3% |
| 2009 | 1,079 | 949 | 88.0% |
| **Total** | **8,582** | **7,033** | **82.0%** |
| **2005–2009** | **4,986** | **4,293** | **86.1%** |

## C.1.b. Claims filed against the Debtors and JCI had significant overlap

(139) A comparison of JCI to the Debtors leads to similar results. In the decade prior to the Debtors' Petition Date, 64% of the mesothelioma claims filed against Aldrich were also filed against JCI, as shown in Figure 35.[156] That statistic increased to 70% for the most recent five years (2015 to 2019).

[156] I calculate these statistics by matching claimants in the Debtors' claims database to data collected by PACE on JCI filings by year that was provided to me by counsel.

The JCI litigation-based defense strategy discourages filings. Thus, the lower match rate to JCI aligns with expectations.

**Figure 35: Overlap with JCI claims for Aldrich mesothelioma claims**

| Aldrich filing year | Aldrich claim count | Matches to JCI claims | Percent match |
|---|---|---|---|
| 2010 | 1,623 | 855 | 52.7% |
| 2011 | 1,567 | 858 | 54.8% |
| 2012 | 1,750 | 1,004 | 57.4% |
| 2013 | 1,592 | 969 | 60.9% |
| 2014 | 1,595 | 1,056 | 66.2% |
| 2015 | 1,625 | 1,076 | 66.2% |
| 2016 | 1,432 | 939 | 65.6% |
| 2017 | 1,440 | 997 | 69.2% |
| 2018 | 1,382 | 1,016 | 73.5% |
| 2019 | 1,538 | 1,151 | 74.8% |
| **Total** | **15,544** | **9,921** | **63.8%** |
| **2015–2019** | **7,417** | **5,179** | **69.8%** |

(140) Similarly, in the decade prior to the Debtors' Petition Date, 70% of the mesothelioma claims filed against Murray were also filed against JCI, as shown in Figure 36. That statistic increased to 76% for the most recent five years (2015 to 2019).

**Figure 36: Overlap with JCI claims for Murray mesothelioma claims**

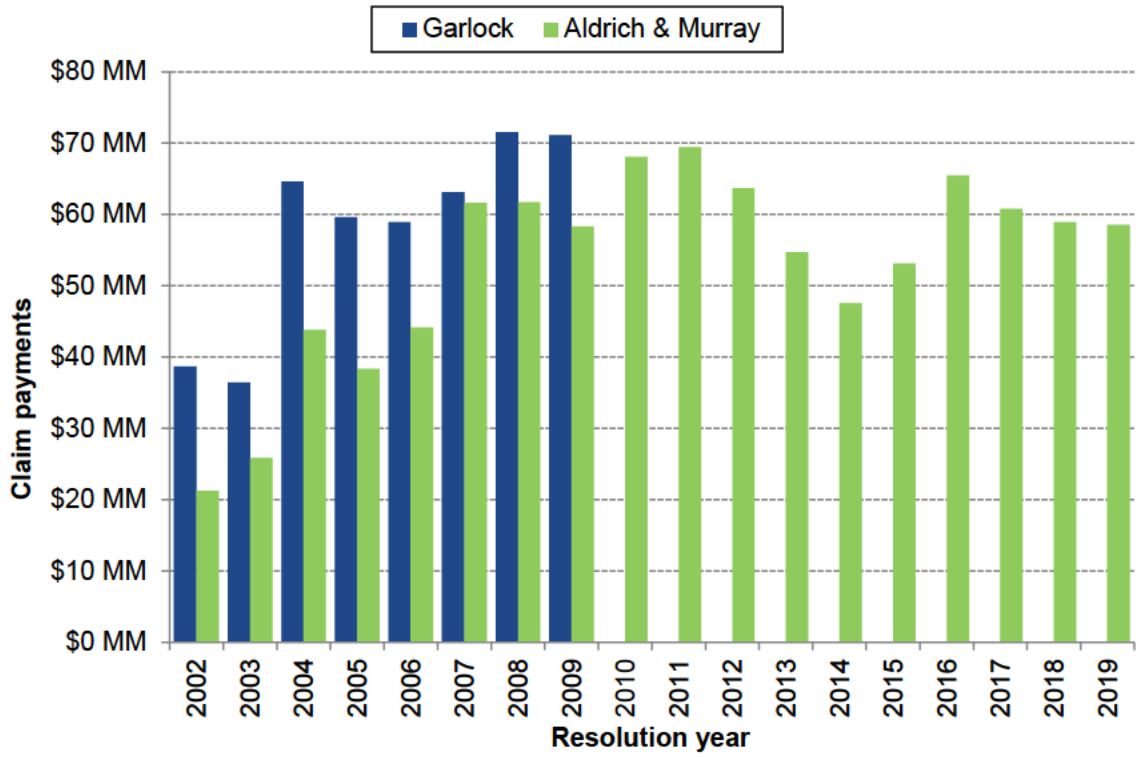
| Murray filing year | Murray claim count | Matches to JCI claims | Percent match |
|---|---|---|---|
| 2010 | 1,150 | 679 | 59.0% |
| 2011 | 1,199 | 723 | 60.3% |
| 2012 | 1,397 | 853 | 61.1% |
| 2013 | 1,319 | 881 | 66.8% |
| 2014 | 1,224 | 919 | 75.1% |
| 2015 | 1,304 | 950 | 72.9% |
| 2016 | 1,131 | 824 | 72.9% |
| 2017 | 1,139 | 882 | 77.4% |
| 2018 | 1,077 | 860 | 79.9% |
| 2019 | 1,126 | 894 | 79.4% |
| **Total** | **12,066** | **8,465** | **70.2%** |
| **2015–2019** | **5,777** | **4,410** | **76.3%** |

### C.1.c. Settlement costs of Garlock and the Debtors had a similar pattern

(141) Total mesothelioma claim payments also support the conclusion that Garlock and the Debtors are comparables. Figure 37 shows that in each year between 2002 and 2009, the last full calendar year

before Garlock's petition date, Garlock's mesothelioma payments exceeded those of Aldrich and Murray combined. In the years following Garlock's petition date, however, the combined Aldrich and Murray mesothelioma payments never exceeded the amount that Garlock paid in either of the two years prior to its petition date. This difference is not due to a difference in litigation strategy. Although Garlock, over its history, tried more claims than the Debtors, Garlock, like the Debtors, settled most of its claims prior to trial.[157]

**Figure 37: Mesothelioma claim payments for Garlock and Aldrich & Murray, 2002–2019**




(142) The average value of claims paid by Aldrich, Murray, and Garlock are also similar. Figure 38 shows the average resolution value ("ARV") of claims resolved against these defendants in the tort system.[158] During the period 2002–2009, each of the three defendants resolved mesothelioma claims for average values of $30,400, $20,800, and $36,000, respectively.

[157] Schwertz Affidavit, at ¶¶ 21, 23.

[158] The ARV is the equivalent to combining the pay rate (Appendix D.1.d) and the average settlement value (Appendix D.1.e).

**Figure 38: Average resolution value of mesothelioma claims, 2002–2009**

| Defendant | Average resolution value |
|---|---|
| Aldrich | $30,400 |
| Murray | $20,800 |
| Garlock | $36,000 |

# Appendix D. Claim forecast methodology

(143) In Section V, I performed tort forecasts as part of my Tort System Opinion and as an input into my Estimation Opinion. The first set of forecasts I present, the component-based forecasts, calculate aggregate nominal claim payments as the product of five parameters:

$$Payments = incidence \times PTS \times (resolution\ rate) \times (pay\ rate) \times ASV.$$

Appendix D.1 addresses each of these forecasting components in turn. While this appendix describes each of these forecasting components at the aggregate level for each Debtor, some of my Tort System Opinion scenarios disaggregate these same parameters, for example by law firm.

(144) In addition to the claim resolution parameters, my forecasts require financial parameters. A given set of claim resolution parameters provides a forecast of nominal mesothelioma expenditures; it does not provide the net present value of that forecast nor incorporate non-mesothelioma claims. Appendix D.2 addresses three financial parameters that complete the analysis: (i) discount rates; (ii) timing of claim resolutions; and (iii) the gross-up factor for non-mesothelioma claims.

## D.1. Claim resolution parameters

### D.1.a. Mesothelioma incidence

(145) The first step in estimating the number of future mesothelioma claims is to forecast the number of mesothelioma diagnoses. I rely on the mesothelioma incidence model as estimated by Dr. Jorge Gallardo-García.[159] Dr. Gallardo-García updated the Nicholson-style mesothelioma incidence models that have been published in the epidemiology literature since 1982.[160] His model is also an updated

[159] Dr. Gallardo-García has provided me estimates based on the current status of his incidence model. Details of Dr. Gallardo-García's final analysis and supporting calculations will be included in his expert report at the time other expert reports are due pursuant to any CMO or other case schedule set by the Court. Dr. Gallardo-García is finalizing his incidence model, but, upon completion, he does not expect it to differ materially from the version of the model applied herein. However, should his final model qualitatively alter my opinions herein, I will supplement this report accordingly.

[160] *See* William J. Nicholson, George Perkel, and Irving J. Selikoff, "Occupational exposure to asbestos: Population at risk and projected mortality –1980–2030," *American Journal of Industrial Medicine* 3, no. 3 (1982): 259–311; Environmental Protection Agency, "Airborne Asbestos Health Assessment Update" (Report EPA/600/8-84/003F, June 1986); Bertram Price and Adam Ware, "Time trend of mesothelioma incidence in the United States and projection of future cases: An update based on SEER data for 1973 through 2005," *Critical Reviews in Toxicology* 39, no. 7 (2009): 576–588; Suresh Moolgavkar, Rafael Meza, and J. Turim, "Pleural and Peritoneal Mesotheliomas in SEER: Age Effects and Temporal Trends, 1973–2005," *Cancer Causes & Control* 20 (2009): 935–944.

version of the model that has been accepted by bankruptcy courts to estimate the asbestos liabilities for debtors.[161]

(146) Figure 39 displays Dr. Gallardo-García's currently estimated mesothelioma incidence model.[162] The model estimates and forecasts the number of mesothelioma diagnoses from the year 1973 through 2070. The green crosses represent US mesothelioma incidence data from 1973 through 2019,[163] and the blue solid line represents the total number of mesothelioma diagnoses estimated by the model. Note that the incidence model closely tracks the observed data. Not only does the model fit the aggregate annual count of mesothelioma diagnoses from 1973 through 2019, but it also fits the gender and age profile within each of those diagnosis years.[164] This latter fact provides a high level of confidence in the model.

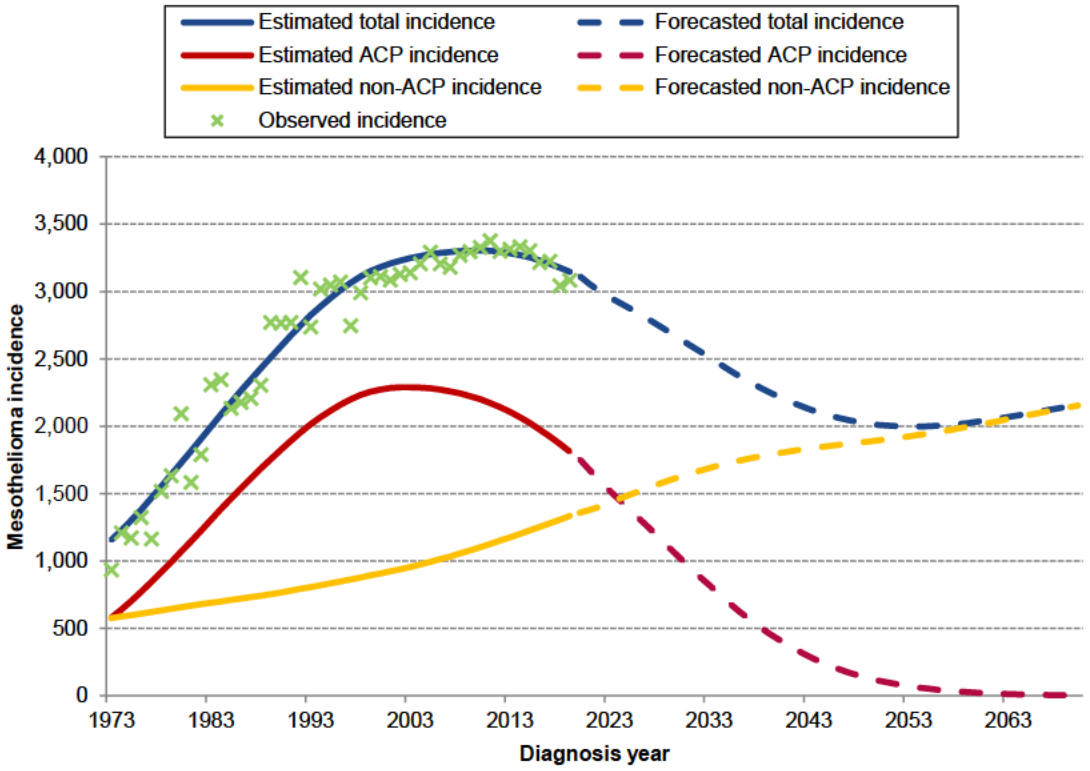
[161] See, for example, Expert Report of Chales E. Bates, PhD, *In re Garlock Sealing Technologies LLC*, No. 10-31607 (Bankr. W.D.N.C. February 15, 2013), at Exh. GST-0996; Garlock Order Estimating Aggregate Liability, at ¶¶ 214–225.

[162] See Footnote 159.

[163] The mesothelioma incidence data is sourced from two authoritative cancer incidence databases managed by the National Cancer Institute and Center for Disease Control and Prevention: Surveillance, Epidemiology and End Results ("SEER") and U.S. Cancer Statistics ("USCS"). The model uses data for years 1973 through 2000 from SEER and for years 2001 through 2019 from USCS.

[164] See Footnote 159.

**Figure 39: Dr. Gallardo-García's mesothelioma incidence model**




(147) The model also disaggregates total mesothelioma incidence into asbestos-related (ACP) mesothelioma diagnoses (red lines) and non-asbestos-related (non-ACP) mesothelioma diagnoses (yellow lines).[165,166] The incidence model produces results by gender and birth cohort, and the asbestos-related mesotheliomas can further be disaggregated into US Census industry and occupation combinations. Notice that the ACP curve started declining around 2005 and the rate of decline has subsequently increased; this is because the highest exposure to asbestos-containing products occurred decades ago, so the exposed population is declining rapidly as it succumbs to general mortality. In contrast, the non-ACP curve gradually increases; this is because, like any other cancer, mesothelioma occurs in the population in the absence of external factors, which results in more diagnoses as the general population ages and increases over time.

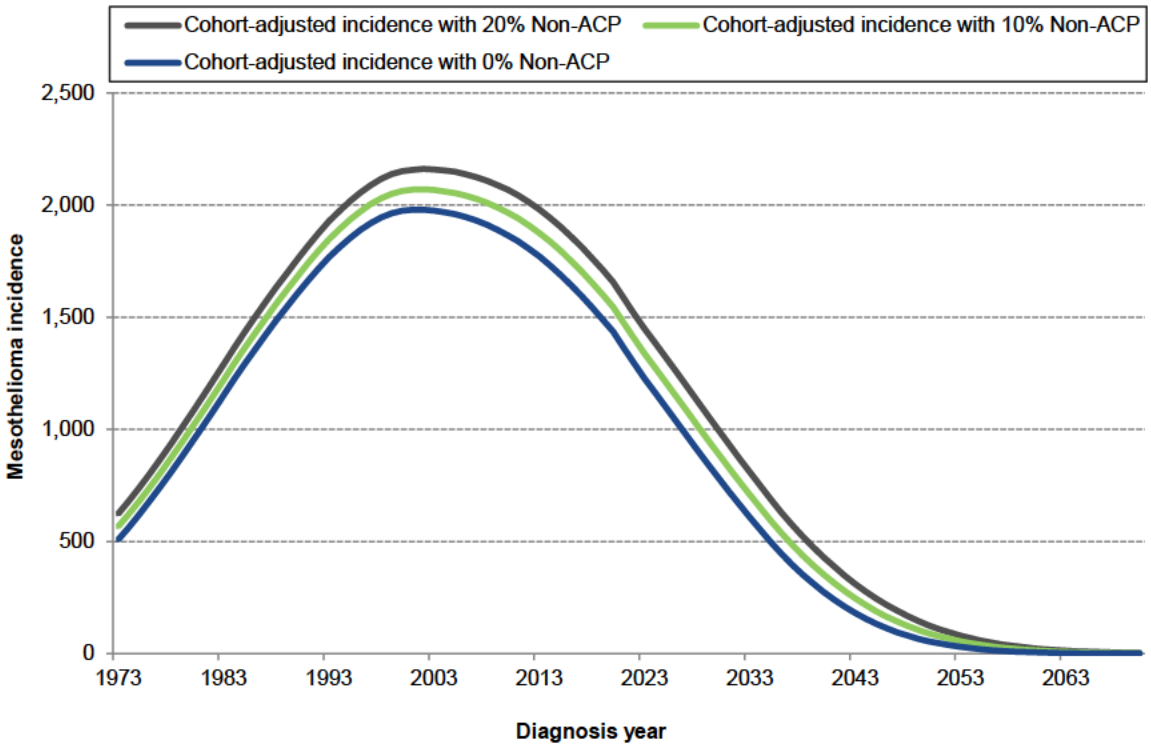
(148) I asked Dr. Gallardo-García to provide me with three cohort-adjusted incidence curves. I requested an ACP incidence curve that accounts for when the Debtors discontinued incorporating asbestos

[165] The available data does not identify which mesotheliomas are asbestos-related and which are not. The decomposition is the statistical result based on epidemiology and the demographic characteristics of the population potentially exposed to asbestos.

[166] Asbestos-related (ACP) mesothelioma diagnoses include those derivative of the mining, manufacture, installation, maintenance, removal, or other uses of asbestos-containing products or raw asbestos.

components in their products. The blue line in Figure 40 shows the preliminary curve Dr. Gallardo-García provided in response to my request. I also requested two additional curves with that same ACP incidence supplemented with 10% and 20%, respectively, of the non-ACP mesothelioma incidence (the yellow line from Figure 39) included. Those two curves are the green and black lines in the figure below, respectively.

**Figure 40: Dr. Gallardo-García's cohort-adjusted mesothelioma incidence model**




## D.1.b. Propensity to sue ("PTS")

(149) The propensity to sue reflects the number of claims filed against a defendant for a specific disease, relative to the number of observed or predicted diagnoses of that disease. To calculate the propensity to sue, I observe Aldrich and Murray's counts of filed mesothelioma claims by filing year. I then observe the incidence for those years from Dr. Gallardo-García's model. As seen in Figure 41, the propensity to sue for Aldrich is about 77% and the propensity to sue for Murray is about 63% in the last 5 years.

**Figure 41: Filed claims relative to incidence[167]**

| Filing year | Predicted incidence[168] | Aldrich | | Murray | |
|---|---|---|---|---|---|
| | | Filed claims | PTS | Filed claims | PTS |
| 2010 | 1,990 | 1,286 | 65% | 989 | 50% |
| 2011 | 1,968 | 1,234 | 63% | 988 | 50% |
| 2012 | 1,941 | 1,427 | 74% | 1,159 | 60% |
| 2013 | 1,911 | 1,391 | 73% | 1,208 | 63% |
| 2014 | 1,877 | 1,422 | 76% | 1,159 | 62% |
| 2015 | 1,839 | 1,473 | 80% | 1,217 | 66% |
| 2016 | 1,798 | 1,267 | 70% | 1,050 | 58% |
| 2017 | 1,752 | 1,293 | 74% | 1,080 | 62% |
| 2018 | 1,705 | 1,296 | 76% | 1,038 | 61% |
| 2019 | 1,655 | 1,409 | 85% | 1,116 | 67% |
| **2015–2019** | **8,748** | **6,738** | **77%** | **5,501** | **63%** |

## D.1.c. Resolution rate

(150) The resolution rate equates to the portion of filed claims ever resolved. While asbestos defendants typically resolve most of the claims filed against them, some of those claims remain unresolved (abandoned or not updated in defendant claims databases) for decades. Figure 42 displays the percentage of unresolved claims as of the Petition Date by filing year for each Debtor. Aldrich typically resolves about 98% of claims, with 2% remaining unresolved. Murray typically resolves about 96% of claims, with 4% remaining unresolved. Unresolved claims appear in asbestos defendants' databases for multiple reasons, including such claims matching one of the following fact patterns: (i) dismissed claims for which the status was never updated; (ii) administratively closed claims for which the status was never updated; and (iii) open claims abandoned by plaintiffs' counsel. Regardless of the reason, about 2% of claims filed against Aldrich and 4% of claims against Murray remain unresolved effectively indefinitely.

[167] This figure excludes Law Firm 3 and Law Firm 1 claims for both Debtors and Law Firm 2 for Aldrich for the reasons stated in Footnote 138.

[168] The predicted incidence has been lagged one year to account for the typical time it takes for claims to file their claim after diagnosis. This change aligns filing year with the incidence year. The incidence curve used for this figure is the cohort-adjusted incidence with 10% Non-ACP.

**Figure 42: Unresolved claims as of the Petition Date by filing year[169]**

| Filing year | Aldrich | Murray |
|---|---|---|
| Pre-2002 | 3% | 10% |
| 2002 | 1% | 8% |
| 2003 | 2% | 4% |
| 2004 | 2% | 4% |
| 2005 | 2% | 4% |
| 2006 | 2% | 4% |
| 2007 | 2% | 4% |
| 2008 | 2% | 3% |
| 2009 | 1% | 2% |
| 2010 | 2% | 1% |
| 2011 | 2% | 2% |
| 2012 | 2% | 1% |
| 2013 | 3% | 2% |
| 2014 | 3% | 2% |
| 2015 | 9% | 9% |
| 2016 | 16% | 21% |
| 2017 | 32% | 36% |
| 2018 | 57% | 56% |
| 2019 | 86% | 89% |
| 2020 | 99% | 99% |
| **Pre-2015 average** | **2.1%** | **3.5%** |

(151) Figure 42 also demonstrates that the Debtors should incur only *de minimis* future settlement payments for claims filed before 2015. 2014 and earlier filing years all have remaining claim counts consistent with the remaining inventory being abandoned.

### D.1.d. Pay rate

**(152)** The pay rate equates to the proportion of resolved claims that receive payments. Both Debtors experienced stable pay rates for the decade prior to their Petition Date, as shown in Figure 43. Aldrich paid approximately 38% of 2015–2019 resolved mesothelioma claims and Murray paid approximately 15%.

[169] This figure excludes Law Firm 3 and Law Firm 1 claims for both Debtors and Law Firm 2 for Aldrich for the reasons stated in Footnote 138.

**Figure 43: Pay rates for mesothelioma claims from 2011 to 2020[170]**

| Resolution year | Aldrich | Murray |
|---|---|---|
| 2011 | 41% | 21% |
| 2012 | 52% | 20% |
| 2013 | 46% | 16% |
| 2014 | 36% | 14% |
| 2015 | 42% | 10% |
| 2016 | 33% | 16% |
| 2017 | 43% | 17% |
| 2018 | 35% | 16% |
| 2019 | 37% | 16% |
| 2020 | 43% | 17% |
| **2011–2020 average** | **40%** | **16%** |
| **2015–2019 average** | **38%** | **15%** |

## D.1.e. Average settlement value ("ASV")

(153) Forecasting future ASVs requires one to address future inflation rates. Inflation accounts for the purchasing power of a dollar. For example, if an apple cost $1.00 in 2020, but $1.02 in 2021, then the price increased 2%. Economists refer to the increase in price for the identical product as inflation. The Consumer Price Index ("CPI") generalizes this concept to a bundle of goods. If a bundle of goods cost $100.00 in 2020, but $102.30 in 2021, then general inflation rose at 2.3%. The government also publishes inflation indexes for different sectors of the economy, such as medical costs or home prices. Subsectors of the economy can persistently have different inflation rates (even deflation, a decrease in prices) from the general or global average inflation rate. For example, over the past several decades, the cost of medical services has risen faster than general inflation, while the price of computing power has decreased.

(154) The investment markets trade assets that provide hedges against future inflation.[171] These assets also provide third-party arms-length projections of future inflation rates. Figure 44 displays those market projected annual inflation rates through 2055. These forecasts align with the Congressional Budget

[170] This figure excludes Law Firm 3 and Law Firm 1 claims for both Debtors and Law Firm 2 for Aldrich for the reasons stated in Footnote 138.

[171] Treasury Inflation Protected Securities ("TIPS") are structured to protect investors from inflation. The face value (the principal) of a TIPS increases with inflation and decreases with deflation. When a TIPS matures, an investor receives the inflation-adjusted principal or the original principal, whichever is greater. Comparing the yields on Treasury Notes, Bonds and TIPS provides the investment market's projection of future inflation rates. For example, as of the beginning of September 2025, comparing the 4.3% yield on a 10-Year Treasury Bond to the 1.9% yield on a 10-Year TIPS implies investors expect average inflation to be 2.4% over the next ten years (4.3% – 1.9% = 2.4%). Bruce Tuckman and Angel Serrat, *Fixed Income Securities, Tools for Today's Markets* (Hoboken, New Jersey: John Wiley & Sons, Inc., 2022): 6–7.

Office ("CBO"). The CBO expects inflation to decline over the next 10 years, decreasing from 2.5% in 2024 to 2.0% in 2027, where it is expected to remain.[172]

**Figure 44: Projected general inflation rates through 2055[173]**

| Maturity | Current yields | | Expected average inflation |
|---|---|---|---|
| | T-bonds | TIPS | |
| 5-year | 3.7% | 1.3% | 2.4% |
| 10-year | 4.3% | 1.9% | 2.4% |
| 30-year | 5.0% | 2.7% | 2.3% |

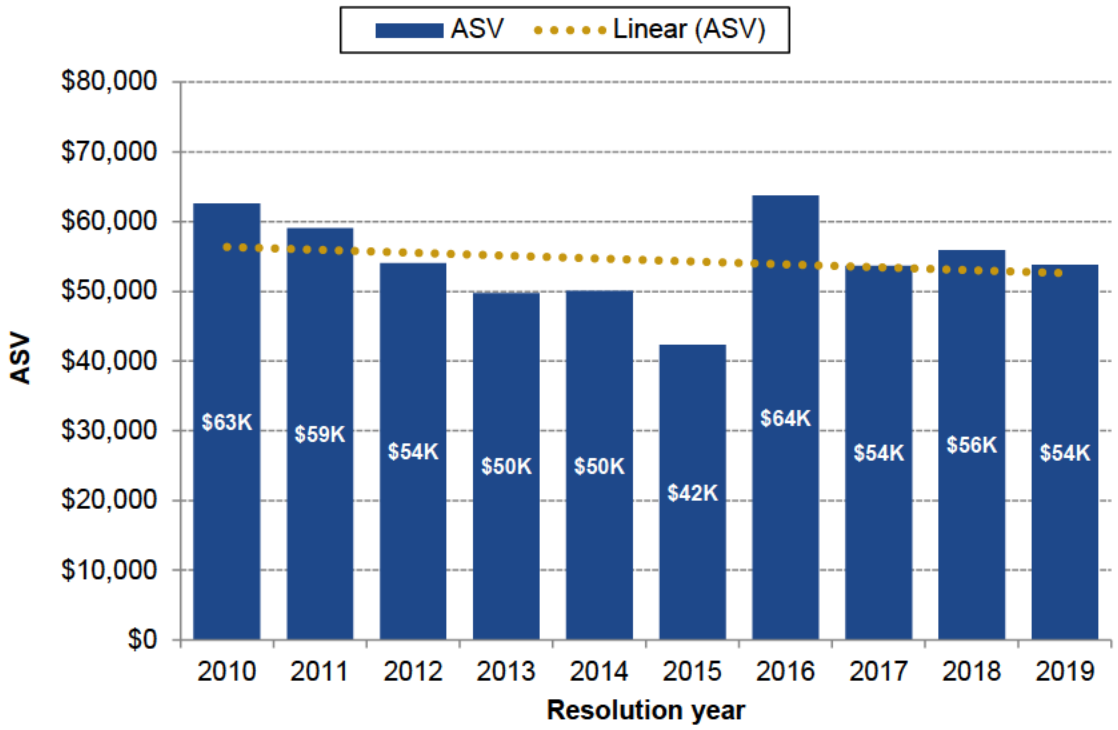
(155) Mesothelioma settlement values have not historically followed general inflation, nor are they expected to do so in the future. While US inflation less food and energy averaged 1.9% per year between 2010 and 2019, Aldrich and Murray nominal mesothelioma average settlement values remained constant or declined over that same period.[174] Figure 45 displays the average settlement value by year for Aldrich. It has remained almost constant at approximately $55,000. As indicated by the trend line, if anything, the average nominal value has been mildly declining at a rate of 0.8% per year over this period; it has not increased with general inflation.

[172] *See* "The Budget and Economic Outlook: 2025 to 2035," Congressional Budget Office, January 2025, https://www.cbo.gov/publication/61172: PCE price index row.

[173] This figure uses rates as of September 2, 2025 (the first business day of September). Federal Reserve Bank of St. Louis, "Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity, Quoted on an Investment Basis," Series DGS5, https://fred.stlouisfed.org/series/DGS5. I also cite to the Federal Reserve Bank of St. Louis for the yields on the 10, 20, and 30-Year Treasurys [hereinafter "Market Yield on U.S. Treasury Securities at 5, 10, 20, and 30-Year Constant Maturity"]: Federal Reserve Bank of St. Louis, "Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity, Quoted on an Investment Basis, Inflation-Indexed," Series DFII5, https://fred.stlouisfed.org/series/DFII5. I also cite to the Federal Reserve Bank of St. Louis for the Inflation-Indexed yields on the 5, 10, and 30-year Treasurys [hereinafter "Inflation-Indexed Market Yield on U.S. Treasury Securities at 5, 10, and 30-Year Constant Maturity"]: Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity; Inflation-Indexed Market Yield on U.S. Treasury Securities at 5, 10, and 30-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity; Inflation-Indexed Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity.

[174] CPI-U Series CUUR0000SA0L1E.

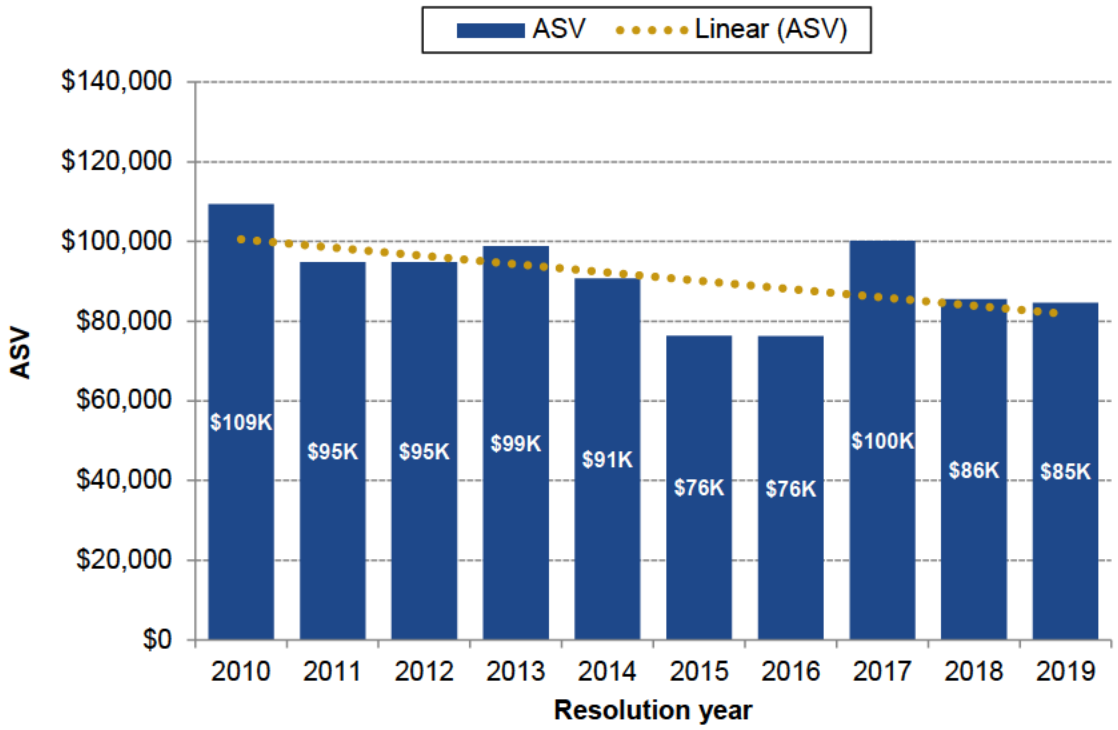
**Figure 45: Average settlement value for Aldrich by year[175]**




(156) Similarly, Figure 46 displays the average settlement value by year for Murray. It has declined from around $109,000 per claim in 2010 to about $85,000 per claim in 2019. As indicated by the trend line, the average value has steadily declined over this period by approximately 2.3% per year; it has not increased with general inflation.

[175] The 2016 average settlement value includes the Aldrich plaintiff verdict, excluding prejudgment and postjudgment interest. Excluding the verdict entirely yields a decline of 1.0% per year.

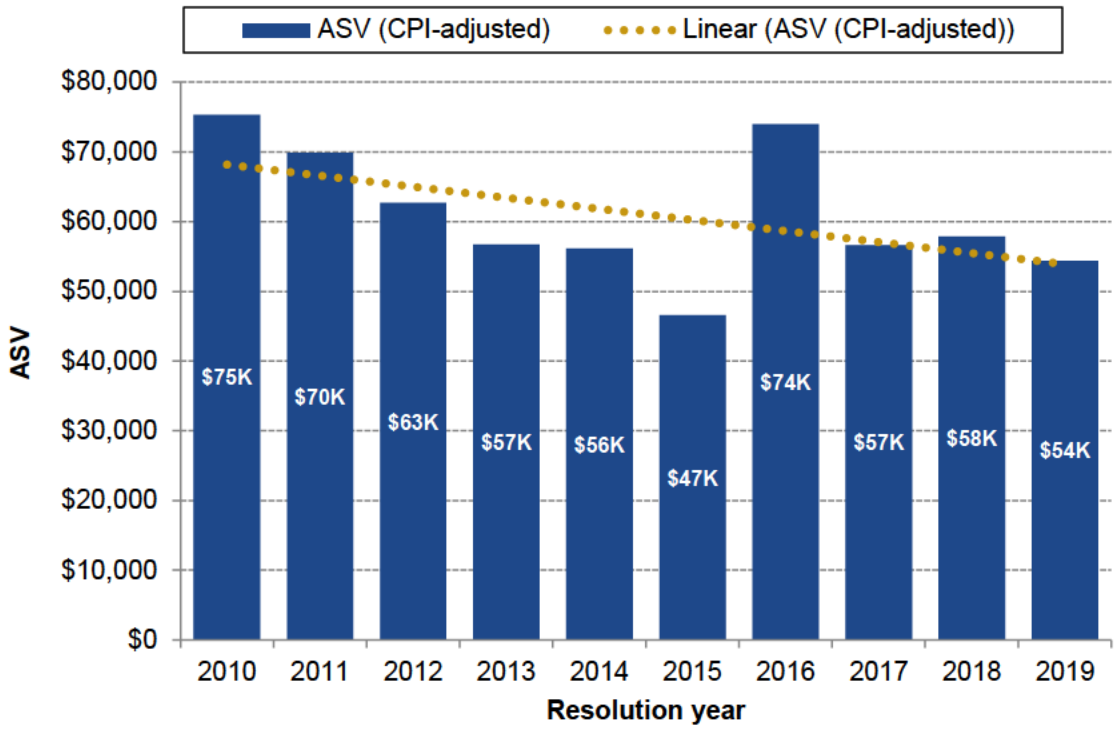
**Figure 46: Average settlement value for Murray by year**




(157) If one follows the approach of CPI-adjusting historical transactions to account for general inflation, then the downward trends in claim values become more pronounced. Figure 47 displays the CPI-adjusted average settlement values for Aldrich.[176] This bar chart shows all amounts in "2020 dollars." As a result of this adjustment, the average settlement values for each year prior to 2020 have been increased to account for inflation. For example, the $63,000 average settlement amount from 2010 has been increased to $75,000, accounting for the fact that it requires $75,000 in 2020 to purchase the same goods as $63,000 could purchase in 2010. The CPI-adjusted average settlement values for Aldrich have decreased at a compounding rate of 2.6% per year.

[176] CPI-U Series CUUR0000SA0L1E.

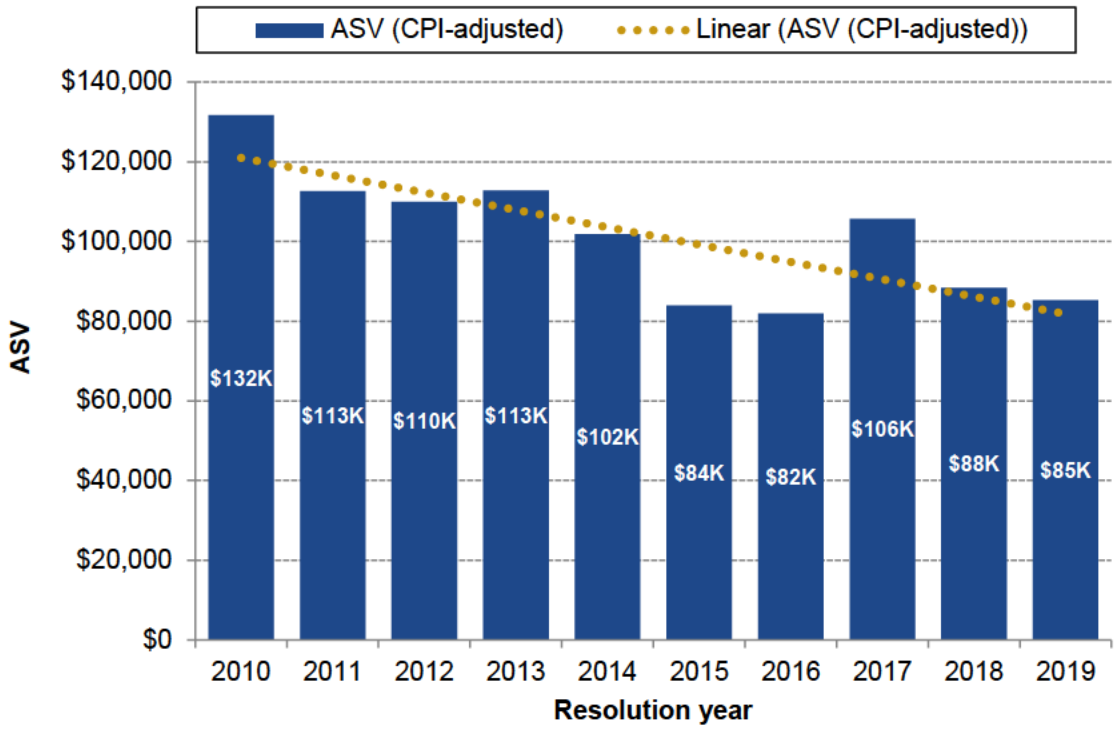
**Figure 47: CPI-adjusted average settlement value for Aldrich by year[177]**




(158) Figure 48 displays the CPI-adjusted average settlement values for Murray. The CPI-adjusted average settlement values have decreased at a compounding rate of 4.3% per year.

[177] The 2016 average settlement value includes the Aldrich plaintiff verdict, excluding prejudgment and postjudgment interest. Excluding the verdict entirely yields a decline of 3.1% per year.

**Figure 48: CPI-adjusted average settlement value for Murray by year**




(159) A decline in the CPI-adjusted average settlement value occurs generally across mesothelioma defendants and has been codified into 524(g) trusts.[178] The changing demographics of the claiming population underlie this decline: claimants have been aging. Younger claimants incur more harm and generally receive greater compensation than older claimants (see verdict discussion in Appendix F). Thus, an aging claimant population drives average recoveries down. The declining trend in nominal claim values demonstrates that the effect of these demographic changes to the claimant population have outpaced the effect of inflation.

[178] Most 524(g) trusts, like the ASARCO and Manville trusts, do not account for inflation. Because the nominal claim values are not increasing with inflation, the real (or CPI-adjusted) claim values are decreasing. More sophisticated trusts, like the Western Asbestos and Garlock trusts, do increase claim values annually based on inflation. However, these trusts also account for demographics such as age when determining claim values, which counteracts the effect of the inflation-indexed increases. Garlock Settlement Facility, *Settlement Facility Second Amended and Restated Claims Resolution Procedures*, April 2021, https://garlocksettlementfacility.com/assets/uploadedFiles/8eedc7d3-3283-4663-b851-3a929d102e94.pdf, 11, I9–I10; Twentieth Annual Report and Accounting of Western Asbestos Settlement Trust, *In re Western Asbestos Company*, 1926, No. 13-31914-HLB (Bankr. N.D. Cal. June 6, 2024), at 7–8; ASARCO Asbestos Personal Injury Settlement Trust, *Asbestos Personal Injury Settlement Trust Distribution Procedures*, https://www.asarcotrust.com/assets/documents/resources/ASARCO-Trust-Distribution.pdf; Manville Personal Injury Settlement Trust, *2002 Trust Distribution Process*, May 2021, https://www.claimsres.com/wp-content/uploads/2016/11/2002-TDP-May-2021-Revision-1.pdf; Western Asbestos Settlement Trust, *Third Amendment to and Complete Restatement of Western Asbestos Settlement Trust Case Valuation Matrix*, https://www.wastrust.com/wp-content/uploads/2020/08/WAST-Third-Amendment-to-and-Complete-Restatement-of-Matrix.pdf, 4.

(160) All "Hist. trend" scenarios considered in my Tort System Opinion and my Estimation Opinion account for both general inflation and for the persistent deviation of the Debtors' average claim values from general inflation. On the other hand, my "None" scenarios conservatively assume that the historical declining trend in nominal ASVs will cease as of the Petition Date and remain level from that point forward. Should one solely apply general inflation and fail to account for the persistent deviation of the Debtors' average claim values from general inflation, the resultant projections would be biased high and unreliable.

## D.2. Financial parameters

(161) Economists have long understood that the value of a dollar changes through time. Economists generally break the time value of money into two distinct components, inflation rates and discount rates. Inflation rates have been addressed above in the discussion of ASVs (Appendix D.1.e). Discount rates account for the return on assets through time. Appendix D.2.a addresses discount rates. Discount rates apply to payments in specific years. So, Appendix D.2.b addresses the timing of nominal settlement payments to tort claims, i.e., the temporal lag between filing a tort claim and receiving compensation.

(162) Finally, Appendix D.2.c addresses non-mesothelioma claim payments. Such claims are modeled by "grossing up" the mesothelioma liability amounts for each Debtor.

### D.2.a. Discount rates

(163) Discount rates provide the net present value of future cash flows by accounting for the time value of money (i.e., the return on assets through time). For example, suppose a consumer saves money in a high-yield savings account that pays 5% interest annually. The value to the consumer of an incremental dollar in savings today equates to $1.05 next year. Conversely, the value to the consumer of $1.05 next year equates to $1.00 today. The rate of return represents the necessary percentage increase in today's fund to attain the stated amount next year, or, conversely, the factor used to discount amounts next year to today's dollars. In this example, the rate of return equals the 5% annual interest for the savings account (a 5-cent return next year divided by today's $1.00).

(164) Both my Tort System Opinion and my Estimation Opinion project cash flows by year from the Petition Date through 2070. Counsel for the Debtors asked me to calculate the net present value of those cash flows as of the Petition Date. Parties often dispute the discount rate to be used in this circumstance. Economists recognize that each claimant and defendant may have different discount rates. For example, a claimant paying down credit card debt may have a 15% discount rate, while

another claimant paying down a mortgage may have a 5% discount rate.[179] Similarly, the cost of capital varies across defendants. For example, one defendant may have a weighted average cost of capital ("WACC") of 12%, while another may have a WACC of only 6%. For purposes of calculating a net present value in this context, I have discounted through the perspective of an asbestos trust; specifically, using the rate of return that such a trust would expect to earn through its investment portfolio.[180] In short, the net present value that I calculate estimates how much money the Debtors would need to provide a trust as of the Petition Date to fund the cash flows within my Tort System Opinion and my Estimation Opinion.

(165) The historical investment performance of existing 524(g) asbestos trusts provides insight into the rate of return that an Aldrich or Murray trust should expect.[181] I reviewed the annual reports of the 35 asbestos trusts with at least $100 million in assets as of 2010 or later.[182] I limited my analysis to 12 trusts with both a long investment window and a non-idiosyncratic investment portfolio.[183] Figure 49 shows the post-tax rate of return for the 12 analyzed trusts gross of investment advisory fees.[184] As the figure shows, on average, comparable 524(g) trusts earned a rate of return of approximately 4.5% in the 15 years from 2010 through 2024.

[179] In finance, the borrowing cost is closely related to the rate of return. Consider an individual who has $1,000 of credit card debt with an annual percentage rate ("APR") of 15%. Suppose this individual also has access to a high-yield savings account that pays 5% interest annually. If this individual had access to $1,000 in cash, it would be economically rational for them to pay down their credit card debt rather than invest the cash in the savings account. Paying down the credit card would save them $150 in accrued debt next year, while investing the cash in the savings account would earn them only $50 in interest. Therefore, for this individual, the value of $1,000 in cash today is equal to $1,150 next year (a discount rate of 15%). This same concept applies to borrowing costs for companies. In particular, companies' costs of capital are often used to estimate those companies' expected rates of return. Aswath Damodaran, *Damodaran on Valuation, Security Analysis for Investment and Corporate Finance*, (New York: John Wiley & Sons, Inc., 2006): 13–14.

[180] This approach has been used by other experts in 524(g) bankruptcies. Declaration of Thomas Vasquez, PhD, *In re Paddock Enterprises LLC*, 1369, No. 20-10028-LSS (Bankr. D. Del. May 15, 2022), at 9.

[181] Technically, the rate of return for asbestos trusts is defined as the annual rate of return on claimants' equity necessary for the beginning equity to grow to the ending equity while pre-funding all obligations net of insurance and additional income. Obligations are defined as taxes, claim payments, operating costs, investment fees, and claim processing fees.

[182] I excluded from my analysis trusts that have not been in operation for at least five years, such as the Paddock trust.

[183] Of the 35 asbestos trusts, (i) 8 were excluded due to outlier characteristics, such as having a large investment in debtor stock; (ii) 10 were excluded due to having less than 15 years of investment return history; and (iii) 5 were excluded for either ambiguous reporting of investment fees or for not reporting returns gross of investment fees.

[184] The settlement between the Debtors and the FCR sets aside $45 million of the total $545 million for trust operating expenses. I evaluate the asbestos trusts' rate of return post-tax and gross of investment advisory fees as many trusts, including the Garlock trust, exclude taxes from and include investment advisory fees in operating expenses. Notice of Filing of Plan Support Agreement, 832, No. 20-BK-30608 (W.D.N.C. September 24, 2021), at Exhibit A; Audited Special-Purpose Financial Statements with Supplementary Information of the GST Settlement Facility December 31, 2017 and 2018, *In re Garlock Sealing Technologies LLC, et al.,* No. 10-31607 (Bankr. W.D.N.C. April 29, 2019). I also cite to these same Garlock audited financial statements for the years 2019–2024 [hereinafter "Garlock Audited Special-Purpose Financial Statements for 2017–2024"]: Garlock Audited Special-Purpose Financial Statements for 2019; Garlock Audited Special-Purpose Financial Statements for 2020 and 2021; Garlock Audited Special-Purpose Financial Statements for 2022; Garlock Audited Special-Purpose Financial Statements for 2023; Garlock Audited Special-Purpose Financial Statements for 2024.

**Figure 49: Gross post-tax rate of return for select 524(g) trusts**

| Trust | Beginning assets as of 2010 | 2010–2024 gross post-tax rate of return |
|---|---|---|
| US Gypsum | $2,767 MM | 3.8% |
| Owens Corning[185] | $2,500 MM | 4.9% |
| Combustion Engineering | $1,114 MM | 3.8% |
| Manville | $1,059 MM | 7.7% |
| Kaiser Aluminum | $1,049 MM | 2.9% |
| ASARCO | $946 MM | 3.6% |
| Babcock & Wilcox | $882 MM | 4.4% |
| THAN | $572 MM | 4.0% |
| Eagle Picher | $451 MM | 5.3% |
| AC&S | $288 MM | 5.5% |
| Burns & Roe | $182 MM | 2.4% |
| Plibrico | $91 MM | 5.9% |
| **Simple average** | | **4.5%** |
| **Asset-weighted average[186]** | | **4.4%** |

(166) These 524(g) asbestos trusts invest primarily in fixed income (or interest-producing) assets. Figure 50 shows the average asset allocation for the 12 analyzed trusts.[187]

**Figure 50: Average asset allocation for select 524(g) trusts**

| Asset class | Asset subclass | 2010–2024 average allocation |
|---|---|---|
| Fixed income | Municipal bonds | 45.1% |
| | Corporate bonds | 19.4% |
| | US government bonds | 4.6% |
| Equities | Equities | 25.0% |
| Other | Alternative assets[188] | 4.2% |
| | Cash | 1.7% |
| **Total** | | **100%** |

(167) During the same 15-year period analyzed above, the 5-year, 10-year, 20-year, and 30-year US Treasury notes averaged approximately a 2.5% yield, or annual rate of return.[189] Thus, the asbestos

[185] I combined the two Owens Corning subfunds into one trust for purposes of this analysis because the Owens Corning trust reports investment advisory fees aggregated across the two subfunds.

[186] The asset-weighted average weights the rates of return for each trust by their assets as of the beginning of 2010.

[187] I calculate the percent allocation first within each trust and asset subclass by summing the asset mix across years. I then use a simple average across trusts by asset subclass. If I instead dollar-weight the average across trusts by total assets, the average allocation by overall asset class remains essentially the same. The average allocation to the municipal bonds subclass decreases approximately 10 percentage points to 36.6%, and the average allocation to the corporate bonds subclass correspondingly increases approximately 10 percentage points to 26.8%.

[188] Alternative assets include investments in hedge funds and mortgage backed securities.

[189] I calculate the simple average of the 5-year, 10-year, 20-year, and 30-year Treasury yields from 2010–2024 using data

trusts averaged a rate of return about two percentage points above US Treasury rates. It is reasonable to expect a similar two percentage point spread over risk-free assets to persist given the trusts' investment asset mix (i.e., a risk premium for riskier assets should persist over the risk-free rate).[190]

(168) Today, interest producing assets provide greater yields. For example, the 5-year, 10-year, 20-year, and 30-year US Treasury notes currently yield an average of 4.5%, with the longer duration notes providing the higher rates of return.[191] Moreover, market participants project these higher interest rates to persist for at least 10 years.[192] Thus, the historical returns of 524(g) trusts, the current interest rates' environment, and the projected future environment support an annualized discount rate of 6.5% (= 4.5% US Treasury rate + 2% for 524(g) trusts' performance). To illustrate the impact of discount rates, I also provide forecast estimates based on scenarios using a 5.5% and a 4.5% discount rate.[193] The lower end of this range effectively reverts to the historical rate of return for existing 524(g) trusts, despite that rate having manifested during a lower interest rate time period that experts do not predict will exist over at least the next decade.

### D.2.b. Timing of claim payments

(169) Claim payments lag claim filings, often by years. Most defendants pay a majority of claims within five years of receipt (see Appendix D.1.c on resolution rates). As displayed in Figure 51, 98% of mesothelioma claims paid by Aldrich were resolved within five years of those claims being filed. Similarly, 99% of settlement amounts were paid within five years of filing.

from the Federal Reserve Bank of St. Louis. Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 20-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity.

190 The risk premium is the additional return earned over the risk-free rate as compensation for incurring risk. *See* Aswath Damodaran, *Damodaran on Valuation, Security Analysis for Investment and Corporate Finance*, (New York: John Wiley & Sons, Inc., 2006): 37.

191 I calculate the simple average of the 5-year, 10-year, 20-year, and 30-year Treasury yields as of August 22, 2025 according to the Federal Reserve Bank of St. Louis. Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 20-Year Constant Maturity; Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity.

192 The Congressional Budget Office has forecasted a 3.8% interest rate on the 10-year Treasury note for 2030–2035. "The Budget and Economic Outlook: 2025 to 2035," Congressional Budget Office, January 2025, https://www.cbo.gov/publication/61172.

193 See Section V.B and my reliance materials.

**Figure 51: Aldrich resolved almost all settled claims within five years of claim filing[194]**

| Filing to payment lag | Percent of claims (cumulative) | Percent of payments (cumulative) |
|---|---|---|
| 1 year | 23% | 26% |
| 2 years | 58% | 67% |
| 3 years | 85% | 89% |
| 4 years | 96% | 97% |
| 5 years | 98% | 99% |
| More than 5 years | 100% | 100% |

(170) Figure 52 displays the same claim payment statistics for Murray: 98% of mesothelioma claims paid by Murray were resolved within five years of those claims being filed and 99% of settlement amounts were paid within five years of filing.

**Figure 52: Murray resolved almost all settled claims within five years of claim filing[195]**

| Filing to payment lag | Percent of claims (cumulative) | Percent of payments (cumulative) |
|---|---|---|
| 1 year | 28% | 28% |
| 2 years | 68% | 66% |
| 3 years | 90% | 89% |
| 4 years | 97% | 97% |
| 5 years | 98% | 99% |
| More than 5 years | 100% | 100% |

## D.2.c. Ratio of mesothelioma payments to other claim payments

(171) The Debtors have historically paid the most money to mesothelioma claims, both on a per-claim basis and in terms of total spend. The percentage of mesothelioma and non-mesothelioma claim payments have been relatively stable in recent years. Figure 53 displays the percentage of Aldrich claim payments received by mesothelioma and non-mesothelioma claims by year from 2015 to 2020. Mesothelioma claim payments have remained steady at around 83% of total claim payments.

[194] This figure excludes Law Firm 3 and Law Firm 1 claims and Law Firm 2 for Aldrich for the reasons stated in Footnote 138.
[195] This figure excludes Law Firm 3 and Law Firm 1 claims for the reasons stated in Footnote 138.

**Figure 53: Percentage of dollars by disease (Aldrich)**

| Settlement year | Percent mesothelioma | Percent non-mesothelioma |
|---|---|---|
| 2015 | 83.1% | 16.9% |
| 2016 | 85.8% | 14.2% |
| 2017 | 79.4% | 20.6% |
| 2018 | 81.4% | 18.6% |
| 2019 | 82.9% | 17.1% |
| 2020 | 83.5% | 16.5% |
| **Total 2015–2020** | **82.7%** | **17.3%** |

(172) Figure 54 displays the percentage of Murray claim payments received by mesothelioma and non-mesothelioma claims by year from 2015 to 2020. Mesothelioma claim payments have remained steady at around 81% of total claim payments.

**Figure 54: Percentage of dollars by disease (Murray)**

| Settlement year | Percent mesothelioma | Percent non-mesothelioma |
|---|---|---|
| 2015 | 79.5% | 20.5% |
| 2016 | 80.6% | 19.4% |
| 2017 | 80.8% | 19.2% |
| 2018 | 81.3% | 18.7% |
| 2019 | 79.6% | 20.4% |
| 2020 | 84.6% | 15.4% |
| **Total 2015–2020** | **80.6%** | **19.4%** |

(173) My detailed analysis in this Initial Expert Report directly estimates current and future mesothelioma claims against the Debtors. To account for the non-mesothelioma claims, I have "grossed up" the Debtors' estimated mesothelioma liability so that the estimated mesothelioma liability represents approximately 82.7% and 80.6% of Aldrich and Murray respective claim payments.

# Appendix E. Effect on Debtors and plaintiffs of POC and PIQ data discovery

(174) The Proof of Claim ("POC") and Personal Injury Questionnaire ("PIQ") process in this case provides a real-world example of the impact of avoidable costs in litigation. As predicted by the Law and Economics literature, the plaintiffs had an economically rational reaction to the implementation of these avoidable costs: they abandoned numerous claims.

(175) Judge Whitley ordered on April 2022 that all prepetition mesothelioma claims file a POC form by the established bar date of July 29, 2022.[196] This group of claimants was also required to submit a PIQ by December 2022. These questionnaires required claimants to disclose information about their claim(s) against Aldrich and/or Murray, as well as any claims they have against other defendants or trusts.[197]

(176) The POC and PIQ process required claimants to reveal information that, in the tort system, defendants would have needed to extract via costly discovery. In other words, the POC and PIQ process shifts some of the discovery-related transaction costs from defendants to plaintiffs. Although those costs of filling out a questionnaire were low relative to the costs faced by defendants in the tort system (via discovery through interrogatories, depositions, etc.), many plaintiff law firms, when faced with these additional transaction costs, either did not file or withdrew POCs for many of their claims.

(177) Just as tort defendants faced with transaction costs adopt different litigation strategies, plaintiff law firms adopted different strategies in response to the avoidable litigation costs imposed by the POC and PIQ process. As shown in Figure 55, different law firms conducted different levels of filtering of their pending mesothelioma claim pool when submitting these forms. When compared to their historical dismissal rates against the Debtors, most firms have limited their pending claim pool at a rate consistent with, or even greater than, their tort history.

[196] The POC bar date also applies to mesothelioma claims under "off-complaint" agreements that would have otherwise filed against Aldrich or Murray. Notice of Bar Date for Certain Mesothelioma Claims, 1098, No. 20-BK-30608 (W.D.N.C. April 4, 2022). This provision most notably applies to Law Firm 3 and Law Firm 1 claims due to those firms' off-complaint group agreements with the Debtors (see Footnote 138). As a result, claimants represented by these firms might have pending claims against the Debtors even though those claimants did not name the Debtors on their complaints.

[197] Notice of Bar Date for Certain Mesothelioma Claims, 1098, No. 20-BK-30608 (W.D.N.C. April 4, 2022); Order Approving Personal Injury Questionnaire and Granting Related Relief, 1246, No. 20-BK-30608 (W.D.N.C. July 6, 2020), at ¶¶ 2–4.

**Figure 55: Example of lawyer filtering or lack thereof in POC/PIQ process[198]**

| Debtor | Primary lawyer | Pending claims in PACE data[199] | | POC/PIQ filtering rate | 2015–2019 historical dismissal rate |
|---|---|---|---|---|---|
| | | Not matched to an active POC | Matched to an active POC/PIQ | | |
| Aldrich | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Murray | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

(178) As shown in Figure 55, [redacted] and [redacted] each submitted POCs for a subset of their pending mesothelioma claim inventory. For the claims for which a POC was not filed, these two law firms are indicating that the claim will not be pursued, and, in fact, they have filtered out their pending stock at a rate above their historical claim dismissal rates against the Debtors. In short, flipping the transaction costs of uncovering the plaintiffs' exposure information through the POC/PIQ process led to these claims being abandoned. In contrast, almost all of [redacted] pending mesothelioma claims filed POCs. Hence, this law firm did not filter out their claims, even though historically 75% of their claims were dismissed against Murray and 19% were dismissed against Aldrich.[200]

(179) Even including law firms that did not filter claims, the aggregate "filtering rate"[201] for Murray approaches the historical dismissal rate, and the aggregate filtering rate for Aldrich has already surpassed the historical dismissal rate.[202] When comparing historical dismissal rates to the filtering rates due to the POC/PIQ process, the Debtors have seen a 62% dismissal rate versus a 67% filtering

[198] For purposes of this analysis, I count claims as "matched to an active POC/PIQ" only if they filed a POC for a particular Debtor, did not withdraw that POC, and also asserted a claim against that Debtor in the PIQ. I considered a POC as withdrawn if (i) it was individually withdrawn via the docket; (ii) it was withdrawn via a lawyer-specific stipulation applying to multiple claims; or (iii) a subsequent POC was filed for the same claimant and the subsequent POC was marked as amending the previous POC.

[199] I am excluding from this pending count any SBND claims, as those already have liquidated values.

[200] One would expect a similar percentage of Cooney & Conway claims to be dismissed or rejected without payment from a trust as were dismissed in the tort system, assuming that trust requires sufficient evidence of exposure for payment. In other words, it is unlikely that over 90% of Cooney & Conway's pending claims in the PACE data will be paid by an eventual trust in this case; rather, a number of claims will be filtered out by the trust such that the eventual payment rate should be consistent with the historical tort system payment rates.

[201] That is, the rate at which plaintiff law firms abandoned claims that were pending against the Debtors as of the Petition Date by withdrawing or never filing POCs and PIQs.

[202] I exclude claimants represented by Law Firm 3, Law Firm 1, and Law Firm 2 (for Aldrich) from the filtering rates and dismissal rates for reasons stated in Footnote 138. Similarly, in terms of the POC/PIQ process, Law Firm 3 filed numerous POCs/PIQs that were not in the Debtors' database. However, the POCs/PIQs they filed are for disproportionately old mesothelioma claims. For example, non-Law Firm 3 POC/PIQ claimants have an average diagnosis year of 2016, while Law Firm 3 claimants have an average diagnosis year of 2011, some nine years prior to the Petition Date. Given that these old claims were not pursued against the Debtors pre-petition, many were likely abandoned in the tort system.

rate for Aldrich and an 85% dismissal and filtering rate for Murray (Figure 56 and Figure 57, respectively). Even the claims that are still pending may yet withdraw their claims or be deemed non-compensable under a potential trust, as, even if firms have not filtered out their low-value claims, I would expect that they will still do so in the future.

**Figure 56: Filtering rates through POC/PIQ process by filing year (Aldrich)[203]**

| Aldrich filing year | Pending claims in PACE | Matched to an active POC/PIQ | Filtering rate |
|---|---|---|---|
| Pre-2010 | 220 | 13 | 94% |
| 2010 | 20 | 6 | 70% |
| 2011 | 23 | 4 | 83% |
| 2012 | 28 | 7 | 75% |
| 2013 | 45 | 8 | 82% |
| 2014 | 40 | 10 | 75% |
| 2015 | 133 | 30 | 77% |
| 2016 | 203 | 40 | 80% |
| 2017 | 419 | 97 | 77% |
| 2018 | 736 | 265 | 64% |
| 2019 | 1,208 | 516 | 57% |
| 2020 | 525 | 195 | 63% |
| **Total** | **3,600** | **1,191** | **67%** |
| **Total 2015–2019** | **2,699** | **948** | **65%** |
| **2015–2019 historical dismissal rate** | | | **62%** |

[203] This figure excludes Law Firm 3, Law Firm 1, and Law Firm 2 claims for the reasons stated in Footnote 138.

**Figure 57: Filtering rates through POC/PIQ process by filing year (Murray)[204]**

| Murray filing year | Pending claims in PACE | Matched to an active POC/PIQ | Filtering rate |
|---|---|---|---|
| Pre-2010 | 365 | 25 | 93% |
| 2010 | 13 | 2 | 85% |
| 2011 | 22 | 3 | 86% |
| 2012 | 14 | 2 | 86% |
| 2013 | 29 | 2 | 93% |
| 2014 | 22 | 3 | 86% |
| 2015 | 109 | 10 | 91% |
| 2016 | 217 | 10 | 95% |
| 2017 | 388 | 47 | 88% |
| 2018 | 584 | 109 | 81% |
| 2019 | 994 | 184 | 81% |
| 2020 | 431 | 85 | 80% |
| **Total** | **3,188** | **482** | **85%** |
| **Total 2015–2019** | **2,292** | **360** | **84%** |
| **2015–2019 historical dismissal rate** | | | **85%** |

(180) The filtering rates for recent filings remain high. Focusing on pending claims filed from 2015 through 2019, filtering rates already match or exceed the overall historical dismissal rate for both Aldrich and Murray. Even pending claims from 2020 were filtered at comparable rates to the other years. This reveals that even the most recent filings contain many low-value or non-meritorious claims for which plaintiffs' lawyers were not willing to file POCs.

[204] This figure excludes Law Firm 3 and Law Firm 1 claims for the reasons stated in Footnote 138.

# Appendix F. Econometric methods

## F.1. Spline regression

### F.1.a. Overview of methodology

(181) Spline regressions are a commonly used econometric technique to model non-linear relationships in data. This technique begins with specifying kinks (also commonly referred to as knots), which are fixed values of the explanatory variable, used to divide the dataset into bins. A one-kink constrained spline regression divides the dataset into two bins based on the values of the explanatory variable and fits the data in each bin with a linear regression while requiring the two regression line segments to be connected at the kink.[205] The equation corresponding to the one-kink constrained spline regressions can be described mathematically as follows:

$$a = \beta_0 + \beta_1 s + \beta_2 (s - k)_+ + \epsilon$$

where,

$$(s - k)_+ = \begin{cases} 0, \text{if } s \leq k \\ s - k, \text{if } s > k \end{cases}$$

In the above equation, the variable $a$ represents the claimant's age at diagnosis, $s$ represents the natural logarithm of settlement amount, $k$ represents the natural logarithm of the settlement kink value, and $\epsilon$ represents the error term.[206]

(182) I use the natural logarithm of settlement amount as the explanatory variable. Two facts support this treatment. First, log transformation of amount variables is standard practice in economics as it reduces the skewness of the distribution by making it closer to a normal distribution, which improves statistical modeling and reduces sensitivity to outliers.[207] Second, log transformation models relationships that move in percentages, instead of in levels. As discussed in the body of the report,

[205] An unconstrained spline regression does not require the lines segments from contiguous bins to be connected at the kink values.

[206] William H. Greene, *Econometric Analysis*, 2nd ed. (Englewood Cliffs, NJ: Prentice Hall, 1993): 229–265. For the constrained spline regression, this specification is equivalent to this alternative definition: $(s - k)_+ = 0$ if $s < k$ and $s - k$ if $s \geq k$.

[207] "Strictly positive variables often have conditional distributions that are heteroskedastic or skewed; taking the log can mitigate, if not eliminate, both problems. Another potential benefit of using logs is that taking the log of a variable often narrows its range. This is particularly true of variables that can be large monetary values, such as firms' annual sales or baseball players' salaries. […] Narrowing the range of the dependent and independent variables can make OLS estimates less sensitive to outlying (or extreme) values." Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 8th ed. (Boston, MA: Cengage Learning, 2025): 192.

both asbestos verdicts and asbestos trusts claim distribution procedures model the relationship between claimant age and claim value as percentage movements.

(183) The spline equation described above requires a specified value of the kink amount $k$. I follow a data-driven approach to determine the value of $k$ for each Debtor. I test candidate values for $k$ that span the settlement values observed in each Debtor's settlement history.[208] For each such candidate kink value $k$, I calculate the model's goodness of fit, i.e., a statistical measure of how well the econometric model with candidate kink value $k$ describes the historical settlement data. This process allows me to identify the kink value $k$ that maximizes the model's goodness of fit for each Debtor.[209] The spline graphs in Section IV.A show the spline regressions using the resulting kink values for each Debtor and the 95% confidence intervals calculated using the standard error of the model prediction.

### F.1.b. Spline kink values are robust to alternative specifications

(184) The baseline spline regressions use claims settled in or after 2010, including claims settled through group resolutions. In Figure 58, I report the kink values associated with the baseline specification, along with kink values associated with alternative specifications for Aldrich and Murray separately. As evidenced by the results below, the kink values are generally insensitive to changes in specification.

**Figure 58: Sensitivity analyses of spline regression kink points for Aldrich and Murray**

| Spline regression specification | Aldrich | Murray |
|---|---|---|
| Baseline | $137,000 | $185,000 |
| Excluding lowest and highest 1% of claims by value | $201,000 | $181,000 |
| Excluding group settlements | $131,000 | $183,000 |
| Excluding settlements prior to 2014 | $137,000 | $175,000 |
| Controlling for lawyer fixed effects | $139,000 | $181,000 |

(185) The last specification reported in Figure 58 involves conducting the spline regression while controlling for the plaintiff law firms as described in Footnote 106. Figure 59 and Figure 60 depict the results of this specification for Aldrich and Murray, respectively. Instead of plotting the logarithm of settlements amounts on the x-axis and the age at diagnosis on the y-axis, the figures below show the residualized versions of these numbers after accounting for the plaintiff lawyer. For example, a residualized age of 2 represents claimants who are 2 years older than the average age among the group of claimants represented by their respective lawyers. Compared to the baseline spline

[208] I exclude SBND claims from these regressions.

[209] I use the root mean square error ("RMSE") as the measure of the goodness of fit, which is equivalent to using the $R^2$ in this context. The kink value that maximizes the model's goodness of fit corresponds to the lowest RMSE or the highest $R^2$. *See* Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 8th ed. (Boston, MA: Cengage Learning, 2025): 657–658.

regressions (shown in Figure 13 and Figure 19), adding controls for plaintiff lawyers does not materially affect the shape of the spline regression lines. Additionally, the residualized kink values are close to the kink values resulting from the baseline specification as seen in Figure 58.

**Figure 59: Graphical depiction of spline regression results for Aldrich controlling for plaintiff lawyer fixed effects**

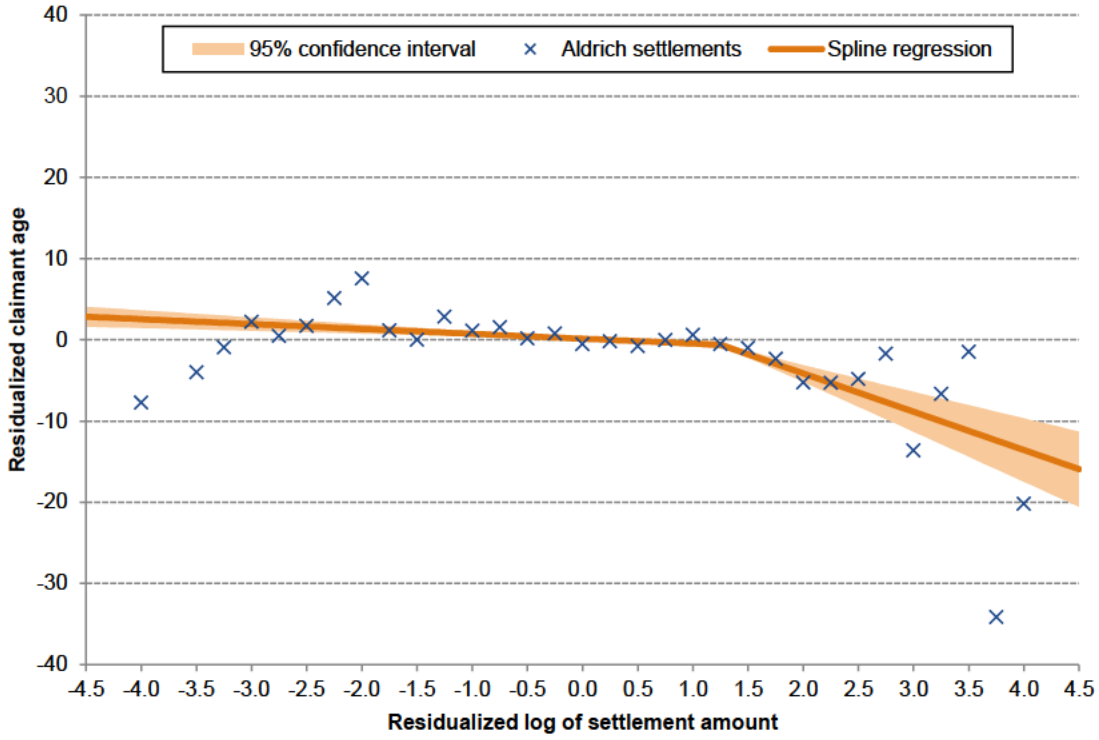
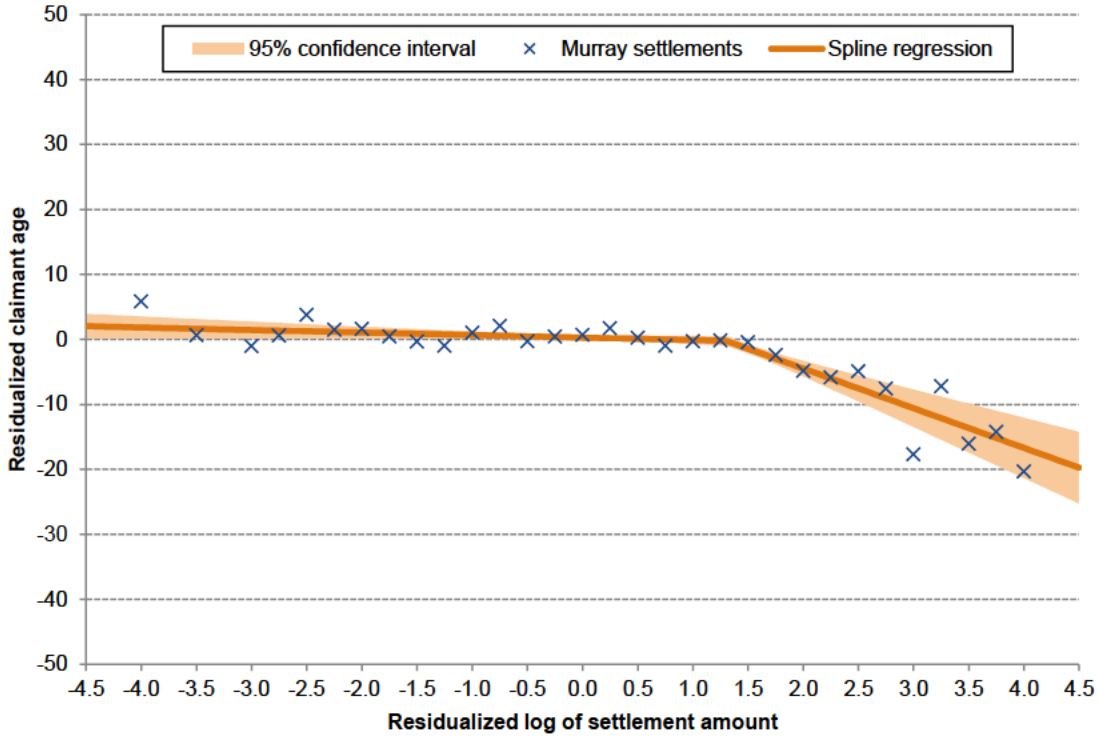


**Figure 60: Graphical depiction of spline regression results for Murray controlling for plaintiff lawyer fixed effects**

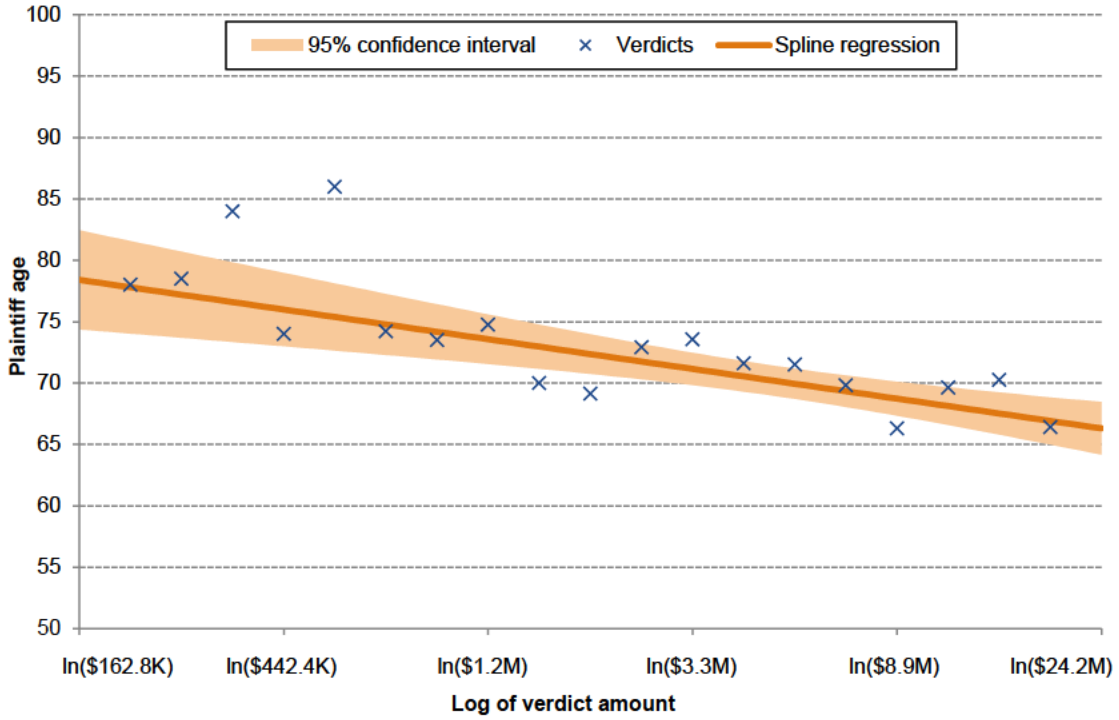



## F.1.c. Mesothelioma plaintiff verdicts validate the spline regression results for Aldrich and Murray

(186) Mesothelioma plaintiff verdicts provide an available validation check for using spline regressions to categorize claims in the Debtors' historical settlement history. In the case of plaintiff verdicts, the outcome of the verdict would have established liability. Furthermore, all defense fees associated with the trial would have been expended by the time the verdict outcome is declared. Therefore, spline regressions should not identify a relatively flat line segment for lower value verdicts.

(187) I use data on 214 plaintiff verdicts from the Asbestos Verdicts Data in mesothelioma cases with known claimant ages from 2011 to 2024 to perform this validation. Figure 61 shows the results of the spline regression run on these verdicts data. As hypothesized, the regressions do not identify a flat line segment for lower value verdicts. Instead, the model correctly categorizes all plaintiff verdicts as being driven by liability.

**Figure 61: Graphical depiction of spline regression results using verdicts**




## F.2. Quantile regression

### F.2.a. Law and Economics model underlying the quantile regression

(188) As explained in Section II.A, the Law and Economics model provides the relationship between settlement amount and harm that underpins my approach to estimating liability using regression analysis. The model considers a context in which the negotiating parties have the same understanding of the expected harm associated with exposure to the defendant's product. Section II.A shows that the defendant is willing to settle if and only if:

$$S \leq qlH + C_d$$

where $S$ is the settlement amount, $q$ is the probability of a plaintiff verdict, $l$ represents the defendant's liability share, and $C_d$ is the defendant's avoidable litigation cost if the case were to go to trial. The variable $H$ represents harm as quantified by compensatory damages. The plaintiff is willing to settle if and only if:

$$S \geq qlH - C_p$$

where $C_p$ is the plaintiff's avoidable litigation cost if the case were to go to trial. Therefore, any feasible settlement amount should fall into the range between $(qlH - C_p)$ and $(qlH + C_d)$. Game theory models show that the settlement will be determined by the following formula:

$$S = qlH + \alpha C_d - (1 - \alpha)C_p$$

where $\alpha$ is the plaintiff's relative bargaining power. The first term $qlH$ reflects the defendant's expected liability and the second term $\alpha C_d - (1 - \alpha)C_p$ reflects the avoidable transaction costs.

(189) The settlement equation above neatly maps to the regression equation below:

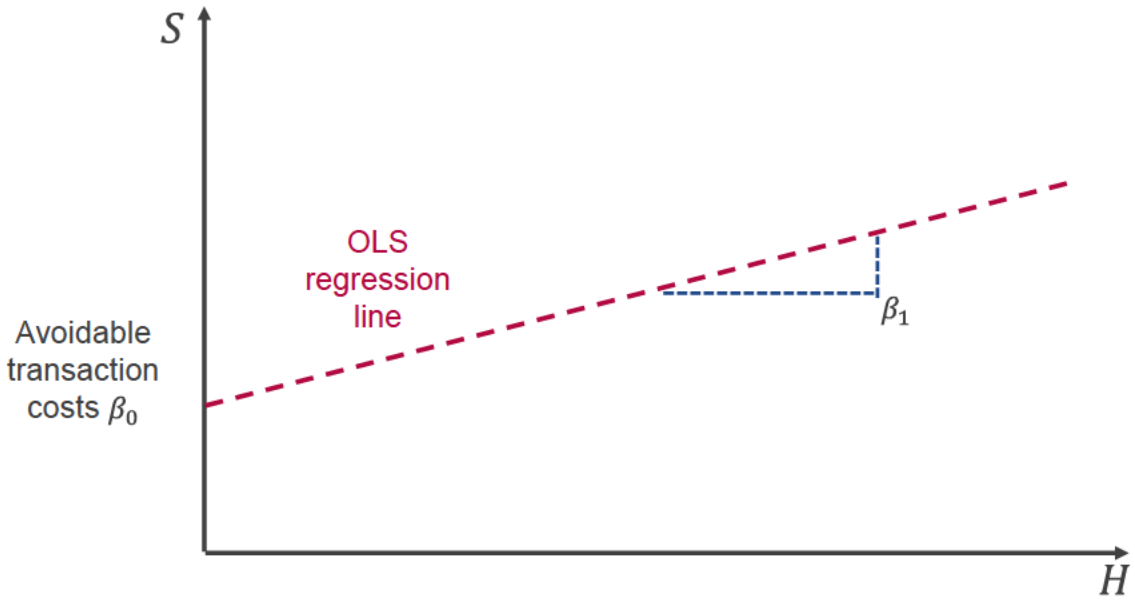
$$S = \beta_1 H + \beta_0 + \epsilon$$

where $\beta_1 = ql$ (the product of the likelihood of a plaintiff verdict and the defendant's share of the harm), $\beta_0 = \alpha C_d - (1 - \alpha)C_p$ (avoidable transaction costs), and $\epsilon$ is the error term.

### F.2.b. Estimation of quantile regression

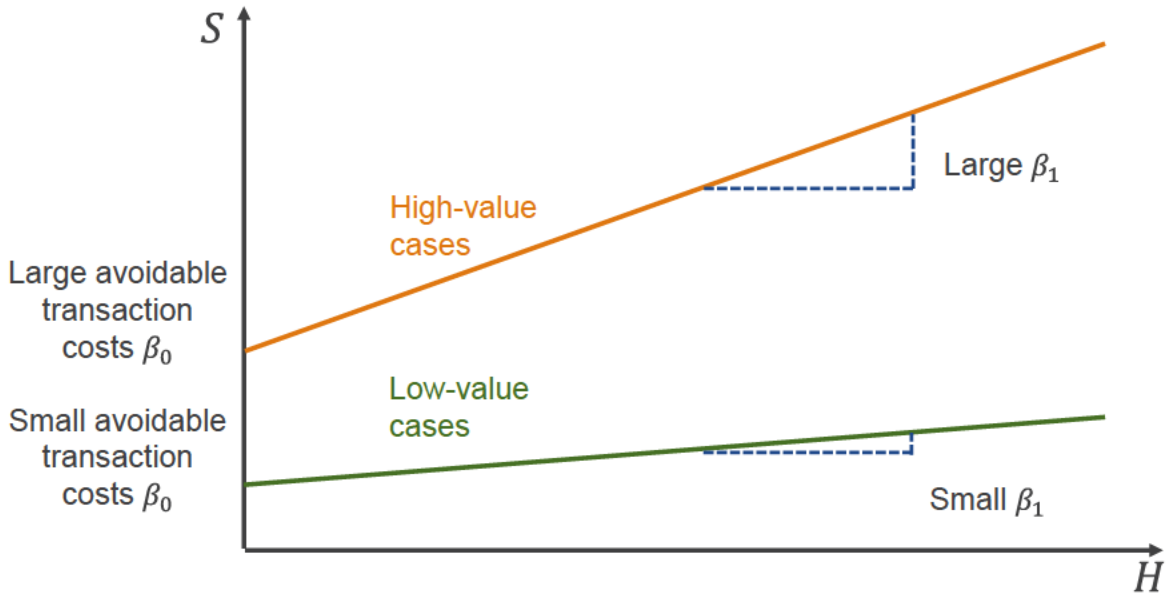
(190) The parameters $\beta_0$ and $\beta_1$ associated with the regression equation above can be estimated by OLS regression. The slope coefficient of an OLS regression of settlement amount on compensatory damages captures, on average, the change in settlement amount for every unit of change in compensatory damages (see the red dashed line in Figure 62). The intercept of this line represents the average avoidable litigation cost across all settlements.

**Figure 62: OLS regression of settlement amount (S) on compensatory damages (H)**




(191) However, using OLS presents a key limitation in this context. There can be heterogeneity in the avoidable litigation costs for claims with varying settlement values. For example, mesothelioma claims settled for low values (e.g., below $10,000) might have a lower cost-avoidance component as measured in dollars when compared to the cost-avoidance component of higher value cases (e.g., above $250,000). At the same time, in percentage terms, the cost-avoidance component of low value settlements could be higher than the cost-avoidance component in high value settlements. Such a possibility is depicted graphically in Figure 63, where the green line represents a hypothetical relationship between settlement amount and harm for low value settlements and the orange line represents the relationship between settlement amount and harm for high value settlements. An OLS regression cannot reveal such patterns in the data because it only models a single, average relationship between settlement amount and harm.

**Figure 63: Avoidable transaction cost and expected liability vary by settlement amount**




(192) Another possibility is to run OLS regressions on sub-samples of the data based on settlement amounts. However, this approach presents two separate challenges. First, any set of ad hoc cutoffs to define the sub-samples would be arbitrary. Second, running OLS regressions on subsets of data based on values of the outcome variable may potentially result in sample selection bias.[210] Therefore, instead of relying on OLS, I use quantile regressions, which have the flexibility to allow the avoidable litigation cost and expected liability components to vary by settlement amount.

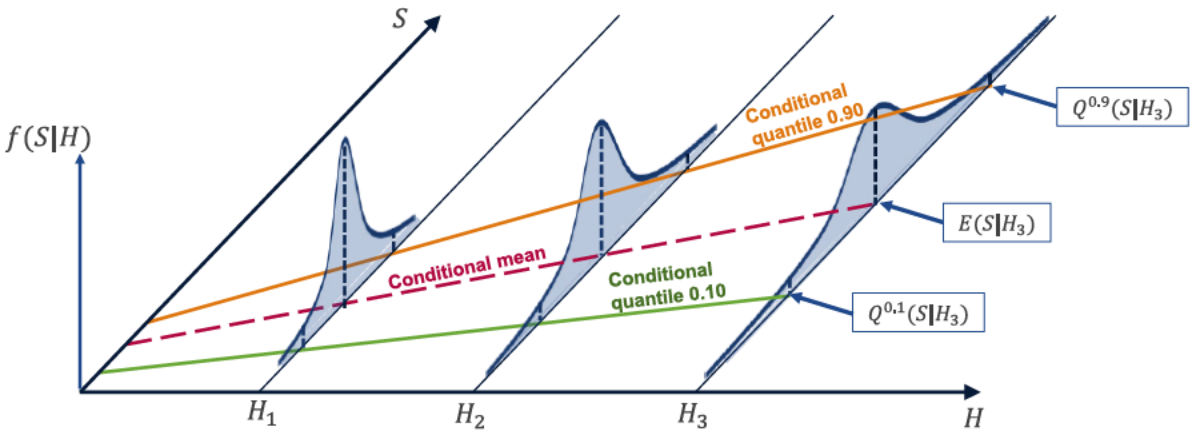
(193) Below, I present some additional details explaining the quantile regression methodology. For any given value of compensatory damages, one can expect a distribution of settlement values and associated percentiles, e.g., the 90$^{th}$ percentile of settlements for the compensatory damage value of $1 million. The quantile regression estimates the parameters $\beta_0$ (intercept) and $\beta_1$ (slope) of the line, $S = \beta_1 H + \beta_0$, that connects the percentiles of the settlement distributions conditional on the compensatory damages. I estimate a family of regressions with multiple percentiles (e.g., 1st, 5th, 10th, …, 95th), which allows me to estimate different avoidable litigation costs at different percentiles of the conditional settlement distribution.

(194) For example, Figure 64 shows the conditional percentile lines for the 10th and 90th percentiles, which captures the relationship shown in Figure 63. The 0.1 and 0.9 quantile regressions estimate the line of best fit through the 10th and 90th percentile of settlements associated with each value of

[210] If unobservable characteristics are correlated with the outcome variable, this will lead to biased OLS estimates. *See* Stacy Berg Dale and Alan B. Krueger, "Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables," *Quarterly Journal of Economics* 107, no. 4 (November 2002): 1491–1527.

compensatory damages in the data. While the OLS regression captures the conditional mean line, the two quantile regressions provide us the flexibility to estimate potentially different avoidable litigation costs for claims of different settlement values.

**Figure 64: Quantile regression for the 10th and 90th percentiles and OLS regression**




(195) I obtain the quantile regression coefficients $(\beta_0, \beta_1)$ for a given quantile $\theta$ $(0 < \theta < 1)$ by minimizing the aggregated differences between predicted regression line $(\beta_1 H_i + \beta_0)$ and actual claim settlement value $(S_i)$:[211]

$$\min_{\beta_0,\beta_1}\left[\sum_{i\epsilon\{i:S_i\geq\beta_1 H_i+\beta_0\}}\theta|S_i-\beta_1 H_i-\beta_0|+\sum_{i\epsilon\{i:S_i<\beta_1 H_i+\beta_0\}}(1-\theta)|S_i-\beta_1 H_i-\beta_0|\right]$$

Here, quantile regression changes the weighting depending on whether the data point is above or below the regression line. For example, when modeling the 0.9 quantile, the function gives 90% weight to the prediction difference for points above or on the line $(S_i \geq \beta_1 H_i + \beta_0)$ and 10% weight for points below the line $(S_i < \beta_1 H_i + \beta_0)$. This asymmetry ensures that the regression line accurately reflects the chosen quantile $\theta$ of the data.

(196) To obtain the estimates of the quantile regression parameters $\beta_0$ and $\beta_1$, I use *rq* command from *quantreg* package in R.[212] This command offers several estimation methods and, as a robustness check, I verified that these methods returned similar estimation results. For my analysis, I chose the default algorithmic method *br* for the *rq* command, which is a modified version of the Barrodale and

[211] Roger Koenker, Gilbert Bassett, Jr., "Regression Quantiles," *Econometrica* 46, no. 1 (January 1978): 38.

[212] Roger Koenker, "Package `quantreg'," accessed August 26, 2025, https://cran.r-project.org/package=quantreg.

Roberts algorithm.[213] This method is efficient for estimating quantile regressions with a sample size of up to several thousand observations.[214]

(197) For claims that settled, there are no recorded (adjudicated) compensatory damages because it is only through a trial and verdict that adjudicated damages are quantified (and, of course, the same case tried before ten different juries will result in ten different outcomes in regard to quantification of damages). To impute the compensatory damages for Debtors' historical settlements, I apply an OLS regression to estimate the relationship between total compensatory award, filing age, and filing state group, using data compiled in the *Garlock* estimation litigation.[215] I employ this methodology using the estimates from the original Garlock claims because: (i) the Garlock methodology was admitted by the *Garlock* court, (ii) the Garlock product and claimant pool is very similar to the Aldrich and Murray products and claimant pool, and (iii) gathering detailed demographic data for Aldrich and Murray historical claims would have required an extensive claim evidence review process of documents that are not centrally located and have not yet been collected. Then, using the Garlock-estimated relationship between total compensatory award, filing age, and filing state group, I estimate the total compensatory damages for the Debtors' historical claims using information about each claim's filing age and filing state.

### F.2.c. Confidence intervals

(198) Confidence intervals provide a range of likely values for the estimated regression parameters. When it is difficult or impossible to obtain the analytical formula to calculate the confidence intervals, economists rely on resampling methods. The most used resampling method is bootstrapping.[216] Economists routinely use bootstrapping for calculating confidence intervals for quantile regression estimates.[217]

(199) To calculate the confidence intervals for the estimated avoidable transaction costs, I first randomly draw a sample with replacement from the original Garlock claims and estimate the relationship among total compensatory award, filing age, and filing state group. I use the obtained coefficients to impute the total compensatory damages for the Debtors. In the next step, I randomly sample claims with replacement from the Debtors' historical settlements, run a set of quantile regressions, and use

[213] *See* Roger W. Koenker and Vasco D'Orey, "Algorithm AS 229: Computing Regression Quantiles," *Journal of the Royal Statistical Society. Series C (Applied Statistics)* 36, no. 3 (1987): 383–393.

[214] Roger Koenker, "Package `quantreg'," accessed August 26, 2025, https://cran.r-project.org/web/packages/quantreg/quantreg.pdf, 68.

[215] States were divided into three groups based on the largest compensatory jury award of the 2000s: those with a maximum award of more than $15 million, those with a maximum award of between $7 million and $15 million, and those with a maximum award of below $7 million. *See* Expert Report of Charles E. Bates, PhD, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. Feb. 15, 2013), at Exh. GST-0996, 68.

[216] Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 8th ed. (Boston, MA: Cengage Learning, 2025): 228.

[217] *See* Roger Koenker, "Confidence Intervals for Regression Quantiles," *Asymptotic Statistics*, (1994): 349–359.

the quantile regression results to obtain the relationship between settlement values and avoidable transaction costs. I repeat the above procedure 1,000 times and calculate the 95% confidence interval using the avoidable transaction costs corresponding to the 2.5th and the 97.5th percentiles for each settlement value.[218]

### F.2.d. Validation of quantile regression to quantify cost avoidance using Garlock's data

(200) I validate the approach of using quantile regressions to quantify cost avoidance for the Debtors by replicating Dr. Bates's findings from the *Garlock* case using quantile regressions. Applying the quantile regression methodology to the historical settlements in the *Garlock* case, I estimate that approximately 65% of Garlock's pre-2000 payments and 66% of its 2000−2010 payments can be attributed to cost avoidance.

(201) In his rebuttal report for the *Garlock* case, Dr. Bates estimated Garlock's liability share to be 17.6% for pre-2000 payments and 11.1% for 2000–2010 payments.[219] In other words, 82.4% and 88.9% of the payments during these periods, respectively, were driven by a combination of cost avoidance and evidence suppression. Further, Dr. Bates testified that approximately 75% of the amounts not attributable to liability were associated with cost avoidance.[220] By applying this proportion to his estimates, the calculation suggests that 61.8% (= 82.4% × 75%) of Garlock's pre-2000 payments and 66.7% (= 88.9% × 75%) of its 2000−2010 payments were attributable to cost avoidance.[221] These results align closely with my findings for Garlock using quantile regression.

[218] 1,000 bootstrap replications can produce reliable confidence intervals. *See* Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 8th ed. (Boston, MA: Cengage Learning, 2025): 228.

[219] *See* Rebuttal Report of Dr. Charles E. Bates, *In re Garlock Sealing Technologies LLC, et al.*, No. 10-BK-31607 (Bankr. W.D.N.C. April 23, 2013), at Exh. GST-0997, 105.

[220] *See* Testimony of Dr. Charles E. Bates, *In re Garlock Sealing Technologies LLC*, et al., No. 10-BK-31607 (Bankr. W.D.N.C. August 2, 2013), at Exh. GST-8005, 78; Transcript of Estimation Trial, *In re Garlock Sealing Technologies LLC, et al.*, 3451, No 10-BK-31607 (Bankr. W.D.N.C. Aug. 2, 2013), at 2825–2832.

[221] If I focus on Garlock's settlements instead (excluding plaintiff verdicts), a similar calculation indicates that approximately two-thirds of these settlements were driven by cost avoidance.

# EXHIBIT B

**UNITED STATES BANKRUPTCY COURT**
**WESTERN DISTRICT OF NORTH CARONLINA**
**CHARLOTTE DIVISION**

| | |
|---|---|
| In re | Chapter 11 |
| ALDRICH PUMP LLC, *et al.*,[1] | Case No. 20-30608 (LMJ) |
| Debtors. | (Jointly Administered) |

# REBUTTAL EXPERT REPORT OF CHARLES H. MULLIN, PHD

**March 27, 2026**

[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.

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# I. Introduction

## I.A. Scope of charge

(1) I submit this Rebuttal Report at the request of the Debtors' counsel. Debtors' counsel asked me to review, assess, and, where necessary, respond to the opinions included in the following expert reports:

- Expert Report of The Brattle Group on Behalf of Future Claimants' Representative, September 15, 2025 ("Brattle Report"); and
- Conformed Initial Expert Report of Andrew J. Sackett, J.D., Ph.D., September 15, 2025 ("Sackett Report").

(2) My September 15, 2025, expert report ("Mullin Report") provides a summary of qualifications and my curriculum vitae, which presents a complete list of my expert testimony over the last four years.[2] I refer to the Brattle Report, Sackett Report, and Mullin Report collectively as the "Initial Reports."

## I.B. Summary of opinions

### I.B.1. The Brattle Report

(3) The Brattle Report reaches qualitatively similar conclusions to the Mullin Report. The Mullin Report estimates that, had the Debtors stayed in the tort system and maintained their "settlement approach," they would have paid asbestos-related claims between $425 million and $750 million on a net present value ("NPV") basis as of the Petition Date. The Brattle Report estimates the Debtors' future expenditure to be approximately $520 million, which resides in the Mullin Report range.[3]

(4) The Brattle Report also discusses sensitivities that conceptually align with the low and high end of the Mullin Report ranges. The low end of the Mullin Report range ($425 million) forecasts mesothelioma claims based on an occupational actuarial curve and discounts at the trust rate of return. The Brattle Report analyses estimate $470 million under those same two assumptions.[4] The high end of the

[2] Corrected Expert Report of Charles H. Mullin, PhD, September 15, 2025 at ¶¶ 6–10, Appendix A.

[3] This report will focus on the Brattle Report's Nicholson curve. The Brattle Report also presents a hazard model. The hazard model results in a point estimate of approximately $530 million, about $10 million higher than the Nicholson result. Brattle Report, at ¶ 12.

[4] The Mullin Report $425 million scenario was forecasted using the annual-expenditure-based approach. Mullin Report at Figure 32. Brattle Report, at ¶ 97 n. 93.

Mullin Report range ($750 million) forecasts mesothelioma claims based on an actuarial curve that includes non-occupational mesothelioma diagnoses and discounts at the risk-free rate of return. The Brattle Report analyses estimate $720 million under these two assumptions.[5]

(5) Thus, through varying the actuarial curve and the discount rate, both the Mullin Report and the Brattle Report produce ranges centered around $600 million: (i) $425 million to $750 million NPV for the Mullin Report and (ii) $470 million to $720 million NPV for the Brattle Report. The Brattle Report and Mullin Report produce similar results despite employing different methodologies to estimate many of the underlying parameters, underscoring the robustness of the conclusions. I review the Brattle Report estimation conclusions in Section II.

### I.B.2. The Sackett Report

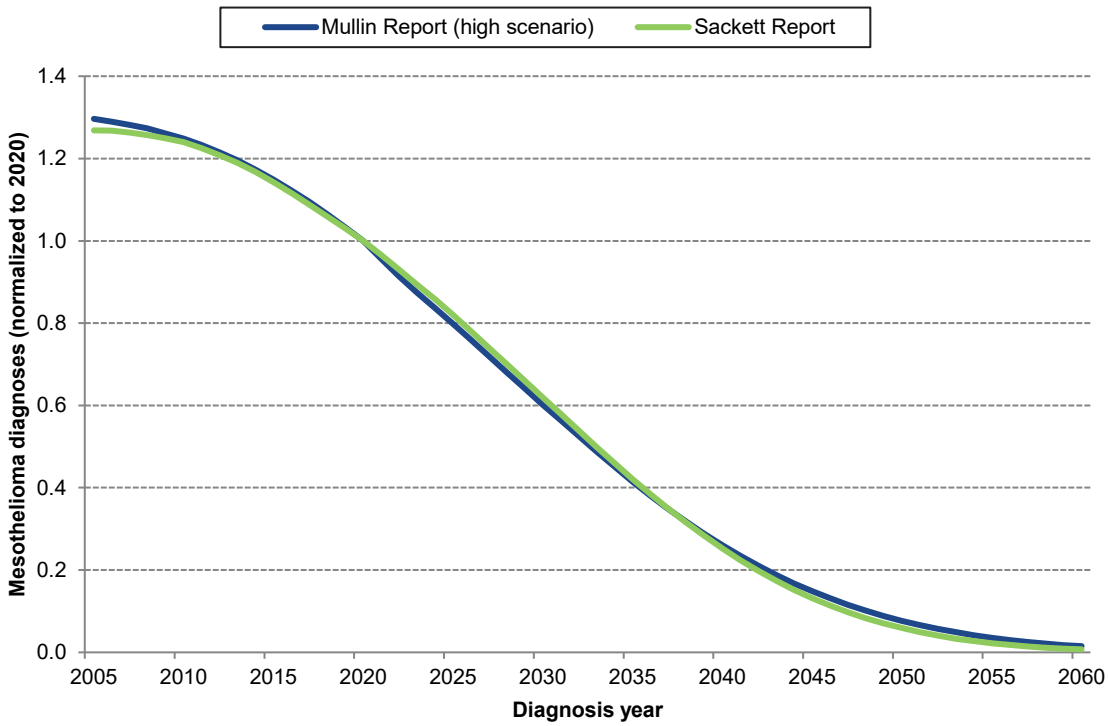
(6) The Sackett Report produces a tort system estimate of $3.2 billion on an NPV basis as of the Petition Date, more than five times the middle of the range ($600 million) from the Brattle Report and the Mullin Report.[6]

(7) Despite the dramatic difference in estimated tort-system payments, as discussed in more detail in Section III, the Sackett Report and Mullin Report roughly align on numerous traditional tort system extrapolation inputs: (i) the future claims pay rate, (ii) the average settlement value, and (iii) the count of future mesothelioma claims. As to the count of future claims, Figure 1 illustrates the stark overlap in the Sackett Report incidence curve and the Mullin high-end incidence curve.

[5] Specifically, the Brattle Report reserved rights to incorporate non-occupational mesothelioma diagnoses into its forecast through a "Walker Model" curve. The Walker Model curve should approximate the high-end mesothelioma actuarial curve from the Mullin Report and the Sackett Report. Applying the actuarial curve from the Sackett Report to the Brattle Report increases the Brattle Report estimate of $520 million to approximately $720 million.

[6] The Sackett Report presents four scenarios based on the choice of incidence curves and pending claims. Regarding incidence curves, this report will focus on the Sackett Report's Nicholson curve which is used for its estimate of approximately $3.2 billion. The Sackett Report also contains a "sales-based" forecast curve that produces an increased estimate of approximately $3.4 billion, which I assess in Appendix B. Sackett Report, at ¶ 9, Table 1(e). Regarding pending claims, this report will focus on the pending claims from the database because, even though it is not the most current data, this is most consistent with a tort system extrapolation as of the Petition Date. I agree with the suggestion in the Sackett Report that a forecast incorporating evidence from the PIQ would result in a smaller estimate than using the pending claims from the database. *See* Sackett Report, at ¶¶ 66–73.

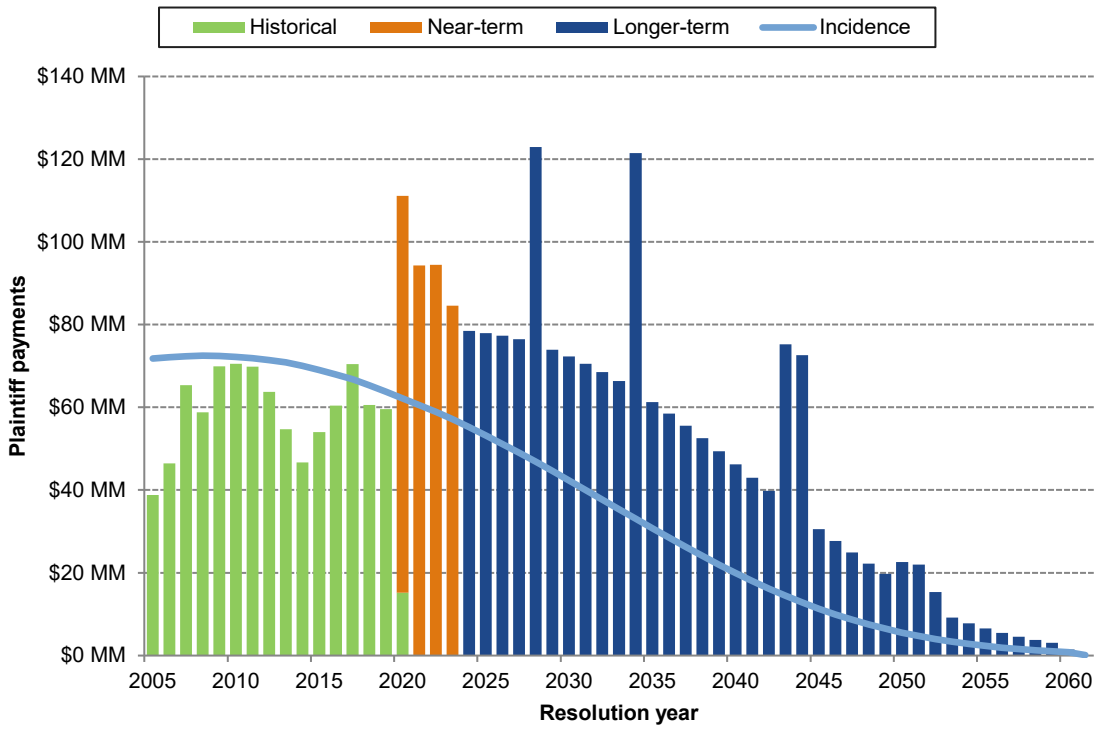
**Figure 1: Mesothelioma actuarial curve used in future claims forecast**




(8) Given these elements of agreement, one would expect the mesothelioma payment forecasts in the two reports to align, but this is not the case. The Sackett Report nominal mesothelioma forecast begins at a level about two times the Debtors' historical experience. Figure 2 shows the historical mesothelioma expenditure for Aldrich and Murray in the green bars and the Sackett Report future projections in the orange and blue bars. The Sackett Report forecast asserts spending would have been more than $100 million in 2020, despite recent historical expenditure of around $60 million annually between 2015 and 2019. Even after this initial spike, the future forecast remains above $60 million until 2035, 15 years after the Petition Date. Further, the Sackett Report forecast contains elevated nominal payments in four of the future years (2028, 2034, 2043, and 2044) due to the inclusion of six plaintiff verdicts valued at approximately $15 million per verdict.[7] Including six plaintiff verdicts over 25 years represents a stark departure from the single plaintiff verdict (and sole trial) the Debtors incurred over their four decades of litigation.

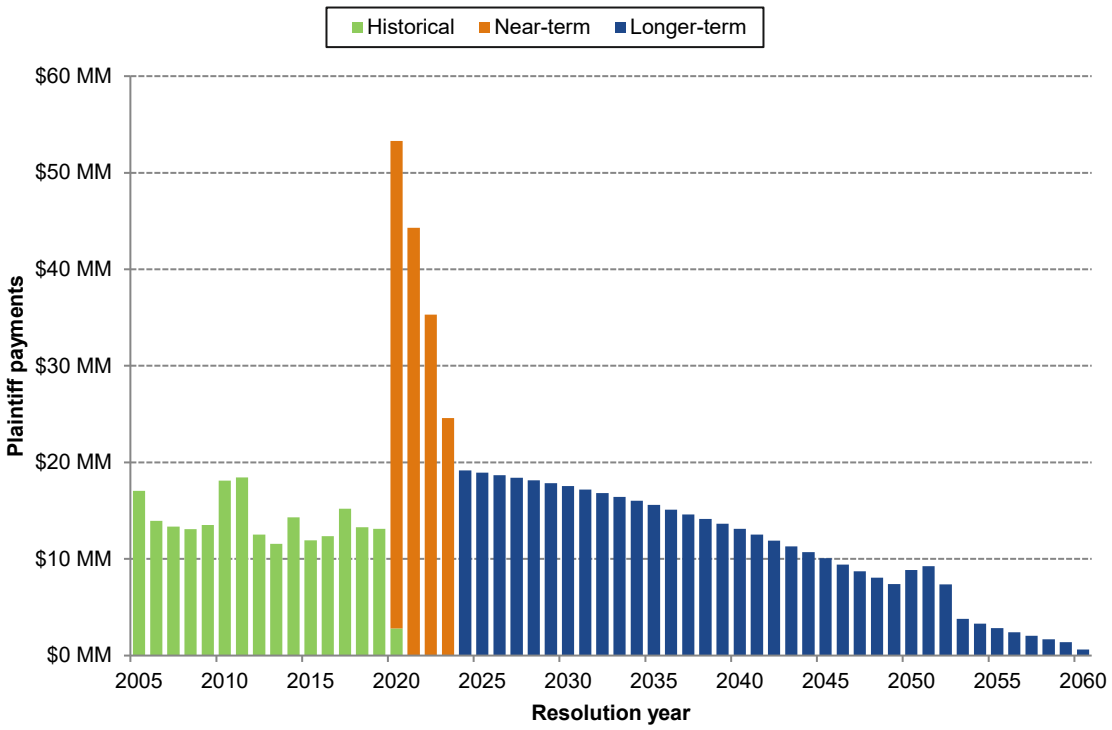
[7] Sackett Report, at ¶¶ 170–176.

**Figure 2: Sackett Report nominal mesothelioma forecast**




(9) The deviation from the Debtors' tort system history becomes even more pronounced in the Sackett Report forecast of non-mesothelioma claims. As seen in Figure 3, the Sackett Report forecast asserts expenditure would have been over $50 million in 2020, despite recent historical expenditure of around $13 million annually between 2015 and 2019. Consistent with the Sackett Report mesothelioma forecast, the non-mesothelioma forecast does not reach the historical level until 2040.

**Figure 3: Sackett Report nominal non-mesothelioma forecast**




(10) Three categories of errors (Additions, Financial Parameters, and Omissions) explain the Sackett Report's departure from the Debtors' tort system history. Figure 4 shows the Sackett Report errors by category, and a waterfall of how those errors impact the Sackett Report forecast. The depicted waterfall reconciles the Sackett Report forecast to a Mullin Report forecast scenario utilizing (i) a 3-year calibration period; (ii) no ASV inflation; (iii) a 6.11% discount rate; and (iv) the high-end mesothelioma actuarial curve. The waterfall utilizes this Mullin Report scenario because it reconciles the Sackett Report forecast to the most comparable forecasting parameters. Specifically, the Sackett Report relies on a 3-year calibration period, and the Mullin Report high-end mesothelioma actuarial curve aligns with the Sackett Report actuarial curve, as discussed in Section III.A. Correcting these errors effectively reconciles the Sackett Report and the Mullin Report forecasts, reducing the difference between the Sackett Report and the Mullin Report forecasts by 99.8%, from $2.5 billion to $5 million.

**Figure 4: Waterfall quantifying the impact of Sackett Report errors on the forecast[8]**

| Waterfall | Aldrich | Murray | Total |
|---|---|---|---|
| Sackett Report total | $1,880 MM | $1,300 MM | $3,180 MM |
| Erroneous Additions | | | |
| Defense costs | ($460 MM) | ($400 MM) | ($850 MM) |
| Abandoned pending claims | ($220 MM) | ($160 MM) | ($380 MM) |
| Verdicts | ($70 MM) | ($70 MM) | ($140 MM) |
| Non-mesothelioma gross-up errors | ($80 MM) | ($60 MM) | ($140 MM) |
| Financial Parameters | ($570 MM) | ($330 MM) | ($900 MM) |
| Omissions | | | |
| Resolution rate | ($20 MM) | ($10 MM) | ($30 MM) |
| Data truncation | ($30 MM) | ($50 MM) | ($80 MM) |
| Corrected Sackett Report total | **$430 MM** | **$220 MM** | **$650 MM** |
| Mullin Report | | | **$645 MM** |

(11) Two additional input changes reconcile the Sackett Report forecast to a low-end Mullin Report scenario: (i) implement the historical ASV inflation trend and (ii) extrapolate using the pure occupational (0% Non-ACP) mesothelioma actuarial curve.[9] Implementing these changes to Figure 4 results in updated Corrected Sackett Report and Mullin Report estimates of $560 million and $540 million, a difference of only $20 million.

[8] Totals in this Figure and other figures in this report may not foot due to rounding. For example, in the second row of this Figure, the rounded $460 million and $400 million do not add to $850 million. However, the sum of the unrounded numbers ($455 million + $396 million) is $852 million ($850 million after rounding).

[9] *See* Mullin Report, at ¶ 126.

# II. Responses to the Brattle Report

(12) The Brattle Report reaches qualitatively similar conclusions to the Mullin Report. The Mullin Report estimates that, had the Debtors stayed in the tort system and maintained their "settlement approach," the Debtors would have paid asbestos-related claims between $425 million and $750 million on an NPV basis as of the Petition Date.[10] The Brattle Report estimates the Debtors' future expenditure to be approximately $520 million, which resides in the lower half of the Mullin Report range.[11]

(13) The Brattle Report's $520 million estimate uses a risk-free discount rate. It also provides a low-end estimate of $470 million using an estimated trust rate of return of 6.11%.[12] The Mullin Report similarly estimates a range of discount rates using a risk-free rate and a trust rate of return. Applying the Brattle Report's trust discount rate of 6.11% to the Mullin Report analyses increases the low end of the Mullin Report range from $425 million to $440 million.

(14) The mesothelioma actuarial curves constitute the most material difference between the Brattle Report and the Mullin Report. The Mullin Report presents results for three mesothelioma actuarial curves, ranging from a low-end curve based on only asbestos-related mesothelioma incidence to a high-end curve including 20% of the non-asbestos-related mesothelioma incidence curve.[13] The Brattle Report presents results solely for asbestos-related mesothelioma incidence.[14] However, it reserved the right to add a Walker Model as "an additional forecast that would reflect sources of claims from outside the Nicholson population."[15] Below, I use the Mullin Report high-end mesothelioma curve and the Sackett Report mesothelioma curve as proxies for the results the Brattle Report may have reasonably attained if it had implemented the Walker Model as its high end estimate.

(15) Figure 5 shows the impact of varying the discount rates and incidence curves on the Brattle Report forecast to produce a range of results for that report. The resulting range of $470 million to $720 million falls within the Mullin Report range.

[10] Mullin Report, at ¶ 23.

[11] This report will focus on Brattle's Nicholson curve. Brattle also uses a hazard model to create a second curve which is similar to their Nicholson curve. This model results in a point estimate of approximately $530 million, about $10 million higher than the Nicholson result. Brattle Report, at ¶ 12.

[12] Brattle Report, at ¶ 97 n. 92–93; Brattle Reliance Materials, File name: "Tables 1, 7-9 and Figure 9.xlsx", Discount and Inflation Factors.

[13] Mullin Report, at ¶¶ 126–148.

[14] Brattle Report, at ¶ 43.

[15] Brattle Report, at ¶ 59.

**Figure 5: Brattle Report forecast under different discounting and incidence scenarios**

| Incidence curve | Discount rate | NPV payments | | |
|---|---|---|---|---|
| | | Aldrich | Murray | Total |
| Brattle | Trust rate | $305 MM | $165 MM | $470 MM |
| Brattle | Risk-free rate | $335 MM | $185 MM | $520 MM |
| Mullin (high scenario) | Trust rate | $410 MM | $225 MM | $635 MM |
| Sackett | Trust rate | $410 MM | $225 MM | $640 MM |
| Mullin (high scenario) | Risk-free rate | $460 MM | $255 MM | $710 MM |
| Sackett | Risk-free rate | $465 MM | $255 MM | $720 MM |

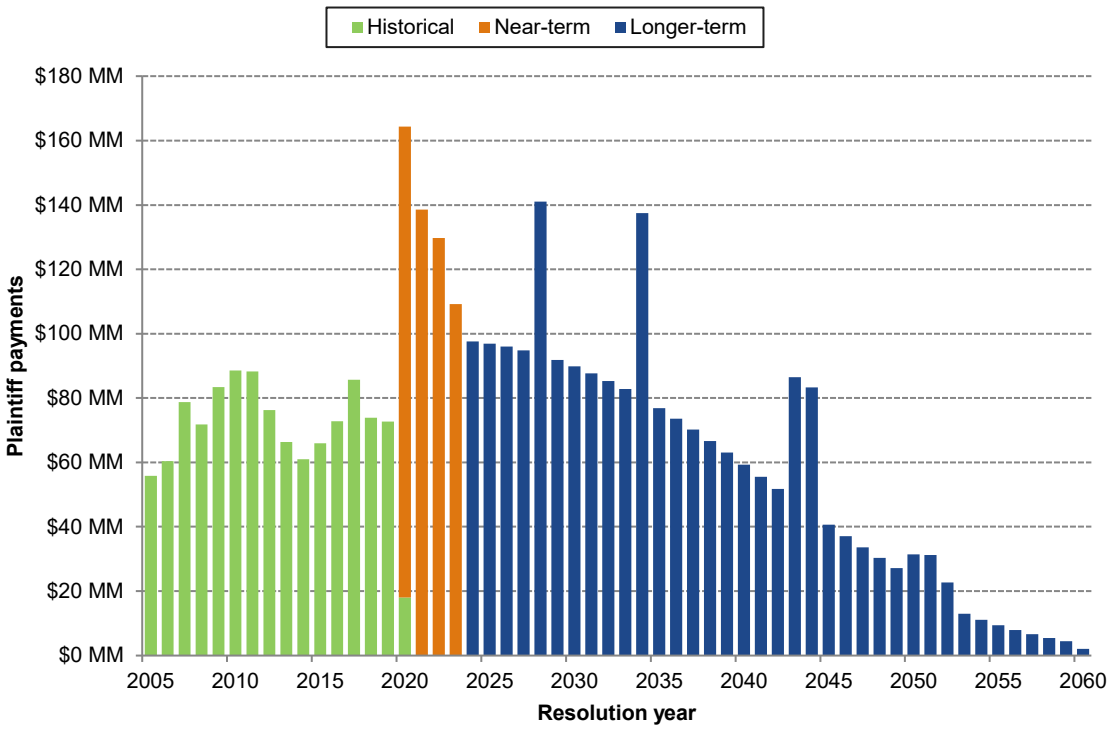
# III. Responses to the Sackett Report

(16) All three of the Initial Reports closely align on numerous traditional estimation inputs based on the Debtors' historical tort system experience. Section III.A describes the alignment between the estimation inputs for the Sackett Report and the Mullin Report. However, the Sackett Report deviates from a traditional extrapolation of the Debtors' historical tort system experience in multiple ways, which explain its erroneous forecast total of $3.2 billion. Correcting these errors effectively reconciles the Sackett Report and Mullin Report forecasts, reducing the difference between the Sackett Report and the Mullin Report forecasts by 99.8%.

(17) The Sackett Report overstates both the nominal and NPV estimated tort system claim payments.[16] A simple bar chart of historical and forecasted future nominal expenditures illustrates this fact. Figure 6 displays the Sackett Report's historical and future nominal claim payments broken into three periods: (i) historical claim payments; (ii) near-term claim payments (largely pending claims); and (iii) longer-term claim payments (largely future claims).

[16] As discussed in the Mullin Report, two economic consulting firms have estimated the Debtors' future tort-based claim payments for Securities and Exchange Commission ("SEC") disclosure purposes. These estimates were presented in nominal terms (not discounted) and declined through time. These nominal estimates are only a fraction of the Sackett Report's estimate. None of these forecasts have presented a nominal total of over $1 billion since 2010. Mullin Report, at ¶ 121.

**Figure 6: Sackett Report nominal plaintiff payments forecast**




(18) This Figure highlights three erroneous features of the Sackett Report's analysis. First, the Sackett Report forecasts an unrealistic and immediate spike in near-term claim payments. This spike results from the Sackett Report valuing many pending claims that would never be paid in the tort system. Second, the longer-term claim payments start at a level above the historical claim payments. The Sackett Report reaches this erroneous conclusion despite acknowledging that the count of claims has been and will continue to decline.[17] Third, the Sackett Report forecast contains elevated nominal payments in four of the future years (2028, 2034, 2043, and 2044) due to the inclusion of six plaintiff verdicts valued at approximately $15 million per verdict.[18] Including six plaintiff verdicts over 25 years represents a stark departure from the single plaintiff verdict (and sole trial) the Debtors incurred over their four decades of litigation.

(19) To produce an estimate more than five times the middle of the range from the Brattle Report and the Mullin Report ($600 million), the Sackett Report makes three categories of errors: (i) it incorporates erroneous Additions; (ii) it relies on unrealistic Financial Parameters; and (iii) it makes certain data

[17] The Sackett Report Nicholson mesothelioma incidence curve reflects this decline. Sackett Report at Figure 2(a), Figure 2(b).

[18] The six plaintiff verdicts in the Sackett Report forecast are assigned approximately $15 million each in 2020 dollars. These verdict amounts are also inflated and discounted in the Sackett Report forecast. Sackett Report, at ¶¶ 170–176; Sackett Reliance Materials, File name: "Liability_Estimation-Cash_Flow_Model_Aldrich.xlsx", Nicholson Data; Sackett Reliance Materials, File name: "Liability_Estimation-Cash_Flow_Model_Murray.xlsx", Nicholson Data.

and forecasting Omissions. Figure 7 shows the Sackett Report errors by category, and a waterfall of how those errors impact the Sackett Report forecast. The depicted waterfall reconciles the Sackett Report forecast to a Mullin Report forecast scenario utilizing (i) a 3-year calibration period; (ii) no ASV inflation; (iii) a 6.11% discount rate; and (iv) the high-end mesothelioma actuarial curve. The waterfall utilizes this Mullin Report scenario because it reconciles the Sackett Report forecast to the most comparable forecasting parameters. Specifically, the Sackett Report relies on a 3-year calibration period, and the Mullin Report high-end mesothelioma actuarial curve aligns with the Sackett Report actuarial curve, as discussed in Section III.A. These limited corrections effectively reconcile the Sackett Report and Mullin Report forecasts, reducing the difference between the Sackett Report and the Mullin Report forecasts by 99.8%, from $2.5 billion to $5 million.

**Figure 7: Waterfall quantifying the impact of Sackett Report errors on the forecast**

| Waterfall | Aldrich | Murray | Total |
|---|---|---|---|
| Sackett Report total | $1,880 MM | $1,300 MM | $3,180 MM |
| Erroneous Additions | | | |
| Defense costs | ($460 MM) | ($400 MM) | ($850 MM) |
| Abandoned pending claims | ($220 MM) | ($160 MM) | ($380 MM) |
| Verdicts | ($70 MM) | ($70 MM) | ($140 MM) |
| Non-mesothelioma gross-up errors | ($80 MM) | ($60 MM) | ($140 MM) |
| Financial Parameters | ($570 MM) | ($330 MM) | ($900 MM) |
| Omissions | | | |
| Resolution rate | ($20 MM) | ($10 MM) | ($30 MM) |
| Data truncation | ($30 MM) | ($50 MM) | ($80 MM) |
| Corrected Sackett Report total | **$430 MM** | **$220 MM** | **$650 MM** |
| Mullin Report | | | **$645 MM** |

(20) The first category encompasses four erroneous Additions to the Sackett Report forecast—defense costs, abandoned pending claims, verdicts, and errors in the calculation of the non-mesothelioma gross-up. Eliminating these four erroneous Additions reduces the Sackett Report forecast from $3.2 billion to $1.7 billion. Section III.B discusses each of these erroneous Additions in more detail.

(21) The second category, Financial Parameters, pertains to inflation and discount rates. The Sackett Report inverts the time value of money by projecting negative real discount rates (inflation rates greater than the discount rate). This economically non-sensical combination of inflation and discount rates erroneously more than doubles the NPV of the Sackett Report forecast, which results in these items having the greatest numerical importance across the corrections to the Sackett Report forecast results. Fixing this error further reduces the Sackett Report forecast by more than 50%, from $1.7 billion to approximately $760 million. Section III.C examines the Financial Parameters in more detail.

(22) The third category encompasses two Omissions with a material impact on the Sackett Report forecast. First, converting forecasted claim filings into forecasted paid claims requires two distinct steps: a resolution rate (the share of filed claims that resolve) and a pay rate (the share of resolved claims that receive payment). The Sackett Report omits the resolution rate, thereby overstating the number of future paid claims. Second, the Sackett Report truncates the data used to calculate pay rates by excluding claims filed prior to 2013. Correcting these two errors further reduces the Sackett Report forecast to $650 million. Section III.D reviews these two Omissions.

## III.A. Comparison of tort extrapolation forecasting parameters

(23) The Sackett Report and the Mullin Report closely align on numerous estimation inputs based on the Debtors' historical tort system experience. Both reports employ the same general framework to extrapolate an asbestos defendant's tort system litigation experience for mesothelioma claims: they estimate future tort system expenditures as the product of five components in the traditional tort extrapolation equation below.

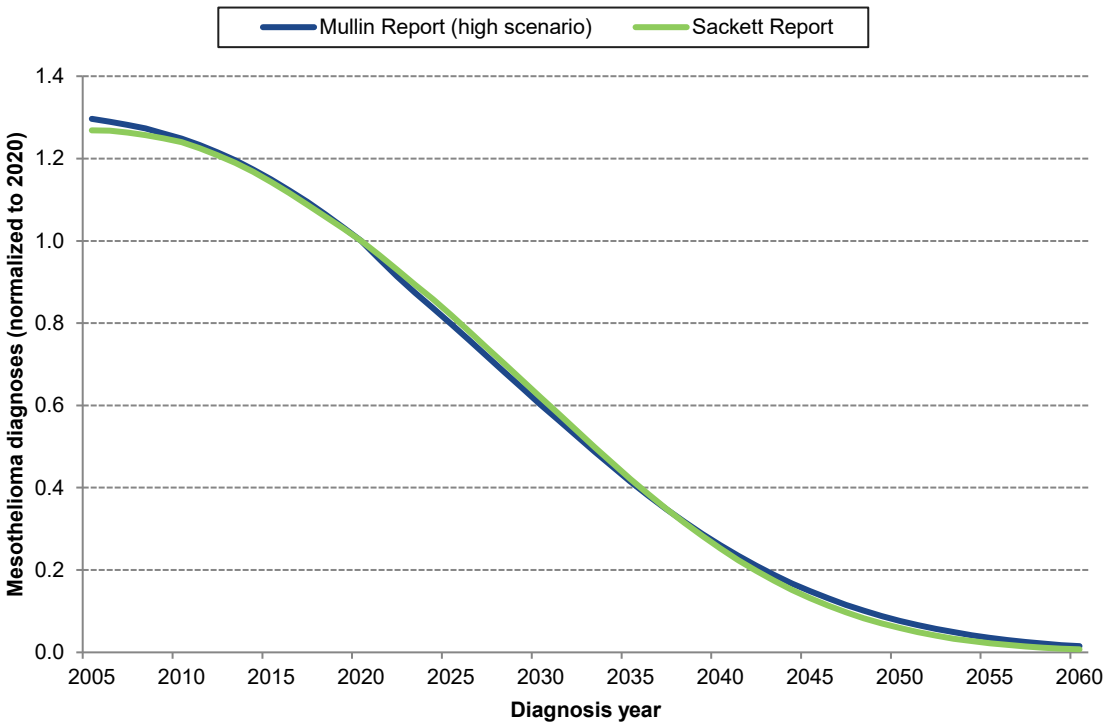
$$Payments = incidence \times PTS \times (resolution\ rate) \times (pay\ rate) \times ASV$$

(24) First, I compare the count of future mesothelioma claims, which combines the incidence and propensity to sue ("PTS") parameters. The Sackett Report and the Mullin Report combine Nicholson-style mesothelioma incidence models with a historically calibrated PTS to estimate the number of future mesothelioma claims against each Debtor. Further, both reports agree that total mesothelioma incidence disaggregates into asbestos-related ("ACP") mesothelioma incidence and non-asbestos-related ("non-ACP") mesothelioma incidence.[19] The Mullin Report presents three cohort-adjusted incidence curves with differing levels of non-ACP incidence. The high-end scenarios use an incidence curve with 20% of the non-ACP mesothelioma incidence curve. As seen in Figure 8, the actuarial curve used in the Sackett Report aligns with the curve used for the Mullin Report high-end scenarios.[20] To focus on the shapes of the incidence curves, I normalize both projections to 2020 ("the Petition Date"). Although both actuarial curves are similarly shaped, the Sackett Report incidence model has methodological shortcomings, which are discussed in Appendix B.

[19] Mullin Report, at ¶ 126; *See* Sackett Report, at ¶¶ 102–105; Sackett Reliance Materials, File name: "Mesothelioma_Forecast.xlsm", Exposure_to_1989.

[20] This report focuses on the Sackett Report's Nicholson curve. The Sackett Report also contains a sales-based forecast curve which is similar to the Nicholson curve. My assessment of this sales method can be found in Appendix B.

**Figure 8: Mesothelioma actuarial curves used in future claims forecast**




(25) PTS reflects the number of claims filed against a defendant for a specific disease, relative to the number of observed or predicted diagnoses of that disease. The PTS calibrates the incidence curves with historical data from the Debtors, meaning the shape of each incidence curve, not the amplitude, determines the forecast of future claims.[21] The Sackett Report and the Mullin Report adopt the same methodology for calculating the PTS: each expert used a 2017–2019 calibration period to calculate the ratio between observed mesothelioma filings and predicted incidence.[22]

(26) Second, I compare the resolution rates and pay rates. Two items must occur for a future mesothelioma claim to be paid: (i) it must be resolved and (ii) the resolution must result in payment. While asbestos defendants typically resolve most of the claims filed against them, some of those claims remain unresolved indefinitely. Unresolved claims appear in asbestos defendants' databases for multiple reasons, including, but not limited to, the following fact patterns: (i) dismissed claims for which the

[21] All three Initial Reports apply a filing lag to model the time it takes for a claim to be filed after diagnosis. The three reports differ on the exact applied filing lag, but this is not a significant factor in any differing forecast results. Mullin Report at Figure 41 n. 168; Brattle Reliance Materials, File name: "Figures 5, 7, 8 - Forecast Claims.xlsx", Forecasted Meso Claims; Sackett Reliance Materials, File name: "Nicholson_Forecast_(Aldrich).xlsb", Lung_Cancer; Sackett Reliance Materials, File name: "Nicholson_Forecast_(Murray).xlsb", Mesothelioma.

[22] The Mullin Report models 3-, 5-, and 10-year calibration periods through 2019 for the PTS, pay rate, and ASV calculations. The results shown in this report reflect the 3-year calibration period to align with the Sackett Report. Mullin Report, at ¶ 126; Sackett Report, at ¶¶ 110.

status was never updated; (ii) administratively closed claims for which the status was never updated; and (iii) open claims abandoned by plaintiffs' counsel.

(27) The resolution rate equates to the portion of filed claims ever resolved. The pay rate equates to the proportion of resolved claims that receive payments. Figure 9 combines these two into one aggregate rate for comparison.[23] The difference between the Sackett Report's rate and the Mullin Report's rate is primarily due to the Sackett Report's omission of a resolution rate and data truncation. Section III.D further describes these two shortcomings and their impact on the Sackett Report forecast.

**Figure 9: Combined mesothelioma resolution rate and pay rate used in future claims forecast**

| Report | Aldrich | Murray |
|---|---|---|
| Sackett Report[24] | 49.3% | 21.4% |
| Mullin Report[25] | 44.5% | 19.8% |

(28) Finally, I compare the average settlement values ("ASVs"). The Sackett Report and the Mullin Report both calculate a constant-dollar mesothelioma ASV to convert paid claim counts to payment amounts. As seen in Figure 10, the experts use nearly identical constant-dollar ASVs.[26]

**Figure 10: Mesothelioma constant-dollar ASV used in future claims forecast**

| Report | Aldrich | Murray |
|---|---|---|
| Sackett Report | $56,000 | $92,000 |
| Mullin Report[27] | $56,000 | $93,000 |

(29) Putting these parameters together as seen in the equation above, I can generate a constant-dollar forecast for future claims. Figure 11 shows the constant-dollar forecast for the Sackett Report and the Mullin Report high scenario. The two forecasts based on the traditional tort extrapolation inputs are similar.

[23] All three Initial Reports apply a resolution lag to model the time it takes for a claim to be paid after it is filed. The three reports differ on the exact applied resolution lag distribution, but this is not a significant factor in any differing forecast results. Mullin Report, at ¶¶ 169–170; Brattle Report, at ¶¶ 87–90; Sackett Reliance Materials, File name: "Liability_Estimation-Cash_Flow_Model_Aldrich.xlsx", Nicholson-Data; Sackett Reliance Materials, File name: "Liability_Estimation-Cash_Flow_Model_Murray.xlsx", Nicholson-Data.

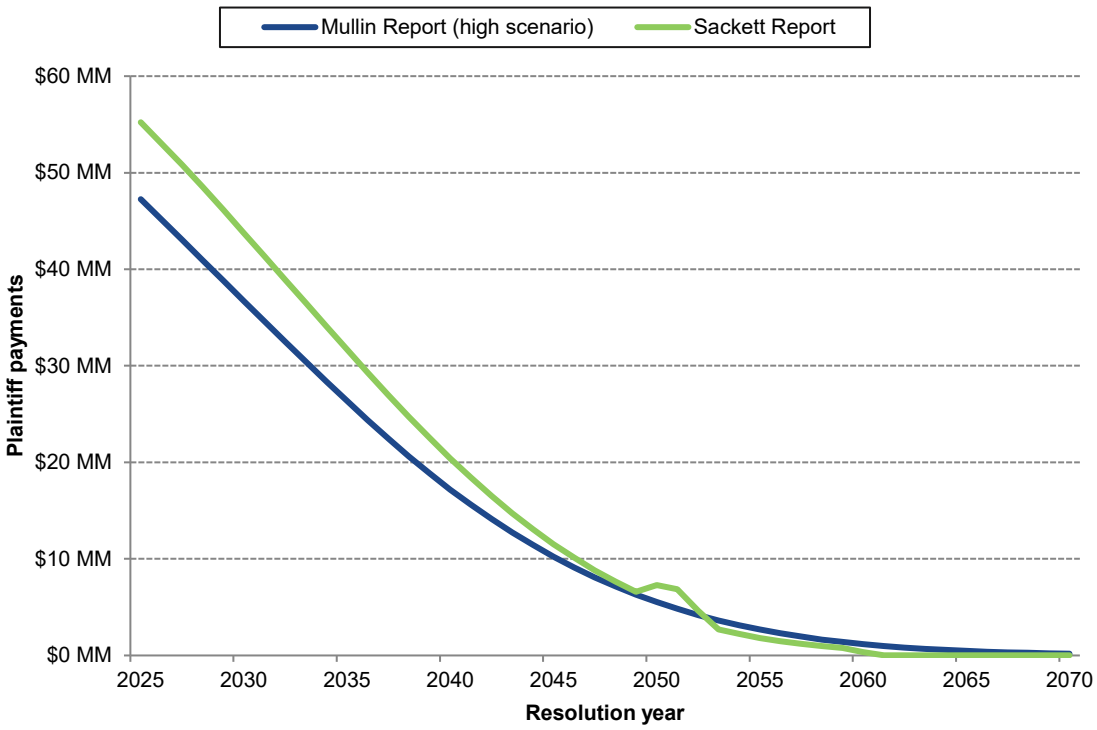
[24] The Sackett Report omits the resolution rate. See Section III.D.1.

[25] See Footnote 22.

[26] ASVs shown in this Figure are reported in 2020 dollars.

[27] See Footnote 22.

**Figure 11: Forecasted 2020 constant-dollar payments to mesothelioma claimants**




(30) Sections III.B and III.C will review how the Sackett Report's inclusion of the first two categories of errors identified above (erroneous Additions and Financial Parameters) increases its forecast dramatically from the traditional tort extrapolation forecast described above. Section III.D will review how the third category of error (Omissions) explains most of the remaining difference seen in Figure 11.

## III.B. Erroneous Additions

(31) The Sackett Report incorporates four erroneous Additions that increase the forecasted total: defense costs, abandoned pending claims, verdicts, and errors in the non-mesothelioma forecast. As summarized in Figure 12, without any of these Additions, the Sackett Report's forecast drops by nearly 50%, from $3.2 billion to $1.7 billion.

**Figure 12: Waterfall quantifying the impact of Sackett Report erroneous Additions**

| Waterfall | Aldrich | Murray | Total |
|---|---|---|---|
| Sackett Report total | $1,880 MM | $1,300 MM | $3,180 MM |
| Erroneous Additions | | | |
| Defense costs | ($460 MM) | ($400 MM) | ($850 MM) |
| Abandoned pending claims | ($220 MM) | ($160 MM) | ($380 MM) |
| Verdicts | ($70 MM) | ($70 MM) | ($140 MM) |
| Non-mesothelioma gross-up errors | ($80 MM) | ($60 MM) | ($140 MM) |
| Sackett Report total corrected for erroneous Additions | **$1,050 MM** | **$610 MM** | **$1,670 MM** |

## III.B.1. Defense costs

(32) This Court charged the experts with estimating "the Debtors' liability for current and future asbestos claims by using the tort system extrapolation method, using the Debtors' settlement and verdict history…."[28] Defense costs are not the Debtors' settlements or verdicts, and they are not liability for current or future asbestos claims. Defendants incur defense expenditures evaluating and liquidating claims, not paying claims. Further, defense counsel receives those costs, not claimants. Adding defense costs has no more merit than adding bankruptcy fees in the current matter. Thus, the nearly $1 billion in defense costs included in the Sackett Report forecast fall outside of this charge.[29]

## III.B.2. Abandoned pending claims

(33) The Sackett Report overvalues abandoned pending claims that the Debtors rarely paid as tort system defendants. An extrapolation of the Debtors' historical tort system experience should assign essentially no value to these claims. The erroneous valuations fall into two categories: (i) claims pending for more than 5 years ("Long Pendency Claims") and (ii) allegedly tolled claims not recorded in the Debtors' claims database ("Tolled Claims"). In total, the addition of these pending claims erroneously inflates the Sackett Report forecast by nearly $400 million.

### III.B.2.a. Long Pendency Claims

(34) The Sackett Report overvalues payments to Long Pendency Claims. While this error impacts mesothelioma claim payments, it manifests more strongly in the valuation of non-mesothelioma claim payments. For example, the Sackett Report forecasts an immediate more than three-fold increase in Aldrich non-mesothelioma payments and an immediate almost five-fold increase for Murray. The

[28] Order Commencing Phase I of the Estimation Trial with Hearings Based on the Tort System Extrapolation Method and the Parties' Expert Reports, 3011, No. 20-BK-30608 (Bankr. W.D.N.C. January 23, 2026) at 2.

[29] Sackett Report, at ¶¶ 208–214. To the best of my knowledge, bankruptcy courts have never included tort system defense costs when estimating a debtor's liability for current and future asbestos claims. Nevertheless, the Sackett Report forecast overstates the Debtors' future defense costs.

Sackett Report's non-mesothelioma forecast for Aldrich begins at $29.1 million per year compared to a historical average of $8.1 million per year. The Murray forecast begins at $24.2 million per year compared to a historical average of $5.1 million per year.[30] I first address these errors regarding Long Pendency Claims with a known disease. Then, I address the Sackett Report treatment of Long Pendency Claims with unknown disease.

III.B.2.a.i. Long Pendency Claims with known disease

(35) The Sackett Report fails to account for duration of pendency when valuing pending claims, which contributes to the erroneously high pending claims forecast. Figure 13 displays the pendency of open Aldrich claims per the Sackett Report's supporting materials. The Sackett Report's work papers record that about 10% of open mesothelioma claims, 20% of open lung cancer claims, 60% of open other cancer claims, and 80% of open non-malignant claims were filed prior to 2015. More than 70% of Aldrich's Long Pendency Claims have remained unresolved for more than a decade.[31]

**Figure 13: Pending claims as tabulated in the Sackett Report (Aldrich)**

| Filing year | Mesothelioma | Lung cancer | Other cancers | Non-malignant | Total |
|---|---|---|---|---|---|
| Long pendency claims | | | | | |
| Pre-2010 | 146 | 300 | 125 | 3,442 | 4,013 |
| 2010–2014 | 278 | 418 | 62 | 799 | 1,557 |
| **Subtotal** | **424** | **718** | **187** | **4,241** | **5,570** |
| 2015–Petition | 3,232 | 2,463 | 129 | 955 | 6,779 |
| Post-Petition | 33 | 15 | 0 | 2 | 50 |
| **Total** | **3,689** | **3,196** | **316** | **5,198** | **12,399** |
| **% filed before 2015** | **11%** | **22%** | **59%** | **82%** | **45%** |
| **% filed before 2010** | **4%** | **9%** | **40%** | **66%** | **32%** |

(36) As seen in Figure 14, even greater percentages of Murray's pending claims have Long Pendency: about 15% of open mesothelioma claims, 30% of open lung cancer claims, 60% of open other cancer claims, and 90% of open non-malignant claims were filed prior to 2015. More than 90% of Murray's Long Pendency Claims have remained unresolved for more than a decade.[32]

[30] $29.1 million ÷ $8.1 million = 3.6; $24.2 million ÷ $5.1 million = 4.8.

[31] 4,013 ÷ 5,570 = 72%.

[32] 9,423 ÷ 10,334 = 91%.

**Figure 14: Pending claims as tabulated in the Sackett Report (Murray)**

| Filing year | Mesothelioma | Lung cancer | Other cancers | Non-malignant | Total |
|---|---|---|---|---|---|
| Long pendency claims | | | | | |
| Pre-2010 | 254 | 646 | 167 | 8,356 | 9,423 |
| 2010–2014 | 171 | 328 | 46 | 366 | 911 |
| **Subtotal** | **425** | **974** | **213** | **8,722** | **10,334** |
| 2015–Petition | 2,695 | 2,132 | 131 | 807 | 5,765 |
| Post-Petition | 29 | 14 | 0 | 3 | 46 |
| **Total** | **3,149** | **3,120** | **344** | **9,532** | **16,145** |
| **% filed before 2015** | **13%** | **31%** | **62%** | **92%** | **64%** |
| **% filed before 2010** | **8%** | **21%** | **49%** | **88%** | **58%** |

(37) The Sackett Report assumes these claims would be paid at the same rates and average values as recently filed claims. Figure 15 calculates the pay rates for groups of pending claims relative to the overall pay rate used for future claims. As displayed in this Figure, the Sackett Report assumes claims filed before 2010 which remain pending as of the Petition Date are just as likely to be paid as future claims. In contrast, the Mullin Report predicts the remaining pending claims from before 2010 are less likely to be paid than recently filed or future claims.

**Figure 15: Pending mesothelioma combined resolution and pay rates relative to future rates**

| Filing year | Sackett Report | | Mullin Report | | Brattle Report | |
|---|---|---|---|---|---|---|
| | Aldrich | Murray | Aldrich | Murray | Aldrich | Murray |
| Pre-2010 | 100% | 100% | 20% | 7% | 0% | 0% |
| 2010–2014 | 100% | 100% | | | 0% | 0% |
| 2015–Petition | 100% | 100% | 91% | 71% | 60% | 51% |
| Future claims | 100% | 100% | 100% | 100% | 100% | 100% |

(38) The Debtors' historical experience supports the methodology used by the Mullin Report. Of the Debtors' 2017–2019 resolutions, claims with under 5 years of pendency received 90% of the Debtors' payments and claims with under 10 years of pendency received 98% of the Debtors' payments. Correspondingly, the pay rate and ASV generally decline as pendency increases. Figure 16 displays this declining pattern for the pay rate for Aldrich claims resolved between 2017 and 2019. Most importantly, the pay rate for claims with 10+ years pendency declines to a small fraction of the pay rate for claims resolved within three years of filing: 45.9% to 2.4% for mesothelioma, 42.8% to 2.2% for lung cancer, 40.0% to 1.6% for other cancers, and 60.4% to 0.1% for non-malignancies.

**Figure 16: Historical pay rates by pendency (Aldrich)**

| Pendency at resolution | Mesothelioma | Lung cancer | Other cancers | Non-malignant |
|---|---|---|---|---|
| 0–3 years | 45.9% | 42.8% | 40.0% | 60.4% |
| 3–5 years | 22.2% | 13.5% | 55.9% | 39.9% |
| 5–10 years | 16.8% | 29.3% | 9.1% | 4.2% |
| 10+ years | 2.4% | 2.2% | 1.6% | 0.1% |

(39) Figure 17 displays this declining pattern for the pay rate for Murray claims resolved between 2017 and 2019. Just like with Aldrich, the pay rate for claims with 10+ years pendency declines to a small fraction of the pay rate for claims resolved within three years of filing: 20.2% to 1.2% for mesothelioma, 28.3% to 0% for lung cancer, 46.5% to 0% for other cancers, and 55.7% to 0.2% for non-malignancies.

**Figure 17: Historical pay rates by pendency (Murray)**

| Pendency at resolution | Mesothelioma | Lung cancer | Other cancers | Non-malignant |
|---|---|---|---|---|
| 0–3 years | 20.2% | 28.3% | 46.5% | 55.7% |
| 3–5 years | 6.5% | 3.5% | 18.8% | 25.3% |
| 5–10 years | 4.7% | 7.7% | 5.9% | 1.2% |
| 10+ years | 1.2% | 0.0% | 0.0% | 0.2% |

(40) Figure 18 displays the Debtors' ASV for mesothelioma claims paid between 2017 and 2019. The ASV for claims with 5+ years pendency declines relative to the ASV for claims resolved within three years of filing. Murray paid only a single mesothelioma claim with 10+ years pendency between 2017 and 2019, so no ASV has been calculated.

**Figure 18: Mesothelioma ASV by pendency**

| Pendency at resolution | Aldrich | Murray |
|---|---|---|
| 0–3 years | $58,000 | $73,000 |
| 3–5 years | $48,000 | $105,000 |
| 5–10 years | $35,000 | $59,000 |
| 10+ years | $21,000 | |

III.B.2.a.ii. Long Pendency Claims with unknown disease

(41) The Sackett Report's treatment of Long Pendency Claims with unknown disease amplifies the overvaluation. Not only does the Sackett Report value Long Pendency Claims with unknown disease akin to recently filed claims, but it suggests the possibility that dismissed claims with unknown disease may refile. I address these two errors in turn.

(42) Asbestos defendants commonly divide claims into four disease categories: mesothelioma, lung cancer, other cancers, and non-malignancies. Typically, there remain claims with an unknown disease. For example, in the Debtors' database, 13% of the resolved claims have an unknown disease and 1% of the settled claims have an unknown disease. Many reasons contribute to the presence of unknown disease claims, including, but not limited to, the following: (i) these claims may not have had their disease properly recorded in the database, (ii) the claims were resolved as part of a group deal in which the disease was not reviewed, or (iii) the claimant failed to disclose medical records for disease identification.

(43) Figure 19 displays the pendency of open claims with unknown disease for each Debtor per the Sackett Report's supporting materials. Notably, about 99% of these claims were filed before 2015 and almost 90% have remained unresolved for more than a decade. In my experience, plaintiffs' counsel rarely pursue these unknown disease claims that have remained open for years and thus the Debtors should incur only *de minimis* future settlement payments for these claims. Figure 16 and Figure 17 confirms this general experience here, as the Debtors paid less than 2% of resolved claims pending for more than 10 years. The Mullin Report forecasts include the historical (very low) resolution rate and pay rate for these claims.[33]

**Figure 19: Pending claims with unknown disease valued in the Sackett Report**

| Filing year | Aldrich | Murray |
|---|---|---|
| Long pendency claims | | |
| Pre-2010 | 3,284 | 3,107 |
| 2010–2014 | 380 | 339 |
| **Subtotal** | **3,664** | **3,446** |
| 2015–Petition | 57 | 30 |
| Post-Petition | 2 | 2 |
| **Total** | **3,723** | **3,478** |
| **% filed before 2015** | **98.4%** | **99.1%** |
| **% filed before 2010** | **88.2%** | **89.3%** |

(44) In contrast, the Sackett Report assumes the pending unknown disease claims in the Debtors' database will be compensable as known disease claims, including as mesothelioma claims. Further, the Sackett Report values these claims the same as recently filed claims, reaching a total valuation of nearly $100 million for unknown disease claims.[34] This quantification significantly overestimates their tort value.

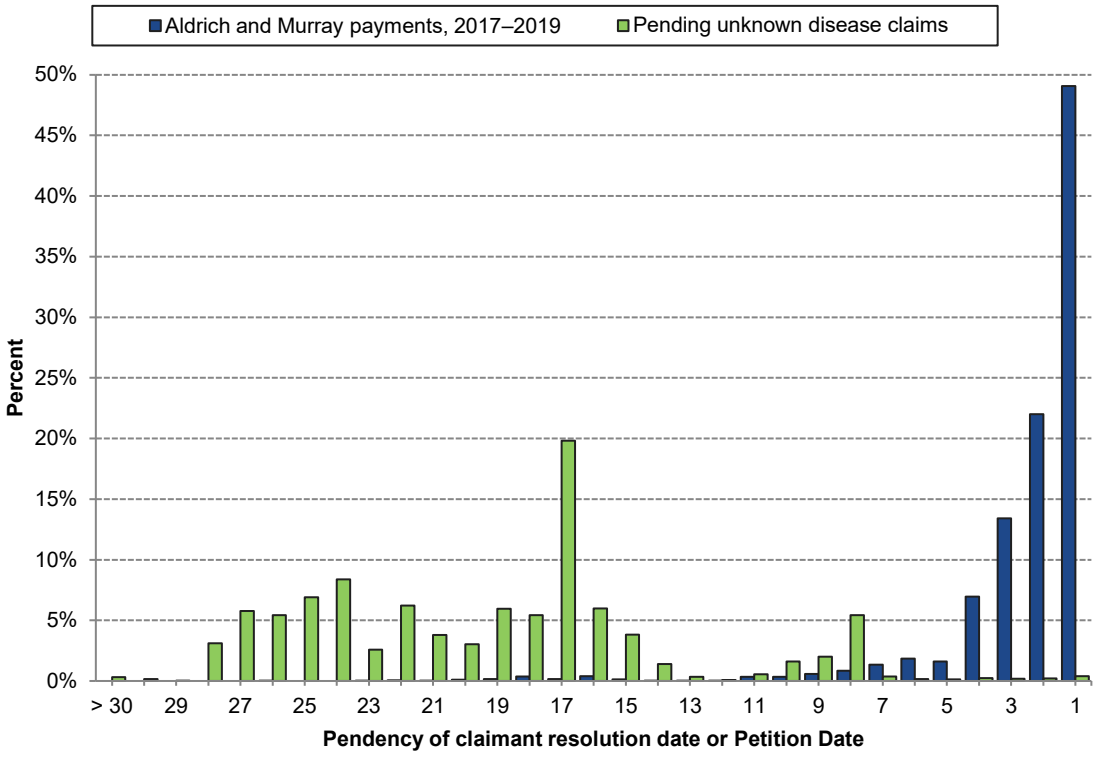
(45) The visualization in Figure 20 reinforces the above logic. The green bars depict the length of time between the filing date and Petition Date for the open unknown disease claims in the Sackett Report's

[33] Mullin Report, at ¶ 151.

[34] Sackett Report, at ¶¶ 184–190.

forecast. The blue bars show the length of time between filing and resolution for Aldrich and Murray payments between 2017 and 2019. There is almost no overlap. The absence of material overlap underscores how rarely these Long Pendency Claims receive payment.

**Figure 20: Pendency of open unknown disease claims compared to 2017–2019 payments**




(46) Further still, the Sackett Report suggests that dismissed unknown disease claims may be refiled and constitute additional payments. It attempts to justify this treatment by stating that, the "Debtors received substantial numbers of these unknown disease Claims, and thousands of these Claims are either open, dismissed without prejudice, or are marked in the Database as receiving a generic dismissal."[35] The Sackett Report concludes that, "There is no basis to suggest that these Claims could not potentially be refiled."[36] This statement is incorrect; substantial evidence demonstrates virtually none of these claims will be refiled. General mortality tables, statutes of limitations, and the Debtors' historical experience all point to these claims having no material value.

[35] Sackett Report, at ¶ 22.

[36] Sackett Report, at ¶ 178.

(47) First, based on general mortality tables, more than 60% of these claimants were likely deceased as of the Petition Date. Should that death have arisen from a disease related to asbestos, that would have triggered its own statute of limitations.

(48) Additionally, given that 90% of the dismissed unknown disease claims were dismissed more than six years prior to the Petition Date, the statute of limitations for the filing of a new claim would have long since expired.[37]

(49) Finally, the Debtors' tort history affirms that these claims rarely refile. As seen in Figure 21, just 0.6% of dismissed claims filed new lawsuits against the Debtors for the same injury. Moreover, only 0.1% refiled more than 6 years after dismissal (i.e., outside of the maximum statute of limitations). Based on this historical tort system experience, around 60 of the approximately 55,000 unknown disease claims dismissed before 2015 would be refiled.

**Figure 21: Refiling rates of dismissed claims against the Debtors**

| Debtor | Dismissed claims | Refiled within 6 years of dismissal | | Refiled more than 6 years after dismissal | |
|---|---|---|---|---|---|
| | | Count | Percent | Count | Percent |
| Aldrich | 99,301 | 767 | 0.77% | 37 | 0.04% |
| Murray | 116,590 | 356 | 0.31% | 203 | 0.17% |
| **Total** | **215,891** | **1,123** | **0.52%** | **240** | **0.11%** |

### III.B.2.b. Tolled Claims

(50) The Sackett Report erroneously raises the propensity to sue for mesothelioma claims in its forecast by 10–13% to account for allegedly tolled or "missing" claims.[38] As explained below, this treatment demonstrates a fundamental misunderstanding of the nature and accounting surrounding the off-complaint agreements between the Debtors and select plaintiff law firms. This Addition should be removed from the Sackett Report forecast.

(51) As discussed in the Mullin Report, three law firms entered into off-complaint settlement agreements with the Debtors.[39] Under these agreements, plaintiff law firms generally submitted notice to the

[37] *See*, *e.g.*, Justia, "Wrongful Death Lawsuits: 50-State Survey," accessed March 4, 2026, https://www.justia.com/injury/wrongful-death/wrongful-death-lawsuits-50-state-survey/; Charles R. Gueli, "Personal Injury Statute of Limitations: Time Limits to File Claims in all 50 States," Injury Claim Coach, accessed March 4, 2026, https://www.injuryclaimcoach.com/claim-process/statute-of-limitations.html.

[38] Sackett Report, at ¶¶ 191–200.

[39] Counsel informed me that the Law Firm 3 agreements began as early as 2013, while the Law Firm 3 agreements began around 2002 (Aldrich) and 2014 (Murray). The Law Firm 3 agreement was with Aldrich only and was in place from mid-2004 through May 2019. Mullin Report, at ¶ 124 n. 138.

Debtors of claims they believed were eligible for payment.[40] Correspondingly, plaintiff law firms did not submit claims they recognized as non-compensable. The "missing" claims that do not appear in the Debtors' database represent claims that would not result in payment by the Debtors, because, prior to the off-complaint agreements, plaintiffs' counsel would have either not filed the claims or subsequently dismissed them if they had been filed.

(52) Law Firm 3 mesothelioma claims against the Debtors provide an illustrative case study; this firm served as counsel for more than 70% of the mesothelioma claims settled via off-complaint arrangements. Law Firm 3 filed 14% of the mesothelioma claims received by Aldrich from 2010 to 2012, the three years prior to their off-complaint agreement. During that same period, Aldrich paid 36% of the resolved Law Firm 3 mesothelioma claims and dismissed the remaining 64%. So, as displayed in Figure 22, paid Law Firm 3 claims represented approximately 5% and dismissed Law Firm 3 claims represented approximately 9% of Aldrich's total mesothelioma claims during that three-year period. Thus, once the off-complaint arrangement with Law Firm 3 took effect in 2013, one should expect to observe similar results: Law Firm 3 's paid claims to represent 5% of Aldrich's total mesothelioma claims and Law Firm 3 's unpaid (and never to be paid) claims to represent a 9% decline in Aldrich's total mesothelioma claims.

**Figure 22: Visualization of Law Firm 3 claims prior to off-complaint agreement (Aldrich)**

| Law firm | Share of filings | Status | Share after application of Law Firm 3 pay rate |
|---|---|---|---|
| Non-Law Firm 3 | 86.2% | All (100%) | 86.2% |
| Law Firm 3 | 13.8% | Dismissal (63.8%) | 8.8% |
| | | Settlement (36.2%) | 5.0% |

(53) The Sackett Report turns this expected behavior upside down. The Sackett Report observes a decrease in Law Firm 3 mesothelioma claims against Aldrich in the years following the start of the off-complaint arrangement. It quantified that decrease at 8.3% of the total claim filings.[41] Instead of recognizing those as the approximately 9% of Law Firm 3 claims that Aldrich previously received and subsequently dismissed, the Sackett Report erroneously values them equally to all other Law Firm 3 claims that were presented to Aldrich under the off-complaint arrangement.[42]

[40] The agreements also address claims that do not meet the evidentiary requirements for payment, leading to the existence of "dismissals" in the Debtors' database during the agreements. However, over 75% of mesothelioma claims resolved during these off-complaint agreements are settlements. Settlement Agreement, Trane US Inc. and Law Firm 3 , , March 18, 2013 at 2–5.

[41] Sackett Report, at ¶ 198.

[42] Sackett Report, at ¶ 198.

(54) The Sackett Report makes the same error regarding Murray. From 2010–2012, Law Firm 3 filed about 13% of the mesothelioma claims received by Murray. During that same period, Murray paid 12% of the resolved Law Firm 3 mesothelioma claims and dismissed the remaining 88%. So, as displayed in Figure 23, paid Law Firm 3 claims represented approximately 1.6% and dismissed Law Firm 3 claims represented approximately 11.7% of Murray's total mesothelioma claims during that three-year period. Thus, once the off-complaint arrangement with Law Firm 3 took effect in 2013, one should expect to observe similar results: Law Firm 3 's paid claims to represent 1.6% of Murray's total mesothelioma claims and Law Firm 3 's unpaid (and never to be paid) claims to represent a 11.7% decline in Murray's total mesothelioma claims.

**Figure 23: Visualization of Law Firm 3 claims prior to off-complaint agreement (Murray)**

| Law firm | Share of filings | Status | Share after application of Law Firm 3 pay rate |
|---|---|---|---|
| Non-Law Firm 3 | 86.6% | All (100%) | 86.6% |
| Law Firm 3 | 13.4% | Dismissal (87.9%) | 11.7% |
| | | Settlement (12.1%) | 1.6% |

(55) The Sackett Report identifies unfiled Law Firm 3 mesothelioma claims that total 11% of the mesothelioma claim filings against Murray.[43] Instead of recognizing those as the approximately 11.7% described in Figure 23, the Sackett Report erroneously values them equally to claims presented to Murray under the off-complaint arrangement.[44]

## III.B.3. Verdicts

(56) Aldrich and Murray have been defending asbestos-related claims since the 1980s.[45] In that time, the Debtors resolved about 500,000 claims. Only one claim, filed in 2004, was resolved by verdict against Aldrich. No claims have ever been resolved by verdict against Murray. In short, with one exception, the Debtors have solely resolved claims filed during the 40 years pre-Petition by dismissal or settlement.[46] Nonetheless, the Sackett Report adds six future mesothelioma plaintiff verdicts against the Debtors, three against Aldrich and three against Murray, with overstated verdict amounts.[47] These verdicts should be removed from the Sackett Report forecast.

43 Sackett Report, at ¶ 199.

44 Sackett Report, at ¶ 199.

45 Informational Brief of Aldrich Pump LLC and Murray Boiler LLC, No. 20-BK-30608 (W.D.N.C. June 18, 2020) at 17.

46 Affidavit of Carl R. Schwertz, *In re Aldrich Pump LLC et al.,* No 20-BK-30608 (Bankr. W.D.N.C. September 12, 2025), at ¶ 23; Informational Brief of Aldrich Pump LLC and Murray Boiler LLC, No. 20-BK-30608 (W.D.N.C. June 18, 2020) at 9–12, 17.

47 Sackett Report, at ¶¶ 170–175.

(57) To realize six plaintiff verdicts, the Debtors would have to try more than six cases; plaintiffs do not always win at trial. Such a material change in litigation strategy would necessitate adjusting other parameters in the forecast. For example, the historical ASV reflects a premium paid by the Debtors to avoid trials. One would need to estimate and remove that premium if the plaintiffs' bar started insisting on trials.

(58) The Sackett Report also overstates the expected recovery from a plaintiff verdict by at least 5-fold. The Sackett Report assumes that the Debtors would pay the entire face value of the average mesothelioma verdict award from annual Mealey's reports.[48] These reports summarize initial verdict amounts and fail to account for downward adjustments such as post-verdict settlements, post-appeal reductions, apportionment to defendants, and offsets from other recoveries.[49] Simply put, the final payments to claimants average materially less than the initial headline verdict amounts.

(59) John Crane ("JCI") provides an illustration of this fact. As discussed in the Mullin Report, JCI provides a strong comparable to the Debtors given their manufacturing and sale of asbestos-containing gaskets and packing. JCI employs a litigation-only tort system approach: it does not settle claims prior to a jury verdict.[50] In the past 10 years, JCI has reported 24 plaintiff verdicts resolved for $40 million in payments to plaintiffs, or an average payment of under $2 million for claims that received a plaintiff verdict.[51] I have collected public information quantifying the initial verdict amounts for 21 of those 24 verdicts, which total approximately $195 million. Figure 24 displays the disparity between these two amounts.

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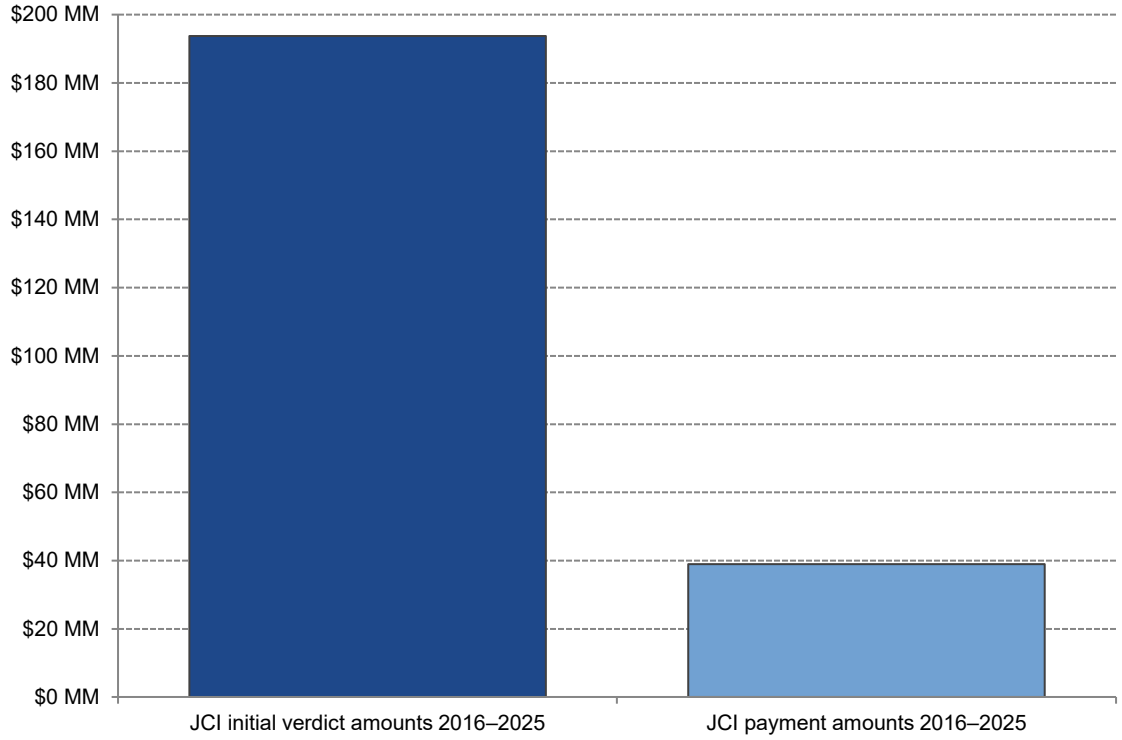
48 Sackett Report, at ¶ 175.

49 The Sackett Report does not assess whether the verdicts recorded in the Mealey's reports are representative of all mesothelioma verdicts. In fact, they are not. Effectively, Mealey's publishes all the large verdicts, but only a subset of the small verdicts. Thus, the average verdict recorded in a Mealey's report overstates the global average mesothelioma verdict.

50 Affidavit of Carl R. Schwertz, *In re Aldrich Pump LLC et al.,* No 20-BK-30608 (Bankr. W.D.N.C. September 12, 2025), at ¶ 22; Mullin Report, at ¶¶ 34–39.

51 Smiths Group PLC, *Annual Report,* October 2016, https://www.smiths.com/media/44fpcp3p/annual-report-2016.pdf, 179; Smiths Group PLC, *Annual Report*, October 2018, https://www.smiths.com/media/zvfeqnxp/smiths-group-annual-report-fy2018.pdf, 167–168; Smiths Group PLC, *Annual Report*, October 2019, https://www.smiths.com/media/k51nzdkl/smiths_group_annual-report_fy19.pdf, 183–185; Smiths Group PLC, *Annual Report*, October 2021, https://www.smiths.com/media/iqafeeuq/smiths-annual-report-2021-report.pdf, 192; Smiths Group PLC, *Annual Report*, October 2024, https://www.smiths.com/media/35hdqmol/smiths-annual-report-2024.pdf, 185; Smiths Group PLC, *Annual Report*, October 2025, https://www.smiths.com/media/uwkpyowa/smiths-annual-report-2025.pdf, 169.

**Figure 24: Resolution of JCI plaintiff verdicts**




## III.B.4. Non-mesothelioma gross-up errors

(60) The Sackett Report makes two mistakes in its forecast of non-mesothelioma claims, resulting in an overestimate of future payments for these diseases. First, as explained in Section III.B.2, it assigns value to thousands of non-mesothelioma claims filed prior to 2015. Additionally, the Sackett Report's work papers contain a reference error, causing the forecast to use an incorrect actuarial curve. Once corrected, the Sackett Report non-mesothelioma forecast is no longer an overestimate.

(61) The Second Amended Case Management Order entered on April 17, 2025, instructs the experts to submit reports containing forecasts that apply a gross-up to account for non-mesothelioma claims.[52] Non-mesothelioma gross-ups have been used in other asbestos bankruptcies, such as Bondex (6%), Bestwall (7%) and DBMP (8%).[53] These gross-ups allow for a simpler estimation process where

[52] "The Debtors and ACC shall exchange their initial expert reports setting forth their estimate of the Debtors' liability for current and future mesothelioma claims, plus the application of a "gross-up" for non-mesothelioma claims (each, an "Initial Expert Report") on or before September 15, 2025." Second Amended Case Management Order for Estimation of Asbestos Claims, 2656, No. 20-BK-30608 (W.D.N.C. April 17, 2025) at 3.

[53] Order Authorizing Estimation of Current and Future Mesothelioma Claims, *In re DBMP LLC*, No. 20-30080 (Bankr. W.D.N.C. November 29, 2021), at ¶ 4; Order Authorizing Estimation of Current and Future Mesothelioma Claims, *In re Bestwall LLC*, No. 17-31795 (Bankr. D. Del. January 19, 2021) at 6; Memorandum Opinion, *In re Bondex International, Inc.*, No. 10-11780 (Bankr. D. Del. May 20, 2013), at ¶ 1 n. 2.

experts do not need to pursue extensive discovery and build out forecasts for non-mesothelioma claims. Debtors benefit economically by avoiding expensive discovery and estimation expenses. Claimants benefit as well as epidemiology predicts that the ratio of non-mesothelioma to mesothelioma expenditures will decline in the future. Thus, assessing future non-mesothelioma claims based on the recent historical ratio overvalues those claims relative to a ground-up estimate.

(62) Unlike the "gross-up" process as implemented in cases like Bondex, Bestwall, and DBMP, the Sackett Report does not forecast non-mesothelioma liability as a percentage gross-up relative to mesothelioma. Instead, it undertakes a "ground-up" process that forecasts lung cancer, other cancer, and non-malignant payments based on the lung cancer actuarial curve.[54] In this process, the Sackett Report asserts it relies on asbestos-related incidence for mesothelioma and follows the same procedure for lung cancer incidence.[55] Its work papers follow this asserted approach for mesothelioma. However, the Sackett Report's work papers deviate from the stated intent for non-mesothelioma claims. Instead of relying on asbestos-related lung cancer incidence, the work papers erroneously use the total lung cancer incidence (due to an Excel cell reference error).[56] Correcting the cell reference error reduces the Sackett Report's non-mesothelioma gross-up, as displayed in Figure 25.

**Figure 25: Forecasted non-mesothelioma payments as a percent of total spend**

| Report | Aldrich | Murray |
|---|---|---|
| Sackett Report | 20.0% | 24.7% |
| Sackett Report - corrected | 13.5% | 17.2% |
| Mullin Report | 17.3% | 19.4% |

(63) Correcting that cell reference error updates the Sackett Report's forecasted ratio of non-mesothelioma payments relative to total spend to below that of the Mullin Report. That is, the corrected Sackett Report non-mesothelioma percentage falls below the historical experience of the Debtors. This aligns with the relevant epidemiology, as projected asbestos-related lung cancer incidence declines faster than projected mesothelioma incidence.[57] Thus, the percentage of claims and claim payments

[54] Sackett Report, at ¶ 102 n. 34.

[55] Sackett Report, at ¶ 102 n. 34; For avoidance of doubt, the Sackett Report's working papers label the asbestos-related mesothelioma incidence as "Use for Meso-thelioma" and the asbestos-related lung cancer incidence as "Use for Lung Cancer." Sackett Reliance Materials, File name: "Mesothelioma_Forecast.xlsm", Exposure_to_1989.

[56] Sackett Reliance Materials, File name: "Mesothelioma_Forecast.xlsm", Exposure_to_1989; Sackett Reliance Materials, File name: "Nicholson_Forecast_(Aldrich).xlsb", Lung_Cancer; Sackett Reliance Materials, File name: "Nicholson_Forecast_(Murray).xlsb", Lung_Cancer.

[57] *See* US Department of Health and Human Services, "Toxicological Profile for Asbestos," September, 2001, Appendix F; William J. Nicholson, George Perkel, and Irving J. Selikoff, "Occupational Exposure to Asbestos: Population at Risk and Projected Mortality - 1980–2030," *American Journal of Industrial Medicine*, no. 3 (1982): 293–294.

associated with diseases other than mesothelioma should decline in the future.[58] This illustrates the conservative nature of the approach adopted in the Mullin Report, which likely overstates future non-mesothelioma claim payments by calibrating to the recent tort experience.

## III.C. Financial Parameters

(64) The Sackett Report inexplicably inverts the time value of money. The Sackett Report uses a 3.2% inflation rate and a 1% discount rate.[59] Using an inflation rate larger than the discount rate requires claimants to prefer having their claims resolved five, ten, or even fifty years into the future instead of today. According to the Sackett Report, claimants would be financially better off waiting decades to resolve their claims.[60] As seen in Figure 26, correcting this fundamental error results in a forecast range that is less than half of the one presented in the Sackett Report.

**Figure 26: Waterfall quantifying the impact of Sackett Report Financial Parameters**

| Waterfall | Aldrich | Murray | Total |
|---|---|---|---|
| Sackett Report total corrected for erroneous Additions | $1,050 MM | $610 MM | $1,670 MM |
| Financial Parameters | ($570 MM) | ($330 MM) | ($900 MM) |
| Sackett Report total corrected for erroneous Additions and Financial Parameters | **$480 MM** | **$280 MM** | **$760 MM** |

### III.C.1. Inflation rates

(65) The Brattle Report and the Mullin Report assume a long-run general inflation rate of 2%, consistent with the long-term expectation of the Congressional Budget Office and financial markets.[61] The Sackett Report assumes a long-run inflation rate of 3.2%. The Sackett Report also applies the observed (higher) CPI inflation between 2020 and 2024, despite not doing the same for discount rates.[62] Figure 27 shows the long-run general inflation rate used by each expert.

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58 For example, the Sackett Report's mesothelioma and lung cancer incidence curves demonstrate this pattern. Sackett Reliance Materials, File name: "Mesothelioma_Forecast.xlsm", Exposure_to_1989.

59 Sackett Report, at ¶¶ 98–99.

60 When Pollack, et al., define the time value of money, they point out that "most individuals would prefer to have a dollar to spend today rather than having to wait until some point in the future. For those individuals, if money payable in the future is suddenly available today, there may be a willingness to accept a discount in order to eliminate the waiting period." The Sackett Report predicts a sustained departure of this standard economic principle. Richard A. Pollack et al., *Calculating Lost Profits* (New York: AICPA, 2006): 35.

61 The Brattle Report applies short-term CBO rates that are initially higher than 2% before transitioning to the 2% long-run rate. Mullin Report, at ¶ 154; Brattle Report, at ¶ 97.

62 Sackett Report, at ¶ 98, Appendix I; Sackett Reliance Materials, File name: "Liability_Estimation-Cash_Flow_Model_Aldrich.xlsx", Nicholson-Data; Sackett Reliance Materials, File name: "Liability_Estimation-Cash_Flow_Model_Murray.xlsx", Nicholson-Data.

**Figure 27: Long-run general inflation used in Initial Reports**

| Report | General inflation |
|---|---|
| Sackett Report | 3.2% |
| Brattle Report | 2.0% |
| Mullin Report | 2.0% |

(66) The Sackett Report correctly observes that general inflation cannot be blindly applied to ASVs and should be adjusted for factors specific to ASVs. Instead of analyzing the actual historical movements in the Debtors' ASVs, the Sackett Report relies on a blended average of three rates: the Consumer Price Index, the Medical Care CPI, and the Employment Cost Index ("ECI").[63] The Sackett Report therefore presumes, without providing any supporting analyses, that future payments by the Debtors will trend disproportionately according to medical and employment costs relative to general inflation. Analyses demonstrate this assumption fails. Regarding the Medical Care CPI, medical costs typically compose a small factor in mesothelioma verdicts.[64] Additionally, medical costs already account for about 9% of the Consumer Price Index, which the Sackett Report relies on as part of its blended inflation rate.[65] Regarding the Employment Cost Index, mesothelioma claimants who filed claims against the Debtors between 2017 and 2019 averaged 75 years old, meaning most claimants had ceased working. Moreover, the Sackett Report uses a subset of the ECI focused on benefits for state and local government employees which overstates the economy-wide ECI.[66] Use of the Medical Care CPI and the Employment Cost Index overstates the influence of medical costs and lost wages on mesothelioma claim values and fails to account for the factors, described below, that resulted in ASVs declining over the past decade.

(67) As acknowledged in the Sackett Report, while general inflation averages the price changes across a bundle of goods, most prices deviate from that general trend. For example, as seen in Figure 28, the prices of medical care and books have not followed the general trend of inflation.

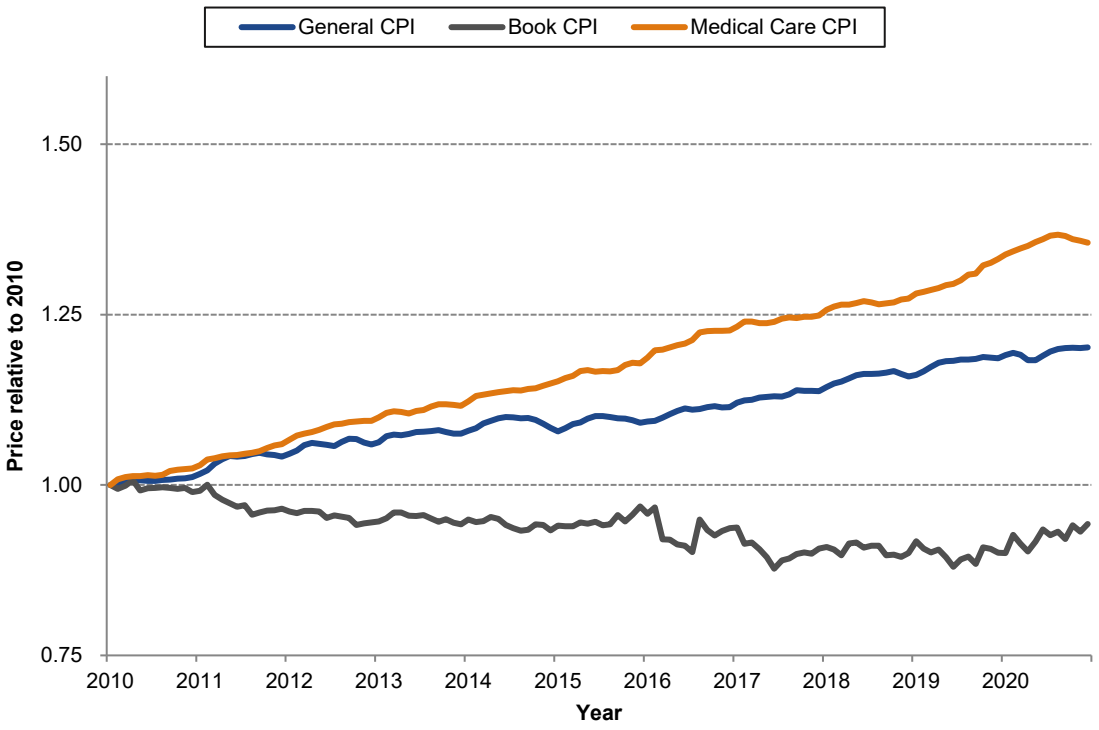
[63] Sackett Report, at ¶ 98, n. 31.

[64] Consider the public information quantifying the initial verdict amounts for 21 recent JCI plaintiff verdicts, as described in Section III.B.3. Of these 21 verdicts, nine contained information on total economic damages awarded to the plaintiffs, which were valued at 24% of the total verdict amount on average. Additionally, there are six verdicts with information quantifying medical costs awarded to the plaintiffs, which were valued at 7% of the total verdict amount on average.

[65] Medical costs composed about 9% of the CPI as of the Petition Date. Bureau of Labor Statistics, "Consumer Price Index News Release," August 12, 2020, https://www.bls.gov/news.release/archives/cpi_08122020.htm; Sackett Report, at ¶ 98 n. 31.

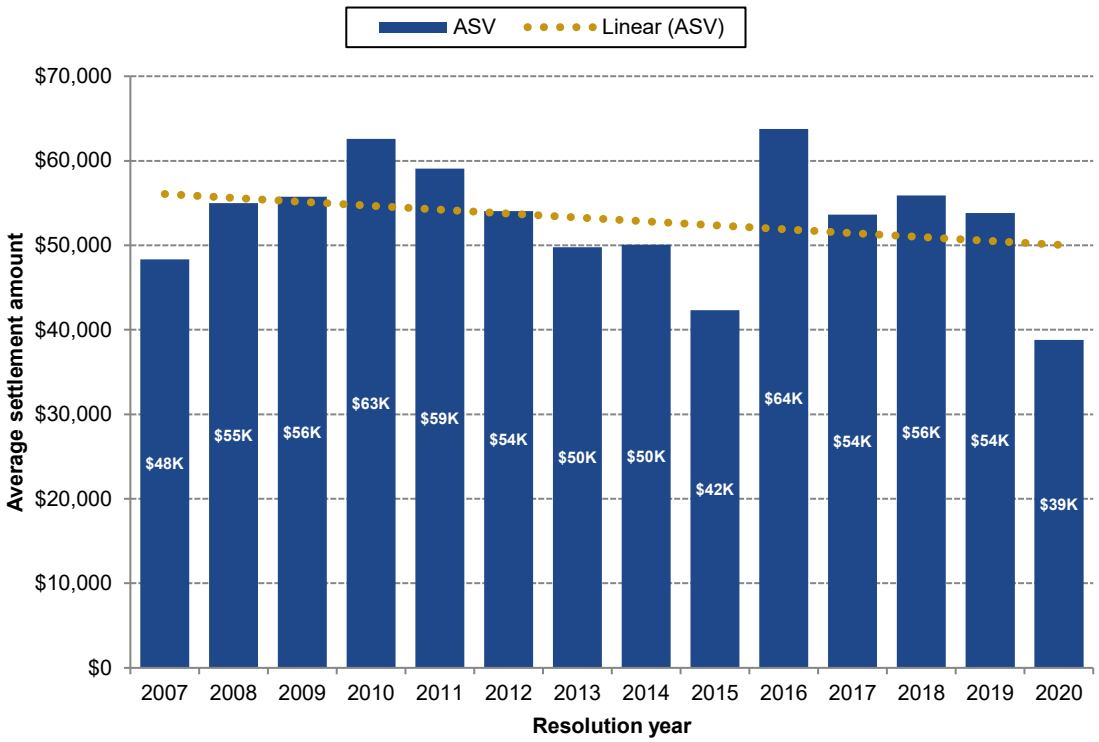
[66] Updating to the ECI for total compensation for all civilian employees reduces the Sackett Report's ECI calculation from 4% to 3%. Sackett Reliance Materials, File name: "eci-continuous-dataset.xlsx", Calculations.

**Figure 28: CPI trend for single goods compared to general CPI**



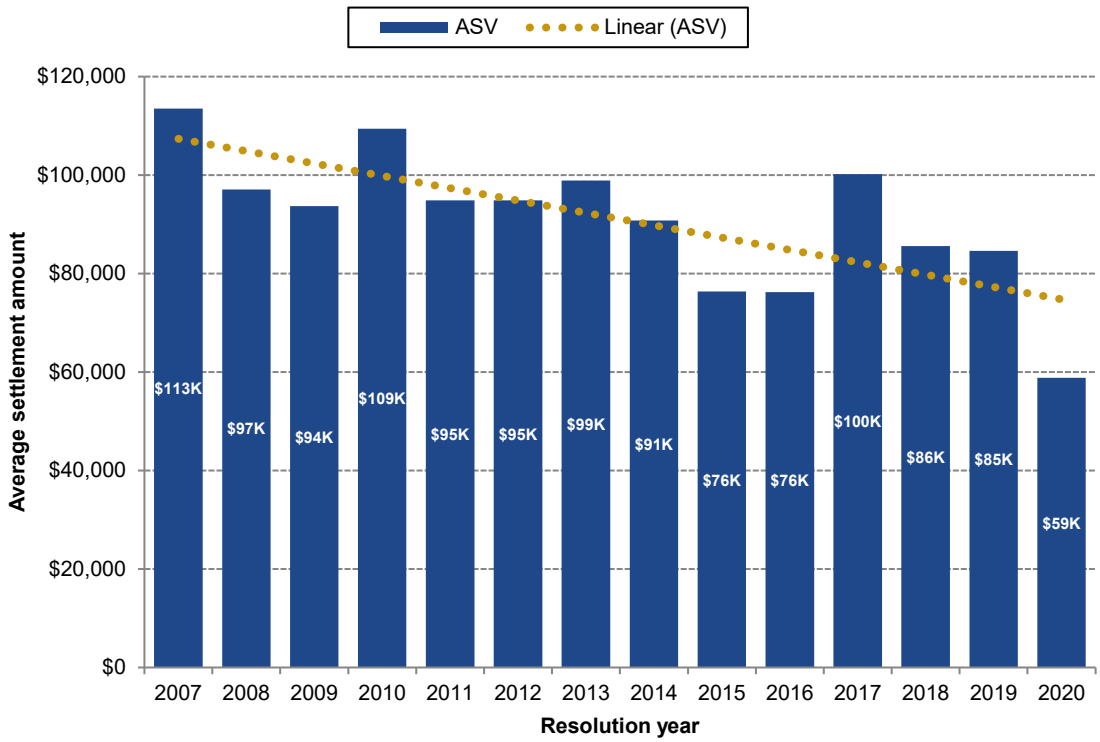

(68) Similarly, as seen in Figure 29 and Figure 30, the Debtors' historical ASVs have not increased with general inflation. Aldrich ASVs have fluctuated up and down, but generally stayed between $50,000 and $60,000. To the degree any trend exists, the ASVs for Aldrich have trended slightly down, per the trend line in Figure 29.

**Figure 29: Average settlement value for Aldrich by year**




(69) Similarly, instead of increasing with general inflation, average settlement values for Murray steadily declined. Thus, the historical data display deflation as seen in the trend line in Figure 30.

**Figure 30: Average settlement value for Murray by year**




(70) The Sackett Report does not extrapolate the trend from the Debtors' tort system history. Instead, it predicts a sudden reversal in trend, causing future claim values to increase with general inflation.

(71) The Sackett Report ignores several realities of the tort system. With each passing year, mesothelioma claimants become older, have less exposure to the Debtors' asbestos-containing products, and become more likely to have no occupational exposure at all. Each of these facts contributes to the observed declining ASVs. Moreover, each of these underlying trends will persist in the future and continue to lower future ASVs.

(72) While the Sackett Report ignores these facts, 524(g) trusts do not. For example, the A-Best, ASARCO, and Manville trusts, among others, do not index claim payments to inflation.[67] More sophisticated trusts, like the Western Asbestos and Garlock trusts, do increase claim values annually based on inflation, but also account for demographics such as age and nature of exposure when determining claim values.[68] Accounting for these demographics counteracts the effect of the inflation-indexed increases. The Sackett Report erroneously relies solely on an overstated general inflation without accounting for trends in mesothelioma claim values that run counter to that.

### III.C.2. Discount rates

(73) Discount rates provide the NPV of future cash flows by accounting for the time value of money (i.e., the return on assets through time). To estimate the risk-free discount rate, I used the 5-year, 10-year, 20-year, and 30-year US Treasury notes which yield an average of 4.5%. I also put forth an analysis that showed existing 524(g) asbestos trusts' historical investment performance. Using the results, I approximated the historical rate of return for 524(g) trusts would be up to 6.5%, or more specifically, two percentage points higher than the US Treasury notes rate.[69] The Brattle Report's estimated 6.11% discount rate for 524(g) trusts aligns with this upper-bound estimate of 6.5%.[70]

(74) The Sackett Report uses a discount rate of 1%. The Sackett Report selected this abnormally low discount rate from the beginning of the COVID-19 pandemic, a period characterized by extraordinary

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67 *See*, e.g. A-Best Products Company, Inc., *First Amended Asbestos Personal Injury Settlement Trust Distribution Procedures*, https://www.abestasbestostrust.com/assets/documents/resources/Trust-Distribution-Procedures.pdf; ASARCO Asbestos Personal Injury Settlement Trust*, Asbestos Personal Injury Settlement Trust Distribution Procedures*, https://www.asarcotrust.com/assets/documents/resources/ASARCO-Trust-Distribution.pdf; Manville Personal Injury Settlement Trust, *2002 Trust Distribution Process*, May 2021, https://www.claimsres.com/wp-content/uploads/2016/11/2002-TDP-May-2021-Revision-1.pdf; Combustion Engineering 524(g) Asbestos PI Trust, *Second Amended and Restated Asbestos Trust Distribution Procedures*, https://www.cetrust.org/assets/uploadedFiles/891543a9-a055-498d-83e4-ed77262d2f9c.pdf; C.E. Thurston & Sons, Inc., *Asbestos Related Claims and Demands Trust Distribution Procedures*, https://www.claimsres.com/wp-content/uploads/2016/11/C-E-Thurston-TDP-Revision-1b.pdf; The Christy Refractories Company, LLC, *First Amended Asbestos Personal Injury Trust Distribution Procedures*, https://www.christy-trust.com/assets/documents/resources/Trust-Distribution-Procedures.pdf.

68 Garlock Settlement Facility, *Settlement Facility Second Amended and Restated Claims Resolution Procedures*, April 2021, https://garlocksettlementfacility.com/assets/uploadedFiles/8eedc7d3-3283-4663-b851-3a929d102e94.pdf, 11, I9–I10; Twentieth Annual Report and Accounting of Western Asbestos Settlement Trust, *In re Western Asbestos Company,* 1926, No. 13-31914-HLB (Bankr. N.D. Cal. June 6, 2024), at 7–8; Western Asbestos Settlement Trust, *Third Amendment to and Complete Restatement of Western Asbestos Settlement Trust Case Valuation Matrix*, https://www.wastrust.com/wp-content/uploads/2020/08/WAST-Third-Amendment-to-and-Complete-Restatement-of-Matrix.pdf, 4.

69 Mullin Report, at ¶¶ 167–168.

70 Brattle Report, at ¶ 97 n. 92.

market conditions which resulted in US Treasury yields at their lowest in the last 25 years.[71] Even through those uncertain times, the CBO predicted rates over 4% in the long run.[72] The Sackett Report's 1% discount rate falls outside the Mullin and Brattle Reports' estimated range of 4.3%–6.5%.[73] Figure 31 shows the discount rates used by each expert.

**Figure 31: Discount rates used in Initial Reports[74]**

| Report | Risk-free rate | Trust rate of return |
|---|---|---|
| Sackett Report | 1.0% | Omitted |
| Mullin Report | 4.5% | Less than 6.5% |
| Brattle Report | 4.3% | 6.1% |

## III.D. Omissions

(75) As discussed in Section III.A, key parameters of a component-based tort system forecast include the resolution rate and pay rate. These parameters determine how many filed claims receive payment. The Sackett Report makes two Omissions when calculating these parameters. First, when calculating how many claims will receive payment, the Sackett Report does not include a resolution rate; it only uses a pay rate. Second, when determining what data to use for calibration of the claim resolution parameters, the Sackett Report truncates the Debtors' data. Combined, these Omissions bias the Sackett Report's forecast high by $110 million. This effect is quantified in Figure 32.

**Figure 32: Waterfall quantifying the impact of Sackett Report Omissions**

| Waterfall | Aldrich | Murray | Total |
|---|---|---|---|
| Sackett Report total corrected for erroneous Additions and Financial Parameters | $480 MM | $280 MM | $760 MM |
| Omissions | | | |
| Resolution rate | ($20 MM) | ($10 MM) | ($30 MM) |
| Data truncation | ($30 MM) | ($50 MM) | ($80 MM) |
| Corrected Sackett Report total | **$430 MM** | **$220 MM** | **$650 MM** |

[71] *See*, e.g., Federal Reserve Bank of St. Louis, "Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity, Quoted on an Investment Basis," Series DGS10, https://fred.stlouisfed.org/series/DGS10; Federal Reserve Bank of St. Louis, "Market Yield on U.S. Treasury Securities at 20-Year Constant Maturity, Quoted on an Investment Basis," Series DGS20, https://fred.stlouisfed.org/series/DGS20; Federal Reserve Bank of St. Louis, "Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis," Series DGS30, https://fred.stlouisfed.org/series/DGS30.

[72] *See*, e.g., Congressional Budget Office, "Long-Term Budget Projections," January 2020, https://www.cbo.gov/data/budget-economic-data#12; Congressional Budget Office, "Long-Term Economic Projections," March 2021, https://www.cbo.gov/data/budget-economic-data#12.

[73] Sackett Report, at ¶ 99; Mullin Report, at ¶ 126; Brattle Report, at ¶ 97 n. 91–92.

[74] Sackett Report, at ¶ 99; Mullin Report, at ¶¶ 163–168; Brattle Report, at ¶ 97 n. 91–92.

### III.D.1. Resolution rates

(76) As discussed in Section III.A, two items must occur for a future mesothelioma claim to be paid: (i) it must be resolved; and (ii) the resolution must result in payment. The pay rate equates to the proportion of resolved claims that receive payments, calculated as the number of paid claims divided by the total number of resolved claims (paid or dismissed). Figure 33 compares the pay rates used in the Sackett Report and Mullin Report.

**Figure 33: Mesothelioma pay rate used in future claims forecast**

| Report | Aldrich | Murray |
|---|---|---|
| Sackett Report | 49.3% | 21.4% |
| Mullin Report[75] | 46.2% | 20.5% |

(77) The pay rate applies only to claims that have reached resolution. To estimate the number of paid claims from the number of filed claims, one must first apply a resolution rate and then apply a pay rate to the resolved claims.[76] The Sackett Report omits the resolution rate. This Omission biases the estimated claim payments high by failing to account for claims that remain unresolved against the Debtors. Figure 9 displays the combined mesothelioma resolution rates and pay rates from the Sackett Report and the Mullin Report. The Sackett Report percentage remains the same as the prior Figure because of the implied 100% resolution rate.

**Figure 34: Combined mesothelioma resolution rate and pay rate used in future claims forecast**

| Report | Aldrich | Murray |
|---|---|---|
| Sackett Report[77] | 49.3% | 21.4% |
| Mullin Report[78] | 44.5% | 19.8% |

(78) The Sackett Report applies its pay rate to all filed claims. Omitting the resolution rate in this manner produces the same mathematical result as assuming a 100% resolution rate. This error manifests more strongly in the forecast of non-mesothelioma claims because, historically, a larger percentage of non-mesothelioma claims remain unresolved.[79] Incorporating the resolution rate into the Sackett Report

[75] See Footnote 22.

[76] See Footnote 23.

[77] The Sackett Report results found in this Figure are the same as in Figure 33 because the Sackett Report does not apply a resolution rate.

[78] The Mullin Report uses a historical calibration period of 2004–2014 to calculate the resolution rate. See Footnote 22, which discusses the calibration periods used for the pay rate.

[79] Of all open claims filed prior to 2015, less than 3% are mesothelioma.

estimate decreases the mesothelioma forecast by approximately 3% and the non-mesothelioma forecast by 9%, resulting in an overall decrease of 4%.

### III.D.2. Data truncation

(79) The Sackett Report truncates the data used to calculate pay rates by excluding claims filed prior to 2013.[80] Because the Sackett Report calculates pay rates by resolution year, limiting to claims filed in 2013 or later excludes claims that were filed before 2013 but resolved within the calibration period. Statisticians refer to this type of restriction as data truncation. Without careful statistical treatment, data truncation can bias the calculation of rates and averages.[81] Correspondingly, the Mullin Report does not implement any filing date truncation when calculating the pay rate.

(80) In this case, data truncation introduces selection bias because the Debtors historically resolved paid claims more quickly than claims that were ultimately dismissed (see Figure 16 and Figure 17). Excluding older filing years removes these slower-resolving dismissals from the calculations, increasing the Sackett Report's calculated pay rate. Figure 35 presents the recalculated pay rates after removing the filing year truncation. The corrected pay rates uniformly decline.

**Figure 35: Sackett Report pay rates adjusted for data truncation**

| Debtor | Mesothelioma | Lung cancer | Other cancers | Non-malignant |
|---|---|---|---|---|
| Aldrich | | | | |
| Truncated | 49% | 53% | 49% | 59% |
| Not truncated | 46% | 31% | 31% | 6% |
| Difference | (3.7%) | (22.6%) | (17.3%) | (53.3%) |
| Murray | | | | |
| Truncated | 21% | 35% | 50% | 51% |
| Not truncated | 19% | 14% | 25% | 4% |
| Difference | (1.9%) | (20.2%) | (24.3%) | (47.2%) |

(81) Correcting the data truncation bias in the Sackett Report results in a further reduction to the forecast, from $730 million to approximately $650 million.

[80] The Sackett Report also uses truncated data when calculating the ASV. This report focuses on the pay rate as the pay rate error has a larger impact on the forecast. However, both corrections are made in preparation of this analysis. Sackett Reliance Materials, File name: "Aldrich.do"; Sackett Reliance Materials, File name: "Murray.do".

[81] *See* Russell Davidson and James G. MacKinnon, *Econometrics Theory and Methods*, (New York: Oxford University Press, (2004): 481–482.



Charles H. Mullin, PhD

March 27, 2026

Date

# Appendix A. Materials relied upon

(82) In addition to all materials below, I incorporate by reference all materials used or cited in this report and the Mullin Report.

## A.1. Litigation

### A.1.a. Documents and materials related to *in re ALDRICH PUMP LLC, et al.*

- Affidavit of Carl R. Schwertz, No 20-BK-30608 (Bankr. W.D.N.C. September 12, 2025).
- Conformed Initial Expert Report of Andrew J. Sackett, J.D., Ph.D., September 15, 2025.
- Corrected Expert Report of Charles H. Mullin, PhD, September 15, 2025.
- Expert Report of The Brattle Group on Behalf of Future Claimants' Representative, September 15, 2025.
- Informational Brief of Aldrich Pump LLC and Murray Boiler LLC, No. 20-BK-30608 (W.D.N.C. June 18, 2020).
- Order Commencing Phase I of the Estimation Trial with Hearings Based on the Tort System Extrapolation Method and the Parties' Expert Reports, 3011, No. 20-BK-30608 (Bankr. W.D.N.C. January 23, 2026).
- Second Amended Case Management Order for Estimation of Asbestos Claims, 2656, No. 20-BK-30608 (W.D.N.C. April 17, 2025).

### A.1.b. Documents and materials in other legal matters

- Bloomberg L.P., Verdict summary, Gaskill v. Air & Liquid Sys. Corp., 2:17-cv-10757-ES-LDW (N.J. Dist. Ct. June 18, 2024).
- Bloomberg L.P., Verdict summary, Katcham v. Caudle-Hyatt Inc., CL2202484P-00 (Va.Cir. October 9, 2024).
- Bloomberg L.P., Verdict summary, Vera Letha Adams the Surviving Spouse of Perry Wilson Adams v. Air and Liquid Systems Corp. et al, No. STCV1003924 (Chatham Cty. Ga. June 13, 2016).
- Garlock Order Estimating Aggregate Liability, *In re Garlock Sealing Technologies, et al.*, No. 10-31607 (Bankr. W.D.N.C. January 10, 2014).

- Mealey's Litigation Report, "California Jury Awards $3,330,312 For Man's Mesothelioma," *Mealey's Litigation Report: Asbestos* 21, no. 5 (December 2021).
- Mealey's Litigation Report, "Florida Jury Awards $18M in British Navy Asbestos Case," *Mealey's Litigation Report: Asbestos* 37, no. 5 (April 13, 2022).
- Mealey's Litigation Report, "Florida Jury Returns $6,785,000 Verdict in Mesothelioma Case," *Mealey's Litigation Report: Asbestos* 32, no. 11 (July 12, 2017).
- Mealey's Litigation Report, "Illinois Jury Awards $6 Million in Asbestos Case Against John Crane," *Mealey's Litigation Report: Asbestos* 33, no. 20 (November 21, 2018).
- Mealey's Litigation Report, "Illinois Jury Returns $40.75M Verdict in Asbestos Gasket Case," *Mealey's Litigation Report: Asbestos* 38, no. 15 (September 13, 2023).
- Mealey's Litigation Report, "Ohio Asbestos Jury Awards $12.1 Million Against Gasket Company," *Mealey's Litigation Report: Asbestos* 20, no. 11 (June 2021).
- Mealey's Litigation Report, "Pennsylvania Jury Awards Couple $25M For Asbestosis," *Mealey's Litigation Report: Asbestos* 37, no. 23 (January 11, 2023).
- Mealey's Litigation Report, "Virginia Jury Awards $6.5M in Asbestos Case Against John Crane Inc.," *Mealey's Litigation Report: Asbestos* 31, no. 4 (March 2016).
- Mealey's Litigation Report, "Woman Defends South Carolina Asbestos Verdict From Causation, Other Challenges," *Mealey's Litigation Report: Asbestos* 39, no. 7 (May 8, 2024).
- Memorandum Opinion, *In re Bondex International, Inc.*, No. 10-11780 (Bankr. D. Del. May 20, 2013).
- Order Authorizing Estimation of Current and Future Mesothelioma Claims, *In re Bestwall LLC*, No. 17-31795 (Bankr. D. Del. January 19, 2021).
- Order Authorizing Estimation of Current and Future Mesothelioma Claims, *In re DBMP LLC*, No. 20-30080 (Bankr. W.D.N.C. November 29, 2021).
- Settlement Agreement. Trane US Inc. and [redacted] March 18, 2013.
- Verdict and Settlement Summary, Holder v. John Crane Inc., No. 1909250035, 2019 WL 4734629 (Pa.Com.Pl.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Holder v. John Crane Inc., No. 2106030011, 2020 WL 9889532 (Or.Cir.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Long v. John Crane Inc., 25 Or.Lit.Arb.Rpts. 127, 2025 WL 3903495 (Or.Cir.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Murray v. John Crane Inc., No. 1704270041, 2017 WL 1520091 (Pa.Com.Pl.) (Verdict and Settlement Summary).

- Verdict and Settlement Summary, Pimpinelllo v. John Crane Inc., No. 1807160024, 2017 WL 9884923 (Pa.Com.Pl.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Roverano v. John Crane Inc., No. 1701310017, 2016 WL 8235218(Pa.Com.Pl.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Shaw v. John Crane Inc., No. 1705040026, 2017 WL 1735352 (Cal.Super.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Sprague v. John Crane Inc., 17 Or.Lit.Arb.Rpts. 256, 2017 WL 4049370 (Or.Cir.) (Verdict and Settlement Summary).
- Verdict and Settlement Summary, Wysocki v. John Crane Inc., No. 1901230030, 2018 WL 7107654 (Pa.Com.Pl.) (Verdict and Settlement Summary).

## A.2. Publicly available documents

### A.2.a. Annual reports

- Smiths Group PLC. *Annual Report*.
  - Reporting years: 2016, 2018, 2019, 2021, 2024, 2025.
- Twentieth Annual Report and Accounting of Western Asbestos Settlement Trust, *In re Western Asbestos Company*, 1926, No. 13-31914-HLB (Bankr. N.D. Cal. June 6, 2024).

### A.2.b. Trust Distribution Procedures and Claims Resolution Procedures

- A-Best Products Company. Inc. *First Amended Asbestos Personal Injury Settlement Trust Distribution Procedures*. https://www.abestasbestostrust.com/assets/documents/resources/Trust-Distribution-Procedures.pdf.
- ASARCO Asbestos Personal Injury Settlement Trust. *Asbestos Personal Injury Settlement Trust Distribution Procedures*. https://www.asarcotrust.com/assets/documents/resources/ASARCO-Trust-Distribution.pdf.
- C.E. Thurston & Sons, Inc. *Asbestos Related Claims and Demands Trust Distribution Procedures*. https://www.claimsres.com/wp-content/uploads/2016/11/C-E-Thurston-TDP-Revision-1b.pdf.
- Combustion Engineering 524(g) Asbestos PI Trust. *Second Amended and Restated Asbestos Trust Distribution Procedures*. https://www.cetrust.org/assets/uploadedFiles/891543a9-a055-498d-83e4-ed77262d2f9c.pdf.

- Garlock Settlement Facility. *Settlement Facility Second Amended and Restated Claims Resolution Procedures*. April 2021. https://garlocksettlementfacility.com/assets/uploadedFiles/8eedc7d3-3283-4663-b851-3a929d102e94.pdf.
- Manville Personal Injury Settlement Trust. *2002 Trust Distribution Process*. May 2021. https://www.claimsres.com/wp-content/uploads/2016/11/2002-TDP-May-2021-Revision-1.pdf.
- The Babcock & Wilcox Company. *Asbestos PI Settlement Trust Distribution Procedures*. https://www.bwasbestostrust.com/wp-content/uploads/2015/12/BW.-Amended-TDP.12.2.2015-C0463536x9DB18.pdf.
- The Christy Refractories Company, LLC. *First Amended Asbestos Personal Injury Trust Distribution Procedures.* https://www.christy-trust.com/assets/documents/resources/Trust-Distribution-Procedures.pdf.
- Western Asbestos Settlement Trust. *Third Amendment to and Complete Restatement of Western Asbestos Settlement Trust Case Valuation Matrix*. https://www.wastrust.com/wp-content/uploads/2020/08/WAST-Third-Amendment-to-and-Complete-Restatement-of-Matrix.pdf.

### A.2.c. Academic literature

- Aaronson, Daniel, Jonathan Davis, and Luojia Hu. "Explaining the Decline in the U.S. Labor Force Participation Rate." *Chicago Fed Letter,* No. 296 (2012).
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- Davidson, Russell and James G. MacKinnon. *Econometrics Theory and Methods*. New York: Oxford Press, 2004.
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- Nicholson, William J., George Perkel, and Irving J. Selikoff. "Occupational Exposure to Asbestos: Population at Risk and Projected Mortality - 1980–2030." *American Journal of Industrial Medicine*, no. 3 (1982): 259–311.
- Pollack, Richard A., Scott M. Bouchner, Craig M. Enos, Colin A. Johns, and John D. Moyl. *Calculating Lost Profits*. New York: AICPA, 2006.
- Rice, Carol and Ellen F. Heineman. "An Asbestos Job Exposure Matrix to Characterize Fiber Type, Length, and Relative Exposure Intensity." *Applied Occupational and Environmental Hygien*e 18, no. 7 (2003): 506–512.

- Woytinsky, Wladimir S. "Postwar Economic Perspectives-II. Prewar Experience: The Labor Force and Employment." *Social Security Bulletin,* 9 (1946): 8–16. https://www.ssa.gov/policy/docs/ssb/v9n1/index.html.

### A.2.d. Other publicly available documents

- Bureau of Labor Statistics. "Consumer Price Index News Release." News release, August 12, 2020. https://www.bls.gov/news.release/archives/cpi_08122020.htm.
- Center for Disease Control. "Incidence of Malignant Mesothelioma." Accessed March 17, 2026. https://www.cdc.gov/united-states-cancer-statistics/publications/mesothelioma.html.
- Center for Disease Control. "USCS Cautionary Notes." Accessed March 23, 2026. https://www.cdc.gov/united-states-cancer-statistics/public-use/cautionary-notes.html.
- Charles R. Gueli. "Personal Injury Statute of Limitations: Time Limits to File Claims in all 50 States." Accessed March 4, 2026. https://www.injuryclaimcoach.com/claim-process/statute-of-limitations.html.
- Environmental Protection Agency. "Airborne Asbestos Health Assessment Update." (Report EPA/600/8-84/003F, June 1986).
- Justia. "Wrongful Death Lawsuits: 50-State Survey." Accessed March 4, 2026. https://www.justia.com/injury/wrongful-death/wrongful-death-lawsuits-50-state-survey/.
- National Cancer Institute. "Age and Cancer Risk." Accessed March 18, 2026. https://www.cancer.gov/about-cancer/causes-prevention/risk/age.
- U.S. Department of Health and Human Services. "Toxicological Profile for Asbestos." September 2001.

## A.3. Data

- Congressional Budget Office. "Long-Term Budget Projections." January 2020. https://www.cbo.gov/data/budget-economic-data#12.
- Congressional Budget Office. "Long-Term Economic Projections." March 2021. https://www.cbo.gov/data/budget-economic-data#12.
- Federal Reserve Bank of St. Louis. "Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity, Quoted on an Investment Basis." Series DGS10. https://fred.stlouisfed.org/series/DGS10.

- Federal Reserve Bank of St. Louis. "Market Yield on U.S. Treasury Securities at 20-Year Constant Maturity, Quoted on an Investment Basis." Series DGS20. https://fred.stlouisfed.org/series/DGS20.
- Federal Reserve Bank of St. Louis. "Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis." Series DGS30. https://fred.stlouisfed.org/series/DGS30.
- Information and other data produced along with the Brattle Report:
  - "cleaned_bw_data.dta"
  - "cleaned_bw_meso_data.xlsx"
  - "Figures 5, 7, 8 - Forecast Claims.xlsx"
  - "Tables 1, 7-9 and Figure 9.xlsx"
  - "Table 5 - Time to Close and Payment Rates.xlsx"
- Information and other data produced along with the Mullin Report:
  - "13 Filings to payment lags.xlsx"
  - "Claims database.dta"
  - "Claims database (all rows).dta"
  - "Cohort-adjusted incidence data.dta"
  - "Population.Data.Rds"
  - "SEER.Data.Rds"
  - "USCS.Data.Rds"
- Information and other data produced along with the Sackett Report:
  - "Aldrich.do"
  - "AldrichMurray_PIQ_pend_20250904.xlsx"
  - "Aldrich_&_Murray_Unknown_Injuries.xlsb"
  - "aldrichV6.dta"
  - "CPI-U_Inflation_Factors.dta"
  - "eci-continuous-dataset.xlsx"
  - "From_New_NN6z_By_Age__89_f_s_kM_kL_Bkgd_(KPMG_N82).csv"
  - "From_New_NN6z_Logfile_89_f_s_kM_kL_Bkgd_(KPMG_N82).csv"
  - "From_New_NN6z_Summary_89_f_s_kM_kL_Bkgd_(KPMG_N82).csv"

- "Liability_Estimation-Cash_Flow_Model_Aldrich.xlsx"
- "Liability_Estimation-Cash_Flow_Model_Murray.xlsx"
- "Mesothelioma_Forecast.xlsm"
- "Murray.do"
- "murrayV6.dta"
- "Nicholson_Forecast_(Aldrich).xlsm"
- "Nicholson_Forecast_(Murray).xlsm"
- "Sales-based_Forecast.xlsb"

- Mortality data:
  - "DeathProbsE_F_Hist_TR2025.csv"
  - "DeathProbsE_M_Hist_TR2025.csv"
- US Bureau of Labor Statistics. "*Databases, Tables & Calculators by Subject: CPI for All Urban Consumers (CPI-U).*" Series CUUR0000SAM, (accessed March 23, 2026). https://data.bls.gov/timeseries/ CUUR0000SAM.
- US Bureau of Labor Statistics. "*Databases, Tables & Calculators by Subject: CPI for All Urban Consumers (CPI-U).*" Series CUUR0000SA0, (accessed March 23, 2026). https://data.bls.gov/timeseries/ CUUR0000SA0.
- USCS mesothelioma incidence data: "USCS data by gender.csv"

# Appendix B. Responses to the Sackett Report incidence estimates

## B.1. Sackett Incidence Model

(83) Both the Mullin Report and the Sackett Report present updated versions of the Nicholson model: (i) the BWIM,[82] and (ii) the Sackett IM,[83] respectively. Simple comparisons between these models and the historical mesothelioma incidence data demonstrate that the BWIM closely aligns with the historical mesothelioma incidence data[84] and outperforms the Sackett IM in multiple dimensions.

(84) Figure 36 shows the observed mesothelioma incidence using the SEER (blue dots from 1995 to 2019) and USCS (orange dots from 2020 to 2022) data provided in the Sackett Report's reliance materials, overlayed with the predicted mesothelioma diagnoses from the Sackett IM (green line).[85] This Figure highlights the most recent three years of data, 2020 to 2022, as USCS typically revises recent years to higher levels in subsequent data releases due to the reporting delay noted by USCS. The Sackett IM demonstrates a poor fit to the data over the past two decades, with systematic overestimation of mesothelioma diagnoses prior to 2010 and underestimation thereafter.

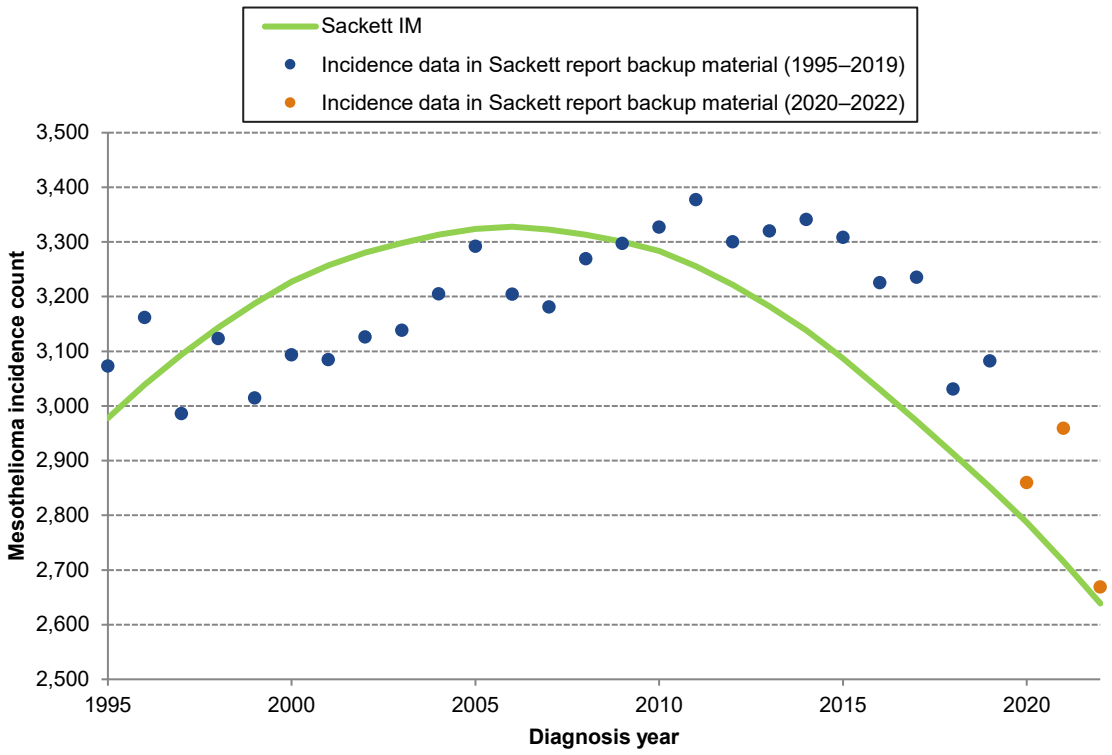
[82] Mullin Report, Appendix D. For the Nicholson model, see William J. Nicholson, George Perkel, and Irving J. Selikoff, "Occupational Exposure to Asbestos: Population at Risk and Projected Mortality - 1980–2030," *American Journal of Industrial Medicine*, no. 3 (1982): 259–311. Environmental Protection Agency, "Airborne Asbestos Health Assessment Update," (Report EPA/600/8-84/003F, June 1986).

[83] Sackett Report, at ¶¶ 101–113.

[84] Mullin Report, at ¶ 146.

[85] Diagnoses data in recent years (2018–2022) may not fully capture the complete mesothelioma diagnosis records. USCS cautions that a delay in reporting diagnoses may cause an artificial decline in the most recent reporting years. See the "Reporting delay" section in "USCS Cautionary Notes," Center for Disease Control, accessed March 23, 2026, https://www.cdc.gov/united-states-cancer-statistics/public-use/cautionary-notes.html. In addition, USCS notes that COVID-19 may have led to changes in cancer screening and diagnosis trends in 2020.

**Figure 36: Sackett IM total mesothelioma incidence (ACP and non-ACP diagnoses)**



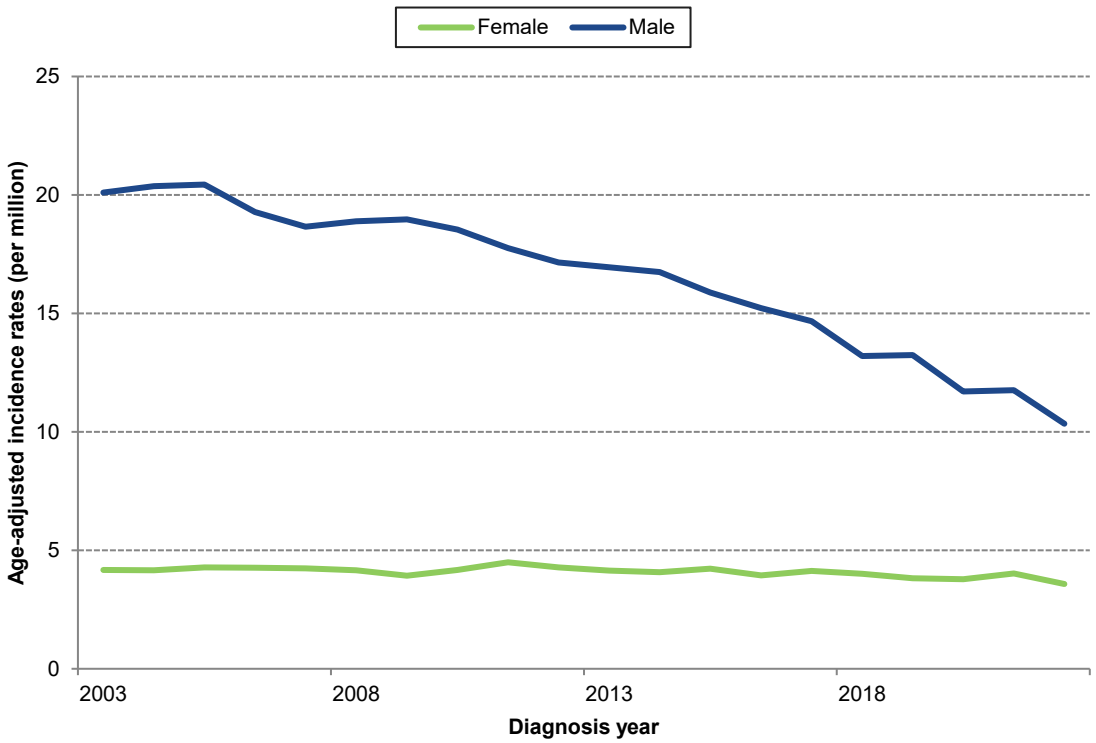

(85) The Sackett IM fails to fit the incidence data because the model suffers from several technical issues. A few examples of those technical shortcomings include the following:

- The Sackett IM does not model the differential effect on total incidence from the male and female exposed population. As shown in Figure, the male 2003 age-adjusted incidence rate[86] was four times the female age-adjusted rate and has declined subsequently. In contrast, the female age-adjusted rate has remained stable over time.[87] This distinction results from clear differences in the size of the exposed population in occupational settings, age distribution, general mortality rates, and competing risk factors to asbestos exposure, all of which introduce variation into modeling asbestos-related risks. The Sackett IM does not account for these gender differences and only generates predictions for both genders combined. Forecasts based on this model therefore do not align with the data trends in this key demographic dimension.

[86] USCS reports the number of new mesothelioma cases per 100,000 standard population, age-adjusted using the 2000 US standard population. "Incidence of Malignant Mesothelioma," Center for Disease Control, accessed March 17, 2026, https://www.cdc.gov/united-states-cancer-statistics/publications/mesothelioma.html. I convert the data to incidence per million to allow a more direct comparison with the units used in the Sackett model. Note that the crude incidence rate, unadjusted for age distribution, is not flat over time for females.

[87] See the rate of new malignant mesothelioma cases by sex and type provided by USCS. "Incidence of Malignant Mesothelioma," Center for Disease Control, accessed March 17, 2026, https://www.cdc.gov/united-states-cancer-statistics/publications/mesothelioma.html.

**Figure 37: Age-adjusted mesothelioma incidence rates for males and females in the US**




- The Sackett IM attempts to account for mesothelioma incidence that is not directly related to asbestos, which I refer to as the non-asbestos-related (non-ACP) mesothelioma incidence. Although it is necessary to account for such non-ACP incidence to fit total mesothelioma diagnoses, the Sackett IM does so incorrectly, biasing its results. The Sackett IM incorporates non-ACP mesothelioma by incorrectly assuming a constant background rate across all age groups and genders. Aging is one of the most important risk factors for cancer overall,[88] yet the Sackett IM assumes that people from all ages have the same risk of developing mesothelioma. Therefore, the Sackett IM's non-ACP predictions fail to align with the observed mesothelioma diagnosis data. For example, USCS data show that the rate of new malignant mesothelioma (ACP and non-ACP combined) for individuals under age 45 is close to zero, while the Sackett IM predicts a clearly contradictory rate of approximately two per million from non-ACP alone for the same age group.[89]
- The Sackett IM includes only 13 industry and occupation groups in the modeling of the risk of mesothelioma from asbestos exposure, broadly following the original 11 occupational exposure

[88] National Cancer Institute reports "advancing age is the most important risk factor for cancer overall and for many individual cancer types." "Age and Cancer Risk," National Cancer Institute, accessed March 18, 2026, https://www.cancer.gov/about-cancer/causes-prevention/risk/age.

[89] "Incidence of Malignant Mesothelioma," Center for Disease Control, accessed March 17, 2026, https://www.cdc.gov/united-states-cancer-statistics/publications/mesothelioma.html. *See* Sackett Reliance Materials, File name: "From_New_NN6z_Logfile_89_f_s_kM_kL_Bkgd_(KPMG_N82).csv".

groups from the 1982 Nicholson study.[90] The Sackett IM ignores the fact that the Nicholson study was not attempting to model all US mesothelioma incidence, but just the incidence stemming from certain occupations in direct exposure to asbestos-containing products.[91] Therefore, in order to model national mesothelioma incidence, the model must take into account occupations and industries beyond the ones considered in the Nicholson study. Further, since the Nicholson study in 1982, more information about occupational asbestos exposure has become available, which provides more precise measurements of both the exposure profiles over time and the exposed populations for more granular industry and occupation groups.[92]

- The Sackett IM assumes a single age distribution for workers starting a job each year ("new entrants") across its 13 industry and occupation groups. Moreover, the Sackett IM assumes the age distribution remains constant over time. These assumptions fail to account for the general demographic changes in the workforce and the demographic differences in its 13 industry and occupation groups.[93] For example, the increased participation of younger workers in heavy industries during World War II affected the workforce age distribution in the 1940s–1950s.[94] Similarly, the Baby Boom led to a pronounced workforce expansion starting in the 1960s.[95] Age distributions determine the size of the alive exposed population. In a competing risks model like the Nicholson model, younger workers show lower general mortality rates. The Sackett IM introduces excessive young new entrants into its population, which leads to an overestimation of the mesothelioma diagnoses in young age groups.

(86) The unrealistic assumptions on the workforce age distribution, combined with the ungrounded constant non-ACP rate by age, limit the Sackett IM's ability to predict the age profile of its

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90 William J. Nicholson, George Perkel, and Irving J. Selikoff, "Occupational Exposure to Asbestos: Population at Risk and Projected Mortality - 1980–2030," *American Journal of Industrial Medicine*, no. 3 (1982): 271. See Sackett Reliance Materials, File name: "From_New_NN6z_Summary_89_f_s_kM_kL_Bkgd_(KPMG_N82).csv".

91 Nicholson (1982) focused on exposed populations from 11 industry and occupation groups and made projections of mesothelioma incidence for those groups only. Nicholson cautioned that the population-at-risk estimated for the 11 industry and occupation groups did not include all groups exposed to asbestos, stating that "a large number of asbestos-exposed individuals are not included." William J. Nicholson, George Perkel, and Irving J. Selikoff, "Occupational Exposure to Asbestos: Population at Risk and Projected Mortality - 1980–2030," *American Journal of Industrial Medicine*, no. 3 (1982): 282–283.

92 Garlock Order Estimating Aggregate Liability, *In re Garlock Sealing Technologies, et al.,* No. 10-31607 (Bankr. W.D.N.C. January 10, 2014); Carol Rice and Ellen F. Heineman, "An Asbestos Job Exposure Matrix to Characterize Fiber Type, Length, and Relative Exposure Intensity," *Applied Occupational and Environmental Hygiene* 18, no. 7 (2003): 506–512; Carla Cicioni et al., "Occupational Asbestos Exposure and Mesothelioma Risk in Los Angeles County: Application of an Occupational Hazard Survey Job-Exposure Matrix," *American Journal of Industrial Medicine* no. 20 (1991): 371–379.

93 The Census and the Bureau of Labor Statistics provide the age distribution of the general working population. The Sackett IM does not incorporate this available data but instead relies on the age distribution assumed in the original Nicholson study. *See* KPMG Peat Marwick Policy Economics Group, *Estimation of Company Liability Personal Injury*, no. 1 (1992): 63.

94 *See* Wladimir S. Woytinsky, "Postwar Economic Perspectives-II. Prewar Experience: The Labor Force and Employment," *Soc. Sec. Bull.* no. 9 (1946): 10–11, https://www.ssa.gov/policy/docs/ssb/v9n1/index.html.

95 *See* Daniel Aaronson, et al., "Explaining the Decline in the U.S. Labor Force Participation Rate," *Chicago Fed Letter*, No. 296 (2012): Figure 1.

mesothelioma incidence. This results in Sackett IM's poor performance across key demographic dimensions.

## B.2. Sackett Report historical sales model

(87) The Sackett Report presents an alternative method (the "Sales Method") for forecasting incidence based on historical sales data from the Debtors' predecessors. It describes this model as an "independent confirmation of the projections" from the Nicholson model.[96] A false claim. This section will describe (i) the shortcomings of the Sales Method and (ii) the results of the Sales Method after correcting its principal errors.

### B.2.a. Analysis of Sales Method incidence curve

(88) The Sackett Report estimates its Sales Method in three main steps. First, it constructs a dataset of the historical sales data for each Debtor's predecessors. Second, it scales this sales data based on the national trend of asbestos use. Finally, it lags this adjusted sales curve to account for the time between asbestos use and observed mesothelioma diagnoses.[97] Each of these steps incorporates far-reaching assumptions and inconsistencies which undermine the Sales Method's credibility.

(89) The Sackett Report states that it relies on the Debtors' predecessors' sales data acquired from public sources, but it does not list any sources. I have not verified these raw sales data. Based on the Sackett Report's description of these data, the Sales Method correlates mesothelioma incidence with the Debtors' total sales, inclusive of products that never contained asbestos. The Sackett Report presents no analyses to test the assumption that the Debtors' predecessors' total sales provide a reliable proxy for the Debtors' sales of asbestos-containing products.

(90) To attempt to account for this problem, the Sackett Report relies on total US asbestos use to scale the sales data to better match asbestos use related to the Debtors' products. On its face, this adjustment requires the assumption that as asbestos use rose and fell throughout the 20th century, the Debtors' predecessors' production followed the same trend. Again, the Sackett Report presents no analyses to test the assumption. Additionally, the Sackett Report does not limit the asbestos use data in any way to reflect the industries in which the Debtors' products were used. The Sackett Report does not limit to asbestos used in gaskets and packing (the parts within products sold by the Debtors) or to asbestos

[96] Sackett Report, at ¶ 132.

[97] Sackett Report, at ¶¶ 115–134.

used in pipe and block insulation (which was often present in industrial settings near the Debtors' products).[98]

(91) Finally, the Sackett Report asserts that it lags the adjusted sales curve by 43 years, which it had previously determined was the lag that created the greatest correlation with historical mesothelioma incidence.[99] However, the Sackett Report's working papers appear to follow a different methodology: the constructed sales data curves are lagged using a normal distribution centered at about 40 years. This contradicts the text of the report.[100] There is no explanation in the Sackett Report or its reliance materials for why this normal distribution lag is appropriate.

### B.2.b. Updates and corrections to sales-based forecast results

(92) My analyses and conclusions about the Sackett Report's Nicholson-based forecast hold for the Sales Method forecast as well. The total forecast for the Sales Method is higher than the Nicholson-based forecast, but most of the forecast still derives from the Sackett Report's erroneous Additions, unrealistic Financial Parameters, and Omissions. As seen in Figure 38, correcting these errors reduces the Sackett Report Sales Method forecast from $3.4 billion to $650 million.

**Figure 38: Waterfall quantifying the impact of Sackett Report errors on Sales Method forecast**

| Waterfall | Aldrich | Murray | Total |
|---|---|---|---|
| Sackett Report total | $2,080 MM | $1,350 MM | $3,430 MM |
| Erroneous Additions | | | |
| Defense costs | ($500 MM) | ($410 MM) | ($920 MM) |
| Abandoned pending claims | ($230 MM) | ($170 MM) | ($400 MM) |
| Verdicts | ($70 MM) | ($70 MM) | ($140 MM) |
| Non-mesothelioma gross-up errors | ($170 MM) | ($90 MM) | ($260 MM) |
| Financial Parameters | ($620 MM) | ($340 MM) | ($950 MM) |
| Omissions | | | |
| Resolution rate | ($20 MM) | ($10 MM) | ($30 MM) |
| Data truncation | ($30 MM) | ($50 MM) | ($80 MM) |
| Corrected Sackett Report total | **$440 MM** | **$220 MM** | **$650 MM** |
| Mullin Report | | | **$645 MM** |

[98] Informational Brief of Aldrich Pump LLC and Murray Boiler LLC, No. 20-BK-30608 (W.D.N.C. June 18, 2020) at 6–11.

[99] Sackett Report, at ¶ 117. If this was the case, this would be a flawed assumption. With a fixed historically exposed population, the lag from exposure to diagnoses must increase with each passing year.

[100] Sackett Report, at ¶ 117; Sackett Reliance Materials, File name: "Sales-based_Forecast.xlsb", Latency-A; Sackett Reliance Materials, File name: "Sales-based_Forecast.xlsb", Latency-M.

# Appendix C. Updates to Estimation Opinion

(93) As discussed in Section II, the Brattle Report provides a point estimate for future 524(g) trust rates of return. Figure 39 and Figure 40 display the component-based and expenditure-based forecast ranges from the Mullin Report after replacing the 6.5% upper bound with the Brattle Report 6.11% estimate.

**Figure 39: Component-based forecast range incorporating 6.11% discount rate[101]**

| Scenario parameters | | | | Aldrich | | Murray | | Total |
|---|---|---|---|---|---|---|---|---|
| Calibration period | ASV trend | Discount rate | Non-ACP incidence | Pending[102] | Future | Pending | Future | |
| 5 years | Hist. trend | 6.11% | 0% Non-ACP | $85 MM | $275 MM | $40 MM | $135 MM | $535 MM |
| 3 years | Hist. trend | 6.11% | 0% Non-ACP | $80 MM | $265 MM | $45 MM | $145 MM | $540 MM |
| 10 years | Hist. trend | 6.11% | 0% Non-ACP | $90 MM | $285 MM | $40 MM | $140 MM | $560 MM |
| 5 years | None | 6.11% | 0% Non-ACP | $85 MM | $290 MM | $45 MM | $160 MM | $575 MM |
| 3 years | None | 6.11% | 0% Non-ACP | $80 MM | $280 MM | $45 MM | $170 MM | $580 MM |
| 5 years | Hist. trend | 6.11% | 20% Non-ACP | $90 MM | $310 MM | $40 MM | $145 MM | $590 MM |
| 5 years | Hist. trend | 4.50% | 0% Non-ACP | $85 MM | $315 MM | $45 MM | $150 MM | $590 MM |
| 3 years | Hist. trend | 4.50% | 0% Non-ACP | $80 MM | $305 MM | $45 MM | $160 MM | $595 MM |
| 3 years | Hist. trend | 6.11% | 20% Non-ACP | $85 MM | $305 MM | $45 MM | $155 MM | $595 MM |
| 10 years | None | 6.11% | 0% Non-ACP | $90 MM | $300 MM | $40 MM | $170 MM | $600 MM |
| 10 years | Hist. trend | 4.50% | 0% Non-ACP | $90 MM | $325 MM | $40 MM | $160 MM | $615 MM |
| 10 years | Hist. trend | 6.11% | 20% Non-ACP | $95 MM | $330 MM | $40 MM | $155 MM | $620 MM |
| 5 years | None | 6.11% | 20% Non-ACP | $90 MM | $330 MM | $45 MM | $175 MM | $635 MM |
| 5 years | None | 4.50% | 0% Non-ACP | $85 MM | $330 MM | $45 MM | $180 MM | $640 MM |
| 3 years | None | 4.50% | 0% Non-ACP | $85 MM | $320 MM | $50 MM | $195 MM | $645 MM |
| 3 years | None | 6.11% | 20% Non-ACP | $85 MM | $320 MM | $50 MM | $185 MM | $645 MM |
| 5 years | Hist. trend | 4.50% | 20% Non-ACP | $90 MM | $355 MM | $45 MM | $165 MM | $655 MM |
| 3 years | Hist. trend | 4.50% | 20% Non-ACP | $90 MM | $350 MM | $45 MM | $175 MM | $660 MM |
| 10 years | None | 4.50% | 0% Non-ACP | $90 MM | $345 MM | $40 MM | $190 MM | $665 MM |
| 10 years | None | 6.11% | 20% Non-ACP | $95 MM | $350 MM | $40 MM | $185 MM | $670 MM |
| 10 years | Hist. trend | 4.50% | 20% Non-ACP | $95 MM | $380 MM | $40 MM | $175 MM | $690 MM |
| 5 years | None | 4.50% | 20% Non-ACP | $95 MM | $380 MM | $45 MM | $200 MM | $715 MM |
| 3 years | None | 4.50% | 20% Non-ACP | $90 MM | $370 MM | $50 MM | $215 MM | $720 MM |
| 10 years | None | 4.50% | 20% Non-ACP | $95 MM | $400 MM | $45 MM | $215 MM | $750 MM |

[101] I have included the gross-up to account for non-mesothelioma claims.

[102] The stated amounts exclude claims that were settled pre-Petition and either not documented or not negotiated ("SBND" claims). Many, but not all, of those claims will eventually provide the necessary information for compensation. I understand from counsel that $10 million to $15 million of the approximately $18 million of SBND claims listed in the Debtors' database may receive compensation. Counsel's estimate corresponds with my own experience with SBND claims.

**Figure 40: Annual-expenditure-based forecast range incorporating 6.11% discount rate[103]**

| Expenditure forecast scenario | Aldrich | Murray | Total |
|---|---|---|---|
| Low | $290 MM | $150 MM | $440 MM |
| High | $450 MM | $245 MM | $695 MM |

(94) Additionally, as seen in Section III.C, the experts provide different estimates for the discount rate and ASV inflation trend. As the rates are additive, I can test the impact of changing the combined discount and ASV inflation rate (the "real discount rate"). For each percentage point change in the real discount rate, the forecast changes by approximately 6.5%.[104]

(95) The Mullin Report presents results for three mesothelioma actuarial curves, ranging from a low-end curve based on only asbestos-related mesothelioma incidence to a high-end curve including 20% of the non-asbestos-related mesothelioma incidence curve.[105] Figure 41 below provides updated component-based forecast scenarios using 10% of the non-asbestos-related incidence curve as a mid-range estimate.

[103] I have included the gross-up to account for non-mesothelioma claims.

[104] For example, using the two Figure 39 scenarios with (i) a 3-year calibration period; (ii) no ASV inflation; and (iii) 20% Non-ACP incidence, the $75 million difference between the $720 million and $645 million scenario is a 10.4% decrease in response to a 1.61 percentage point increase in the discount rate. This roughly equates to a 6.5% forecast change per percentage point change in the real discount rate. ($720 MM - $645 MM) / $720 MM = 10.4%; 6.11% - 4.50% = 1.61%; 10.4% / 1.61% = 6.5%. More generally, across all scenarios presented in Figure 39, the forecast changes by 6%–7% for each percentage point change in the real discount rate. This is an approximation because changes in the real discount rate are not perfectly linear. The exact amount of the change also depends on the starting scenario and the relative timing of payments based on the actuarial curve.

[105] Mullin Report, at ¶¶ 126, 148.

**Figure 41: Component-based forecast range using 10% Non-ACP incidence[106]**

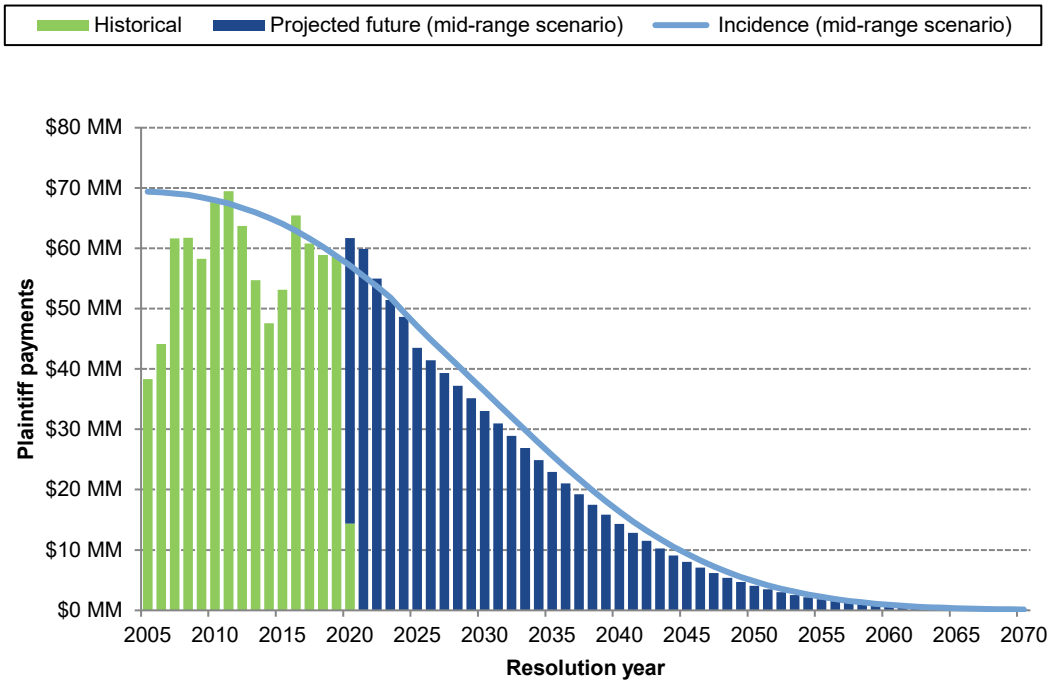
| Scenario parameters | | | | Aldrich | | Murray | | Total |
|---|---|---|---|---|---|---|---|---|
| Calibration period | ASV trend | Discount rate | Non-ACP incidence | Pending[107] | Future | Pending | Future | |
| 5 years | Hist. trend | 6.50% | 10% Non-ACP | $85 MM | $285 MM | $40 MM | $135 MM | $545 MM |
| 3 years | Hist. trend | 6.50% | 10% Non-ACP | $80 MM | $275 MM | $45 MM | $145 MM | $550 MM |
| 5 years | Hist. trend | 6.11% | 10% Non-ACP | $85 MM | $290 MM | $40 MM | $140 MM | $560 MM |
| 3 years | Hist. trend | 6.11% | 10% Non-ACP | $85 MM | $285 MM | $45 MM | $150 MM | $565 MM |
| 10 years | Hist. trend | 6.50% | 10% Non-ACP | $90 MM | $295 MM | $40 MM | $145 MM | $570 MM |
| 10 years | Hist. trend | 6.11% | 10% Non-ACP | $90 MM | $305 MM | $40 MM | $150 MM | $585 MM |
| 5 years | None | 6.50% | 10% Non-ACP | $85 MM | $300 MM | $45 MM | $160 MM | $590 MM |
| 3 years | None | 6.50% | 10% Non-ACP | $85 MM | $290 MM | $45 MM | $175 MM | $595 MM |
| 5 years | None | 6.11% | 10% Non-ACP | $85 MM | $305 MM | $45 MM | $165 MM | $605 MM |
| 3 years | None | 6.11% | 10% Non-ACP | $85 MM | $300 MM | $50 MM | $180 MM | $610 MM |
| 10 years | None | 6.50% | 10% Non-ACP | $90 MM | $310 MM | $40 MM | $175 MM | $615 MM |
| 5 years | Hist. trend | 4.50% | 10% Non-ACP | $90 MM | $335 MM | $45 MM | $155 MM | $620 MM |
| 3 years | Hist. trend | 4.50% | 10% Non-ACP | $85 MM | $325 MM | $45 MM | $170 MM | $625 MM |
| 10 years | None | 6.11% | 10% Non-ACP | $90 MM | $320 MM | $40 MM | $180 MM | $630 MM |
| 10 years | Hist. trend | 4.50% | 10% Non-ACP | $90 MM | $350 MM | $40 MM | $170 MM | $650 MM |
| 5 years | None | 4.50% | 10% Non-ACP | $90 MM | $350 MM | $45 MM | $190 MM | $675 MM |
| 3 years | None | 4.50% | 10% Non-ACP | $85 MM | $340 MM | $50 MM | $205 MM | $680 MM |
| 10 years | None | 4.50% | 10% Non-ACP | $90 MM | $370 MM | $45 MM | $205 MM | $705 MM |

(96) I define an illustrative mid-range estimate ($610 million NPV) for the component-based forecast by using (i) a 3-year calibration period, (ii) no ASV inflation, (iii) a 6.11% discount rate, and (iv) 10% of the non-asbestos-related mesothelioma incidence curve (the highlighted row of Figure 41). Figure 42 displays the annual nominal payments by resolution year for this illustrative scenario.

[106] I have included the gross-up to account for non-mesothelioma claims.

[107] The stated amounts exclude claims that were settled pre-Petition and either not documented or not negotiated ("SBND" claims). Many, but not all, of those claims will eventually provide the necessary information for compensation. I understand from counsel that $10 million to $15 million of the approximately $18 million of SBND claims listed in the Debtors' database may receive compensation. Counsel's estimate corresponds with my own experience with SBND claims.

**Figure 42: Component-based mid-range mesothelioma forecast (Aldrich and Murray)**




(97) I define an illustrative mid-range estimate ($550 million NPV) for the expenditure-based forecast by using (i) no ASV inflation, (ii) a 6.11% discount rate, and (iii) 10% of the non-asbestos-related mesothelioma incidence curve. The resulting nominal expenditures can be observed in Figure 43, Figure 44, and Figure 45.

**Figure 43: Annual-expenditure-based mid-range mesothelioma forecast (Aldrich)**

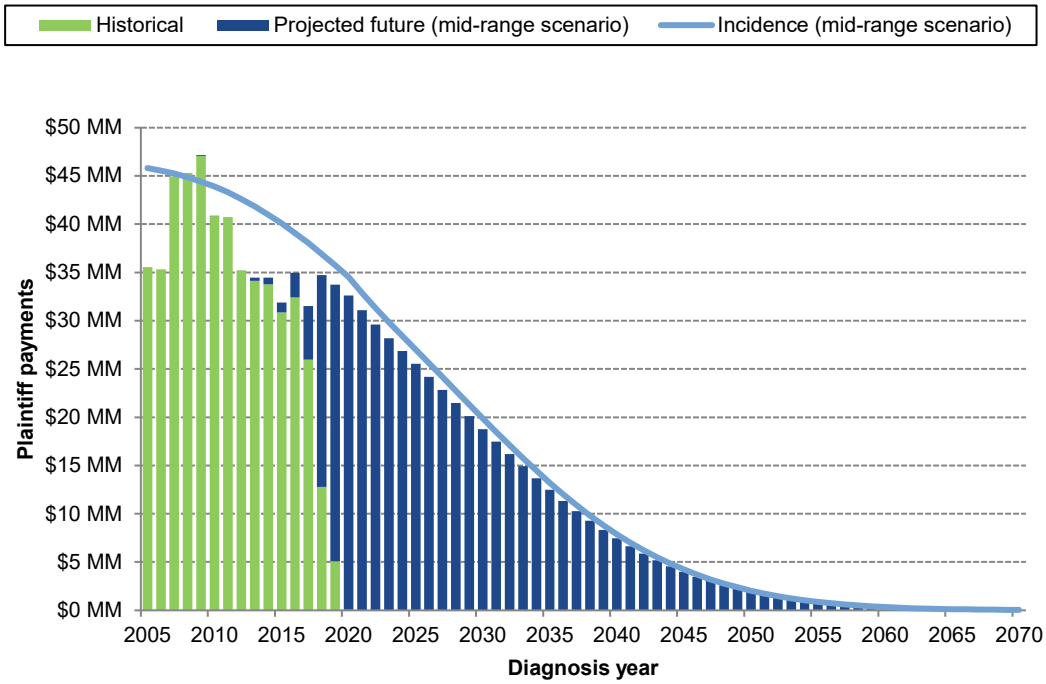


**Figure 44: Annual-expenditure-based mid-range mesothelioma forecast (Murray)**

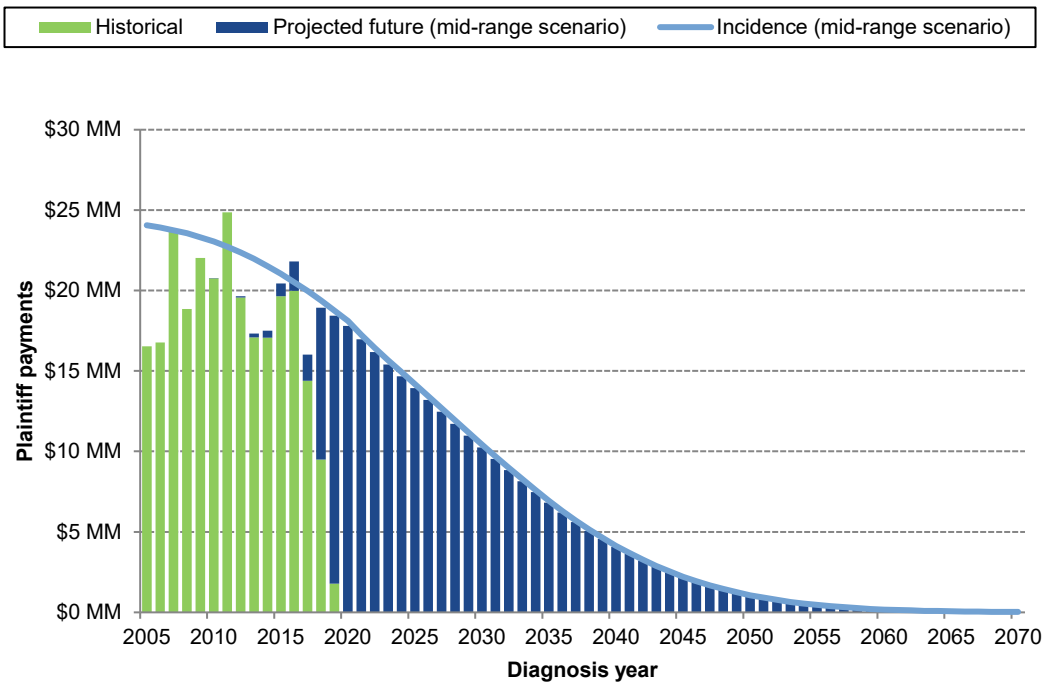
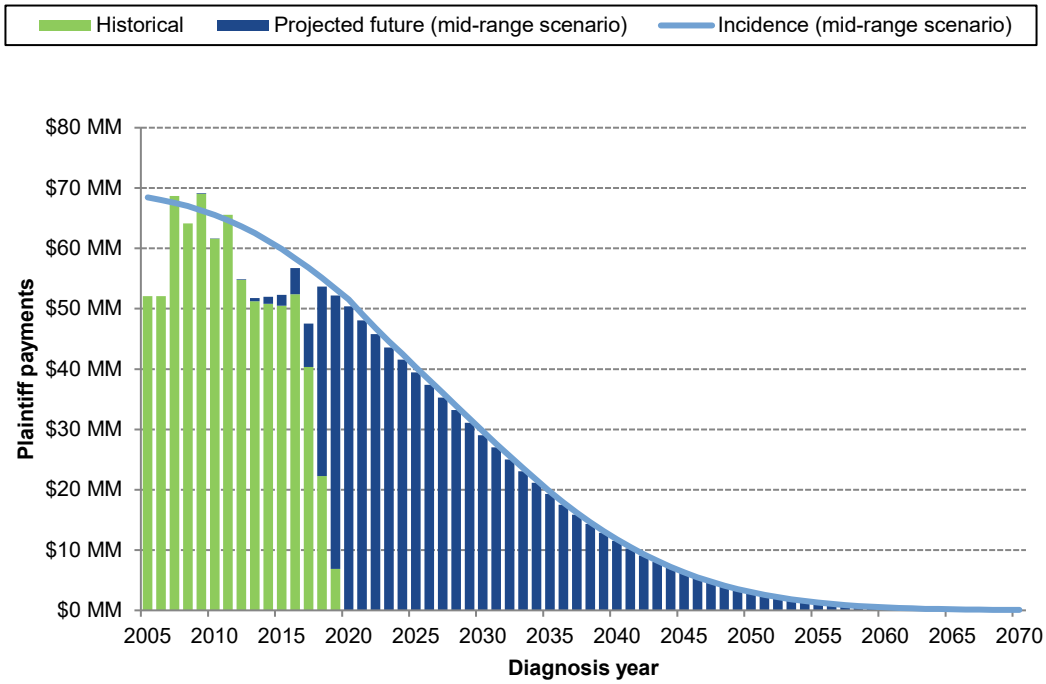


**Figure 45: Annual-expenditure-based mid-range mesothelioma forecast (Aldrich and Murray)**



# EXHIBIT C

**From:** Hirst, Morgan R. <mhirst@jonesday.com>
**Sent:** Thursday, April 30, 2026 5:24 PM
**To:** James Wehner; C. Michael Evert, Jr.
**Cc:** Guy, Jonathan P.; Natalie D. Ramsey (nramsey@rc.com); Mauceri, Rachel Jaffe; Kevin Maclay; Kevin Davis
**Subject:** EXTERNAL: RE: Aldrich - Mullin Depo

Jim:

Thanks for reaching out on this issue.

To be clear, in Phase I of the estimation trial we understand that the Judge will estimate the net present value of the amounts the Debtors would have paid in settlements of asbestos claims had the Debtors stayed in the tort system. We will not be offering evidence in Phase I quantifying what portion of the Debtors' historical tort system settlements Debtors believe should not be considered as "liability," which we understand to be a Phase II issue.

As was discussed in detail at the January 15 hearing (and in meet and confers leading up to the same), we have never thought it appropriate to go through Dr. Mullin's report section by section in an effort to identify what is Phase I and what is Phase II. There may well be individual facts or opinions stated in each section that are relevant to Phase I even though the section may be focused on Phase II. We presume the ACC essentially went through the process of separating what it viewed as the Phase I and Phase II issues in Dr. Mullin's report in working with Ms. Austin to prepare her rebuttal report.

To us, this is not dissimilar to Dr. Sackett's opinions in regard to hypothetical verdicts and defense costs, as, in our view, those are not "tort system extrapolation" and should not be considered in Phase I. We assume the ACC doesn't agree with that, so we see no choice but to depose him on those topics and be prepared for the Judge to decide what is relevant to Phase I and what is not, much like the Judge does in any trial where the parties may dispute the relevance of certain evidence.

See you Monday.

Morgan R. Hirst
Partner
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Office +1.312.269.1535
Mobile +1.773.490.2039
mhirst@jonesday.com

---

**From:** James Wehner <jwehner@capdale.com>
**Sent:** Wednesday, April 29, 2026 1:45 PM
**To:** C. Michael Evert, Jr. <CMEvert@ewhlaw.com>; Hirst, Morgan R. <mhirst@jonesday.com>
**Cc:** Guy, Jonathan P. <jguy@orrick.com>; Natalie D. Ramsey (nramsey@rc.com) <nramsey@rc.com>; Mauceri, Rachel Jaffe <rmauceri@rc.com>; Kevin Maclay <kmaclay@capdale.com>; Kevin Davis <KDavis@Capdale.com>
**Subject:** Aldrich - Mullin Depo

Michael and Morgan:

With respect to the upcoming deposition of Dr. Mullin, can you let us know what opinions disclosed in the Corrected Initial Expert Report are, and are not, going to be presented in the Phase 1 hearing? In light of the Court's remarks at the January 15 hearing at 80:17-22 (that we will be using the tort system extrapolation method based on the debtors' settlement history and verdicts, and we will not be addressing legal liability or science issues), we would assume that the estimation opinions found in Sections V.B and V.C of the Corrected Initial Report reflecting a $425-750 million NPV estimate range are ones that Dr. Mullin will present at the hearing. Are there any other substantive sections, opinions or estimates in the Corrected Initial Expert Report that you regard as "in bounds" for the Phase 1 hearing?

Thanks. It will save time, expense and unnecessary questions at the deposition itself to know this definitively in advance.

Jim

**James P. Wehner**
Member

t. 202.862.5075 | jwehner@capdale.com

CAPLIN & DRYSDALE
www.caplindrysdale.com
Washington, D.C. | New York



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# EXHIBIT D

UNITED STATES BANKRUPTCY COURT
WESTERN DISTRICT OF NORTH CAROLINA
CHARLOTTE DIVISION

| | |
|---|---|
| In re | ) |
| | ) |
| ALDRICH PUMP LLC, et al., | ) Case No. 20-30608 |
| | ) |
| Debtors. | ) |

HIGHLY CONFIDENTIAL - PROFESSIONAL EYES ONLY
SUBJECT TO PROTECTIVE ORDER

VIDEOTAPED DEPOSITION OF
CHARLES HENRY MULLIN, PH.D.
Monday, May 4, 2026
10:12 a.m. EDT to 6:30 p.m. EDT

Reported by: Cindy L. Sebo, RMR, CRR, CLR, RPR, CCR, CSR, RSA, CA CSR 14409, NJ Certified CR 30XI0024460, NJ Certified RT 30XR00019500, NM CSR 589, NY Realtime Court Reporter, NY Association Certified Reporter, OR CSR 230105, TN CSR 998, TX CSR 12778, WA CSR 23005926, Remote Counsel Reporter, LiveLitigation Authorized Reporter, Notary Public
Job No. 8052481

Highly Confidential Videotaped Deposition of CHARLES HENRY MULLIN, PH.D., held at the law offices of Jones Day, 51 Louisiana Avenue, Northwest, Washington, D.C. 20001, stenographically reported by Cindy L. Sebo, Registered Merit Court Reporter, Certified Real-Time Reporter, Certified LiveNote Reporter, Registered Professional Reporter, Certified Court Reporter, Certified Shorthand Reporter, Real-Time Systems Administrator, California Shorthand Reporter 14409, New Jersey Certified Court Reporter 30XI00244600, New Jersey Certified Realtime Reporter 30XR00019500, New Mexico CSR 589, New York Realtime Certified Reporter, New York Association Certified Reporter, Oregon CSR 230105, Tennessee CSR 998, Texas CSR 12778, Washington CSR 23005926, Remote Counsel Reporter, LiveLitigation Authorized Reporter and Notary Public, reported by machine shorthand in realtime translation on Monday, the 4th day of May 2026 from 10:12 a.m. EDT to 6:30 p.m. EDT, when were present on behalf of the respective parties:

Q. Who is Carl Schwertz?
A. Carl Schwertz is an attorney who has defended claims for, I think, all three of -- well, the debtors, Garlock and JCI.
Q. What firm is he with?
A. I don't recall.
Q. Is the affidavit of Carl Schwertz something that you would rely on to make the statement The vast bulk of the asbestos claims against the debtors relate to gaskets and packing?
A. I don't think it's necessary for that, but I think it's affirmative.
Q. Apart from the information brief and the affidavit of Carl Schwertz, do you have any other basis for the statement that the vast bulk of asbestos claims against the debtors relate to gaskets and packing?
A. So the remainder of what's really Appendix C shows the -- numerically the overlap. You can see, for example, that when you look at Garlock, who's a manufacturer of gaskets, and

you compare its overlap on mesothelioma claims, you know, it's very high. In the last four years, they were both in the tort system. Over the last five years, it had almost a 90 percent overlap.

If you -- similarly, if you look at -- through the PIQs and you look at what is the alleged source of exposure, you're going to see that it's overwhelmingly gaskets and packing. And so every source you go to is affirming that that's the nature of it, not ex- -- not the -- exclusive to the exclusion of everything else, but the vast majority of the claims are driven by gaskets and packing exposures.

Q. Are you offering any opinion about what numerical fraction of claims against Aldrich and Murray and their predecessors assert gasket and packing exposures?

ATTORNEY M. HIRST: Object to the form.

Go ahead.

THE WITNESS: That's not a statistic I've tried to explicitly quantify. I'm using it in the context of showing that other defendants are comparable to them. So it's -- it's really part of what would be comparable defendants and that there's a large overlap in the claimants.

But I have not tried to go in and give an exact numerical quantification of that.

BY ATTORNEY J. WEHNER:

Q. In your mind, when you use the phrase vast bulk, what does that mean?

A. While I haven't -- I said tried to do a specific quantification. You know, it's -- I think north of 90 percent of the claims are making those types of allegations, if I had to give a rough estimate sitting here.

Q. And what is that 90 percent estimate based on?

A. I haven't run a tabulation, but if

you go look through the PIQs, if you look at the claims that were paid more than $100,000 and what their accusations are, if you look at the overlap with a gasket manufacturer in terms of the claims that Aldrich paid and claims that then were also paid by Garlock, you get things around 90 percent just from one gasket manufacturer.

So you -- you get -- I said I haven't tried to give you an exact quantification of that, but vast majority, well north of 75 percent, almost assuredly north of 90 percent. But I haven't tried to give you an exact number.

Q. For your work in this case, and specifically for the opinions disclosed in the Corrected Initial Expert Report, did you do any systematic review of claims files to determine what numerical fraction of claims against Aldrich and Murray or -- and their predecessors assert gaskets and packing exposures?

A. As I said, I haven't provided or

A. I don't know. I will answer whatever questions I am asked for which there's not a sustained objection.

Q. Did John Crane make compressors?

A. John -- I'm trying to remember all the equipment they -- I don't remember all the equipment they made.

Q. What -- let's back up, then.

Do -- what -- what eq- -- what do you know about what John Crane -- what products John Crane made?

A. So I know they have products that have gaskets and packing in them. If I'm remembering correctly, I think they may have even manufactured some gaskets at one point in time, but I'm not 100 percent -- I don't -- my recollection is a little fuzzy.

The salient fact, from my perspective, is that it's still a gasket- and packing-driven liability, and -- so the exact product list, I couldn't tell you.

Q. Did you hear my question correctly?

I was speaking about John Crane.
A. Yes, John Crane.
Q. And -- and you're not sure what products they make?
ATTORNEY M. HIRST: Object to the form.
THE WITNESS: In the -- in the sense, like, where you gave me an Ingersoll -- the list of --
BY ATTORNEY J. WEHNER:
Q. Right.
A. -- a compressor with this name, something with -- I couldn't --
Q. Right.
A. -- the table that you had me look at -- was it E-1 that had a list of names of pieces of equipment?
Q. Right.
A. I couldn't name all the pieces of equipment for you that John Crane is associated with. I can tell you that their liabilities are generally driven by a removal and replacement of

gaskets and packing again.

Q. John Crane made certain products. What products did John Crane make?

A. It has overlap with the debtors, but I can't remember all of them.

Q. Bates White prepares the asbestos litigation estimate for John Crane, right?

A. In terms of its financial disclosures?

Q. Yeah.

A. Yes.

Q. And do you do that work personally?

A. No.

Q. Did you use any nonpublic John Crane data for any of your opinions in this matter?

A. No.

Q. Did you ask John Crane if you could disclose or use any nonpublic data for this analysis here in your Corrected Initial Expert Report?

A. No.
Q. Why has John Crane adopted the defense strategy that it has?
ATTORNEY M. HIRST: Object to the form.
THE WITNESS: That's a question for John Crane.
BY ATTORNEY J. WEHNER:
Q. Do you know?
A. I can talk about economic incentives and reasons why somebody might generally, but I can't tell you why a given company made a given decision. You'd have to talk to them.
Q. Right.
But do you know and can't tell me, or do you just not know?
A. I know a lot of the history through their insurance litigation, and certainly I'm not remembering exactly what from that is in the public domain, but, I mean, they had Kemper as their primary insurer.

They took an aggressive strategy back then. I don't know why, but that's what they did, when defense was in addition to limits.

So . . .

But why they maintained it after their primary insurance exhausted and where they went from there -- those are things you can know from their coverage litigation. You'd have to ask them.

Q. Again, I have to ask them because you don't know?

A. Well, I don't know why they made the choice --

Q. Okay.

A. -- I'm not in their head. I can't read somebody else's brain --

Q. Right.

A. -- so I don't know why they made that choice --

Q. Okay.

A. -- but I can tell you the economic

rationale that one could look at --

Q. Got it.

A. -- that could underlie that choice, but that may or may not be why they chose it.

Q. Turning to Exhibit 5, going back to Table E-1 that lists all the products of the debtor, can you tell me any product on this list that Garlock made?

A. I don't know if they made any products on the list. I think of them as a manufacturer of gaskets.

Q. Okay. Looking at the list of products in Table E-1, can you tell me any product listed there that is a product that John Crane made.

A. Not specifically. I know they've manufactured equipment that incorporated gaskets and packing, but I haven't tried to memorize the names of the pieces of equipment.

Q. And I'm speaking generally.

I mean, did -- did John Crane make, generally, any of the kinds of equipment

that is listed here on Table E-1 of the PIQ?

ATTORNEY M. HIRST: Object to the form.

THE WITNESS: From the standpoint of is it in industrial settings and would be in the vicinity of pipe and block insulation and used to seal with gaskets and packing, yes.

So from the standpoint of exposure, yes. From the standpoint of can I name specific products, no.

BY ATTORNEY J. WEHNER:

Q. Even at the level of, like, pumps or compressor or --

A. I know there's overlap. I don't know that it's 100 percent, but I know there's overlap.

Q. Can you tell me, of the products in Table E-1, which ones contained Garlock gaskets?

A. Probably no one can answer that question in terms of the records of knowing exactly when a given gasket in a given piece of

# EXHIBIT E

UNITED STATES BANKRUPTCY COURT
WESTERN DISTRICT OF NORTH CAROLINA
CHARLOTTE DIVISION

| | | |
|---|---|---|
| In re: | : | |
| | : | Case No. |
| ALDRICH PUMP, LLC, ET AL., | : | 20-30608 (LMJ) |
| Debtors. | : | |

HIGHLY CONFIDENTIAL - PROFESSIONAL EYES ONLY
SUBJECT TO PROTECTIVE ORDER

May 5, 2026

9:07 a.m. EST

Videotaped deposition of DENISE NEUMANN MARTIN, Ph.D., held at the offices of Jones Day, 51 Louisiana Avenue, N.W., Washington, D.C., before Misty Klapper, Registered Merit Reporter, Certified Shorthand Reporter, Registered Professional Reporter, Realtime Systems Administrator and Notary Public.

second.

So object to form. Object to form.

Go ahead and answer.

THE WITNESS: We have done some consulting work for the debtor prior. I mean, I -- I understood that work to be confidential.

BY MS. BARNETT:

Q. When did you do that work?

A. We did work in -- at the end of 2019.

Q. All right. Let's look at the beginning of your report on page 1.

So is the scope of your assignment from the debtors accurately described in paragraph 1 of your report?

A. Yes.

Q. Were you given any other instructions that are not described in paragraph 1 of your report?

A. No, I don't believe so.

Q. Were you asked to make any assumptions that are not described in paragraph 1 of your report?

A. No.

Q. So it says that you were asked by counsel for the debtors to review and respond to the affirmative reports submitted in this matter by Andrew J. Sackett of Legal Analysis Systems and that specifically you were asked to explain the accepted methodology for preparing a tort system extrapolation estimate of the number and value of pending and future asbestos-related personal injury claims, right?

A. Yes, that's the first part of what I was asked to do.

Q. Who determined what is the accepted methodology for preparing a tort system extrapolation estimate?

A. I believe the reason I was asked to participate in this case is that I have a great deal of experience in -- you know,

understanding the accepted methodology and having applied -- and having applied it in many circumstances.

So, I mean, I -- it's my -- it's my description of the accepted methodology, but I call it an accepted methodology because I believe it to be one that there's broad agreement around.

Q. So in the phrase "the accepted methodology for preparing a tort system extrapolation," you mean accepted by who?

A. Practitioners.

Q. What practitioners?

A. Experts who are tasked with evaluating the liability of the future -- pending and future asbestos claims.

Q. And how do you know which experts have accepted the methodology?

A. It's not a controversial topic. I mean, there -- there -- there is an accepted methodology. It's one that I've seen used by both NERA and LAS and the other

experts who work in this field -- Bates White, Ankura -- and they all use the same general methodology. It's an accepted -- accepted one in the field.

Q. What do you mean when you say as a general methodology?

A. My assignment here was a fairly -- at a fairly high level. I was asked to look at what Mr. Sackett had done and see whether it comported with sort of the broad framework of the methodology as it's accepted and applied by experts in this space.

Q. So the accepted methodology that you're discussing here is a broad framework; is that right?

MR. HIRST: Object to the form.

THE WITNESS: It's -- the elements of it that I am highlighting for the court are, again, at a fairly high level. The methodology, obviously, is -- has a high level and

has more detailed granular levels.

BY MS. BARNETT:

Q. Can you point me to a publication that spells out the accepted methodology in full, but includes all of the granular details?

A. I mean, I would use our book as a starting point. That was written, though, a number of years ago and there certainly has been some evolution in what we know, you know, how some of these analyses are performed at a more granular level.

But I would -- I would point you there as a -- as a good start, a foundation.

Q. So is it fair to say there's not one source you could use to determine what the accepted methodology is for estimating -- preparing a tort system extrapolation of this nature?

A. Certainly not with respect to the opinions I'm offering here. I mean, any source you looked at regarding how the -- the

# EXHIBIT
# F

***In re Aldrich Pump, LLC et al.***

**Bankr. W.D.N.C.**

**Case No. 20-30608**

# REBUTTAL REPORT
# OF
# DENISE NEUMANN MARTIN, PH.D.

**27 MARCH 2026**

# *In re Aldrich Pump, LLC et al.*
# Bankr. W.D.N.C.
# Case No. 20-30608

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# I. Summary of Opinion

1. I was asked by counsel for Aldrich Pump, LLC and Murray Boiler, LLC ("Aldrich" and "Murray", respectively, or, collectively, "the Debtors") to review and respond to the affirmative report submitted in this matter by Andrew J. Sackett of Legal Analysis Systems (the "Sackett Report"). Specifically, I was asked to explain the accepted methodology for preparing a tort system extrapolation estimate of the number and value of pending and future asbestos-related personal injury claims, including how this methodology was developed from economic principles, and then to assess whether the approach used by Sackett in this matter is consistent with this accepted methodology and with the application of that methodology by Legal Analysis Systems ("LAS") in prior asbestos-related bankruptcies.[1]

2. Sackett uses the following formula to estimate the tort system value of pending and estimated future claims against the Debtors in each year (t) from 2020 through 2059:

$$\text{Net Present Value of Liability Payable in Year t} = [\text{Pending Claims} + \text{Future Claims}] \times \text{Payment Rate} \times [\text{Average Settlement Value} + \text{Average Defense Cost}]^{2} \times \frac{1 + \text{Expected Inflation Rate from Year 1 to t}}{1 + \text{Expected Nominal Discount Rate from Year 1 to t}}$$

While Sackett's methodology shares some of the elements of the accepted methodology and LAS's historical application of that methodology in prior asbestos-related bankruptcies, critical deviations occur:

[1] We obtained publicly-available LAS reports from counsel and conducted searches of WestLaw, Bloomberg Law and various bankruptcy dockets to identify any additional reports. We then reviewed the text of the reports to gather details on each aspect of the estimation (if provided).

[2] Sackett estimates defense costs based on the ratio of aggregate defense costs to aggregate indemnity costs paid historically, which is equivalent to assuming that average defense costs will equal the average settlement value times a constant ratio.

a. Sackett reallocates pending claims that were filed against the Debtors without specifying a disease ("Unknown Disease Claims") according to the distribution of pending claims with a known disease. Theoretically and empirically, however, Unknown Disease Claims are disproportionately likely to be resolved with a non-malignant disease, if at all. While Sackett ignores that disproportionality in his report here, LAS has taken this pattern into account in its work in prior bankruptcies.

b. Sackett fails to analyze and account for the fact that some subset of pending claims may never be resolved, instead just remaining on the docket, and so should be excluded from the estimation. This failure contrasts with analysis LAS has done in recent bankruptcies.

c. Sackett also includes several inputs that are inconsistent with the accepted methodology and with LAS's application of that methodology historically:

    i. *Sackett adds hypothetical future verdicts on top of indemnity values estimated based on observed average tort settlements*. According to economic theory, every settlement already reflects the risk of a plaintiff verdict. Specifically, when deciding whether to settle and at what amount, plaintiffs and defendants each weigh their likelihood of success at trial against the costs of pursuing cases through trial. The parties settle if a settlement can be negotiated in the range between (i) the amount the plaintiffs expect to win at trial (that is, the expected verdict multiplied by the probability of the jury finding in their favor) less their expected legal costs and (ii) the amount defendants expect to pay at trial (again, the expected verdict multiplied by the probability the jury finds for plaintiffs) plus their expected legal costs. Every observed settlement, then, already reflects the expected verdict had the case been pursued through trial. According to economic theory, by adding a separate estimate of plaintiff verdicts to selected hypothetical future claims, Sackett is double counting the impact of potential verdicts on the estimated indemnity.

Consistent with this theory, when Aldrich experienced its sole verdict in its 30-plus years as a defendant in the tort system in 2016 (paid out in 2017), its average settlement costs did not increase. Moreover, LAS did not add in a separate estimate of hypothetical future verdicts to indemnity estimates based on average tort settlements in any prior asbestos-related bankruptcies.

ii. *Sackett estimates and adds tort system defense costs*. The Sackett methodology in this matter deviates from the accepted methodology used to prepare a tort system value of pending and estimated future claims by estimating and adding in defense costs. In the tort system, the Debtors incurred costs in litigating and settling claims, as do all defendants. These costs are paid to lawyers and experts, *e.g.*, and are not part of the compensation received by plaintiffs. Moreover, such costs are not incurred in the administration of asbestos trusts. Empirically, the majority of the reports submitted by LAS in prior bankruptcy proceedings did not include defense costs. The few times defense costs were estimated, LAS was silent as to the relevance of such costs in a tort system liability estimate prepared for an asbestos-related bankruptcy, and LAS did not include those defense costs in the amounts expected to be received by claimants.

iii. *Sackett improperly obtains expected inflation rates and discount rates from mismatched time periods, causing him to apply a negative real discount rate of -2.1% for a period of more than 30 years.* Sackett projects the Debtors' asbestos liability each year from 2020 to 2059. In any long-term forecast of liabilities, it is customary to inflate liabilities to the year the costs are expected to be incurred (if positive inflation is expected) and then to discount those future liabilities back to the time at which the forecast is being prepared using a nominal discount rate that was estimated as of the same point in time as the inflation rate. Those

adjustments are made to equalize the expected value of the trust assets and the liabilities as the projected claims come due.

However, Sackett combines an expected inflation rate of 3.2% (based on expectations in March 2025) with a discount rate of 1% (based on expectations in June 2020.) Using these mismatched time periods causes Sackett to apply a negative real discount rate of -2.1% for a period of more than 30 years, which is unfounded economically. It also lacks empirical foundation. In each of its long-term outlook reports from 2020 to 2025, the Congressional Budget Office forecast the average real rate on the 10-year Treasury note to be positive over the next 30 years. Further, had Sackett used a matched discount rate based on expectations in 2025, the date of his inflation estimate, the real discount rate would have been positive using his approach. Finally, in all previous bankruptcy matters, LAS assumed a positive real discount rate over the forecast period, ranging from 0.7% to 3.4%.

## II. Qualifications

3. I am an Affiliated Consultant and former Senior Managing Director at NERA. I have been with the firm since 1991.

4. Before joining NERA, I earned a B.A. in Economics from Wellesley College and an M.A. and Ph.D., also in Economics, from Harvard University. My undergraduate and graduate education included coursework in microeconomics, finance, statistics, and econometrics. Prior to attending Harvard, I served as an Assistant Economist at the Federal Reserve Bank of New York.

5. While at Harvard, I taught classes in microeconomics, industrial organization and statistics to undergraduate and graduate students, and was awarded the Danforth Prize for Teaching.

6. At NERA, I have been retained as an expert in over 100 matters in which I have prepared personal injury and property damage estimates involving a variety of torts, including asbestos, silica, building materials and medical products. I am the co-author of the reference text, *Estimating Future Claims: Case Studies from Mass Torts and Product Liability*. This book explains the principles from economics that are the foundation for personal injury claims forecasting and valuation, as well as the accepted forecasting methodology used by practitioners. I have testified on asbestos-related issues in state and federal court, and gave Senate testimony on the FAIR Act, a proposed national asbestos fund.

7. My C.V., including my most recent four years of testimony and 10 years of publications, is included as **Exhibit A**.

8. NERA is billing for my services in this matter at my standard hourly rate of $1,200. Other NERA consultants and research staff assisted me in this engagement and NERA is being compensated for their services at standard hourly rates ranging from $395 to $1,325. No part of NERA's compensation depends on the outcome of this litigation.

## III. Materials Relied Upon

9. A list of materials relied upon is included in **Exhibit B**.

## IV. An Accepted Methodology Exists to Estimate the Tort System Value of Pending and Future Asbestos-Related Personal Injury Claims

10. The Court in Phase 1 of this matter requested that the estimation experts present estimates of the number and value of the pending and likely future mesothelioma claims against the Debtors based on tort-system extrapolation, with a "gross-up" for non-mesothelioma claims.[3]

[3] Dkt. 3011 (Jan. 23, 2026); Dkt. 2656 (Apr. 17, 2025).

As detailed in a reference text that I co-authored, an accepted methodology, grounded in economics, has been developed to prepare such estimates.[4]

11. Specifically, estimation of the net present value of the indemnity associated with claims paid in Year t (where t runs from 1 to the number of years in the forecast) is governed by the following equation:

$$\text{Net Present Value of Indemnity Costs Payable in Year t} = [\text{Pending Claims} + \text{Future Claims}] \times \text{Payment Rate} \times \text{Average Settlement Value} \times \frac{1 + \text{Expected Inflation Rate from Year 1 to t}}{1 + \text{Expected Nominal Discount Rate from Year 1 to t}}$$

12. While the number of pending claims is known, the number of future claims must be estimated. As such, this formula becomes:

$$\text{Net Present Value of Indemnity Costs Payable in Year t} = [\text{Pending Claims} + (\text{Future Disease Incidence} \times \text{Filing Rate})] \times \text{Payment Rate} \times \text{Average Settlement Value} \times \frac{1 + \text{Expected Inflation Rate from Year 1 to t}}{1 + \text{Expected Nominal Discount Rate from Year 1 to t}}$$

13. Each element of that equation is reviewed briefly below.

[4] Dunbar, F. C., D. N. Martin, and P. J. Dhrymes, *Estimating Future Claims,* Andrews Professional Books, 1996; see also, Dunbar, F. C. and D. A. Neumann, "Estimating Future Asbestos Claims: Lessons from The National Gypsum Litigation," *NERA White Paper,* 1993.

14. **Pending Claims**: Pending claims are those that have been filed but not yet resolved; as such, they do not need to be estimated. However, such claims may have been filed without a disease being specified (commonly referenced as "unknown" disease claims). Before estimating future claims, it is customary to reallocate pending claims without a specified disease to a known disease. Such reallocations recognize that claimants who have developed an asbestos-related cancer, particularly mesothelioma, are more likely to include that information at the time of their claim filing than claimants who have developed a non-malignant disease. As a result, such reallocations recognize that pending claims with an unknown disease are unlikely to be resolved with the same disease mix as known pending claims but, instead, are disproportionately likely to be resolved as non-malignant claims, if at all.

15. **Disease Incidence**: Some experts estimate the Disease Incidence for mesothelioma independently by combining estimates of employment and turnover in industries/occupations with potential asbestos exposure over the historical period with epidemiological dose/response functions that govern the development of mesothelioma in an exposed population. Other experts (such as LAS) elect to use mesothelioma incidence projections included in a paper published by Dr. William Nicholson, calibrated to match the observed incidence of the disease over the recent period.[5]

16. **Filing Rate**: The Filing Rate for mesothelioma is estimated by dividing mesothelioma claims received by the defendant over a recent historical period (the "calibration period") by the Disease Incidence of mesothelioma that is estimated to have developed over that same historical period. This input is also often referred to as the "Propensity to Sue." The Filing Rate (which may be estimated by age group) is then multiplied by the estimated future Disease Incidence for mesothelioma, yielding an estimate of future mesothelioma claim filings.

17. **Payment Rate**: The Payment Rate for mesothelioma is estimated by analyzing the rate at which such claims filed in the past have been paid (vs. being dismissed or remaining pending) over a calibration period. Because some claims may never resolve, it is customary to

[5] Nicholson, W. J., G. Perkel, and I. J. Selikoff, "Occupational Exposure to asbestos: population at risk and projected mortality – 1980-2030," *American Journal of Industrial Medicine,* 1982, pp. 3:259-311.

analyze the age of the existing pool of pending claims to assess empirically whether some are likely to stay pending indefinitely so should be excluded from the estimation (*e.g.*, those that have been pending for more than a certain number of years). The resulting payment rate is applied to the remaining pending and estimated future claim filings to generate an estimate of claims actually expected to be paid.

18. **Average Settlement Value**: The Average Settlement Value for projected future mesothelioma claims is estimated by calculating the average settlement value for claims with that disease that has been paid to claims over a historical calibration period. These values can also be calculated and applied by age.

19. **Expected Inflation Rates and Nominal Discount Rates**: Because asbestos personal injury claims will be paid out in the future, any inflation ($\pi^e$) expected to occur between (i) the year in which the liability forecast is prepared and (ii) the years of the successive future payouts should be added in. A nominal discount rate ($i$) is then used to convert those future cash flows into net present value terms. These two adjustments are equivalent to discounting the liabilities at a real discount rate ($r$) (which economic theory explains is approximately equal to $i - \pi^e$) and are designed to equalize the expected assets and liabilities as the projected claims come due. To properly reflect the current value of the liabilities, the inflation and nominal discount rates applied in the analysis must reflect expectations as of the same point in time.

## V. The Sackett Approach in this Matter Report Is Inconsistent with the Accepted Methodology and with the Methodology Applied by LAS in Prior Bankruptcy Matters

### A. Sackett Improperly Reallocates a Large Fraction of Pending Claims with an Unknown Disease to Mesothelioma

20. Sackett identifies pending claims with an unknown disease in Aldrich and Murray's claims data, finding 3,700 and 3,500 claims, respectively. To assign a value to these claims, Sackett first reallocates them to "known disease categories according to the relative

percentages represented by each of those categories."[6] Sackett then applies the same payment rates and average values to those unknown claims as in his valuation of pending claims with a known disease.

21. As explained in Section IV, according to both theory and evidence, claims filed without a specified disease are more likely to resolve as a non-malignant disease, if they resolve at all. Sackett provides no basis for his assumptions that i) all of the unknown pending claims will have an underlying disease and ii) these claims will have the same disease mix as the pending claims with a known disease. Nor does Sackett's current approach correspond to the methodology used in LAS's prior reports.

a. In its Garlock (2013) report, although LAS reports that Garlock had pending claims with an unknown disease, it valued only the pending claims alleging mesothelioma. LAS did not assume any of the pending claims with an unknown disease would have mesothelioma and therefore did not include those unknown claims in its estimate of mesothelioma liabilities.

b. In its earlier reports, LAS matched pending unknown disease claims to the evaluated diseases in the Manville Trust or the Center for Claims Resolution ("CCR") to extract the known disease. In ASARCO (2007), LAS found that none of the matched pending unknown disease claims mapped to mesothelioma and almost 100% mapped to a non-malignant disease in the Manville Trust. It therefore assumed that almost 100% of unknown pending claims were non-malignant diseases. Similarly, in WR Grace (2007/2009), USG (2006), Armstrong (2006), GAF (2005), Owens Corning & Fibreboard (2004), Turner & Newall (2004) and Armstrong (2003), based on matching pending claims to the evaluated diseases in the Manville Trust, LAS estimated that only 1% - 2% of unknown disease claims were mesothelioma claims.

[6] See Sackett Report, ¶181.

c. In addition, in prior reports, LAS assumed a fraction of the unknown disease claims would not be reallocated to a known disease at all, either based on the defendants' own data or based on a disease mapping taken from the CCR or the Manville Trust.

i. In USG (2006), Armstrong (2006) and Armstrong (2003), based on a disease mapping between the pending claims and evaluated diseases in the CCR or Manville Trust, LAS assumed 12% to 17% of the pending claims with an unknown disease would remain unknown. In ASARCO (2007), the fewer than 1% of claims that did not map to a non-malignant disease were assumed to remain with an unknown disease.

ii. In WR Grace (2007/2009), GAF (2005), Owens Corning and Fibreboard (2004), and Turners & Newall (2004), LAS also applied a disease mapping between the pending claims and evaluated diseases from the CCR or Manville Trust but assumed that a fraction of the unknown pending claims would remain with an unknown disease, such that the percent of pending claims with an unknown diseases would be the same as the fraction of claims resolved historically with an unknown disease. In these reports, LAS assumed that 9% to 21% of the pending claims with an unknown disease would remain unknown.

22. By reallocating the disease mix of the unknown pending claims to match the known, and by assuming all would resolve with a known disease, Sackett's method is inconsistent with the accepted methodology and with the application of that methodology by LAS in prior bankruptcies.

### B. Sackett Improperly Fails to Consider that Some Pending Claims May Never Resolve

23. As explained above in Section IV, empirically, not all pending claims resolve, with some remaining on the docket indefinitely. Sackett does not consider or adjust for this

possibility in his application of the methodology here. After reallocating the diseases of unknown pending claims, Sackett values the pending claims that he estimates the Debtors will pay by applying observed average payment rates and average settlement values in the tort system. In projecting the fraction of pending claims to be paid, Sackett assumes that all claims pending in the Debtors' data as of the Petition Date will be equally likely to be paid, regardless of the age of the claim (i.e., the number of years the claim has been pending).

24. Sackett applies this assumption without providing any empirical basis, contradicting the approach used in LAS's most recent publicly-available reports—WR Grace (2007/2009) and Garlock (2013). In those reports, LAS analyzed the historical data to assess whether the older pending claims would be likely to be paid.[7]

a. In its WR Grace (2007/2009) report, LAS posited that "[f]or Grace and every asbestos defendant who enters bankruptcy, the set of claims pending at bankruptcy include 'stale' or abandoned claims that have accumulated over time unresolved," with the assertion that the pending claims as of the petition date were "statistically biased" for including a build-up of abandoned claims. To address the "bias" in the claims data, LAS described "[a]s a first step for forecasting pending claims, we eliminate 'stale' claims that seem to have been abandoned or withdrawn by plaintiffs but are still described as 'open' in Grace's historic database." Specifically, LAS analyzed "what percent of claims that were filed in various years have been closed depending upon the length of time since the claims were filed ('duration')," reporting durations from 0 to 11 years. Based on this analysis, LAS concluded that "Grace's historic data suggest that most still-open claims filed before 1991 are likely to be abandoned or withdrawn," and excluded pre-1991 pending claims from the analysis (i.e., claims filed more than ten years prior to the petition date).[8]

[7] Sackett's analysis of the Debtors' pending claims was also inconsistent with his analysis of historical payment rates. In calculating payment rates over the 2017 – 2019 period, which Sackett used to value pending and future claims, his backup materials indicate that he *excluded* claims that had been filed pre-2013 from this calculation.

[8] See LAS WR Grace (2007) report, p. 45-46, 49.

b. In its Garlock (2013) report, after again conducting an empirical analysis, LAS argued it was not appropriate to exclude any of the pending mesothelioma claims. Specifically, to assess whether older pending mesothelioma claims should be valued, LAS first described "analyzing Garlock's actual past history of lags in timing between filing and resolution of claims."[9] Based on this analysis, LAS concluded that "Garlock's historical data show that older pending claims are more likely than not to settle, often for significant value. It is likely that most older claims, those still pending five or more years after filing, are still active and likely to be resolved by Garlock. Based on this, we conclude that it would not be appropriate to remove any pending claims as being 'abandoned' or 'stale,' and our primary forecasts do not remove any pending claims as being abandoned or stale. The facts simply do not support such exclusion."[10]

25. By failing to include any analysis of older pending claims in this matter, Sackett offers no empirical basis for the assumption that all such claims would resolve. This methodology is not consistent with the accepted methodology or with the approach taken by LAS in recent prior reports.

### C. Sackett Improperly Double-Counts the Impact of Expected Future Verdicts

26. Consistent with the accepted methodology explained in Section IV, Sackett values the future claims that he estimates the Debtors will pay (including pending claims, as well as claims estimated to be filed through 2059) by applying observed average settlement values in the tort system. However, Sackett then increases the value of six projected paid claims by assuming that the Debtors would take these cases to trial and lose. Specifically, he values these claims (which are subsequently adjusted for inflation) at the amount of the average verdict observed against other defendants during the period 2022 to 2024, or $15 million per claim.[11] No theoretical or empirical justification exists for the adjustment.

[9] See LAS Garlock (2013) report, p. 20.

[10] See LAS Garlock (2013) report, p. 20 and Appendix A for details.

[11] Reported in 2020 dollars.

27. According to economic theory, settlements incorporate the discounted expected value of verdicts. Specifically, plaintiffs and defendants each weigh their likelihood of success at trial against the costs of pursuing cases through trial. The parties settle where the settlement is greater than the amount plaintiffs expect to win at trial less their expected legal costs and less than the amount defendants expect to pay at trial including their legal costs.[12]

28. This framework makes clear that every settlement already reflects the probability of an adverse jury verdict. Hence, there is no need or economic justification for adding hypothetical jury verdicts on top of this amount. Doing so double counts this risk, inflating the indemnity estimate.

29. Given this theory, when a defendant takes a case to trial and a verdict for plaintiff is delivered, future average settlements would only be expected to be affected if the observed verdict exceeded the expected verdict and if receiving that verdict changed expectations about the likelihood or magnitude of potential verdicts going forward. Such a change did not occur following the one plaintiff verdict that was levied against the Debtors in the 30+ years of asbestos litigation that Aldrich and Murray had managed prior to its bankruptcy filing.

30. Specifically, Aldrich received an adverse verdict on a mesothelioma claim of $5.5 million in 2016, which was reduced on appeal and paid, after adding pre-judgment and post-judgment interest, in 2017.[13] Murray had no adverse verdicts in its litigation history. Average mesothelioma settlement values over the three years before and after the Aldrich verdict were comparable. Per the Sackett Report, settlement values per paid mesothelioma claim for Aldrich averaged $56,000 per year over both the 2014 – 2016 and 2017 – 2019 periods.[14] Similarly, settlement values per paid mesothelioma claim for Murray averaged $92,000 per year over both

[12] See White, M., "Asbestos Litigation: Procedural Innovations and Forum Shopping," *Journal of Legal Studies*, vol. 35 (June 2006), p. 370-372 and Mnookin, Robert H., and L. Kornhauser, "Bargaining in the Shadow of the Law: The Case of Divorce," *Yale Law Journal* (1979) 88: 950–97. See also: Shavell, S., "Suit, Settlement and Trial: A Theoretical Analysis under Alternative Methods for the Allocation of Legal Costs," *Journal of Legal Studies* (January 1982) 11:55–81; Cooter, R. D. and D. L. Rubinfeld, "Economic Analysis of Legal Disputes and Their Resolution," *Journal of Economic Literature* (September 1989) 27: 1067–97. Bebchuk, L. A., "Litigation and Settlement Under Imperfect Information," RAND Journal of Economics 15 No. 3 (1984): 404-15.

[13] *Williams v. Placid Oil Co.*, 224 So.3d 1101 (La. App. 3 Cir. 2017).

[14] See Sackett Report, ¶81, Table 5(a).

the 2014 – 2016 and 2017 – 2019 periods.[15] The lack of an increase in average mesothelioma settlement values following the adverse verdict supports the theory that the observed average settlement values paid by Aldrich and Murray in the tort system already reflected the expectation of an occasional adverse verdict.

31. Moreover, in none of the other publicly available LAS reports did LAS layer in a separate estimate for hypothetical future verdicts on top of indemnity costs estimates that were based on historical settlement values.[16]

### D. Sackett Improperly Includes an Estimate of Defense Costs

32. Sackett projects that the net present value of Aldrich and Murray's liabilities will total $3.1 billion to $3.4 billion.[17] These estimates include projected defense costs of $840 million to $917 million. His estimate, then, includes an element not found in the accepted formula used to estimate the tort system value of pending and future asbestos personal injury claims (explained in Section IV above). Namely, Sackett's formula includes the net present value of:

[Pending + Future Claims] x Payment Rate x Average Defense Costs Per Claim[18]

33. While silent on whether pending and future personal injury claimants would be entitled to the estimated defense costs such that these amounts should be considered when funding the settlement trust, Sackett argues that "[f]ailure to account for defense costs leads to uncertainty as to whether the settlement values achieved in the past would be sustained in the future."[19]

[15] See Sackett Report, ¶81, Table 5(b).

[16] In WR Grace (2007/2009) and Owens Corning and Fibreboard (2004), LAS provided two estimates: i) valuing claims based on historical payments and ii) assuming all claims are taken to trial, with a fraction dismissed before trial, a fraction receiving a defense verdict and fewer than 5 - 6% with a plaintiff verdict, which were valued at the average historical verdicts.

[17] See Sackett Report, ¶35, Table 1(e).

[18] Sackett estimates the aggregate value of defense costs based on the ratio of historical defense costs paid by the Debtors and the historical indemnity costs paid by the Debtors.

[19] See Sackett Report, ¶32.

34. In the tort system, both plaintiffs and defendants incur legal costs to litigate claims.[20] Historically, however, any defense costs paid by the Debtors in this and other matters were not paid to personal injury claimants but were instead paid to other third parties, including lawyers and experts. That is, personal injury claimants did not receive such costs as part of their compensation in the tort system.

35. I understand that the purpose of this Phase I estimation hearing is to extrapolate from the Debtors' tort system settlement history to estimate the amount the Debtors would have paid in settlement of pending and future asbestos-related disease claims had the Debtors remained in the tort system. While certain administrative costs are expected to be incurred in managing asbestos trusts, no basis in economics exists for estimating tort system defense costs in this context.

36. As for historical reports issued in similar asbestos-related bankruptcy contexts, on the infrequent occasions that LAS has estimated future defense costs, they do not appear to have been part of the estimation conclusion. Specifically:

a. In seven reports—Garlock (2013), WR Grace (2007), ASARCO (2007), USG Corporation (2006), Armstrong (2006), API (2005), and Turner & Newall (2004)—LAS only estimated indemnity costs and did not estimate defense costs.

b. In one report—Owens Corning (2004), LAS only estimated indemnity in the body of its report but included an appendix with estimated defense costs. Notably, in the Court's estimation decision, it reported LAS's liability estimate as the estimated indemnity amount, without adding in its defense cost estimate from the appendix.[21]

c. LAS included defense costs in three other reports – Garlock (2017), GAF (2005) and Armstrong (2003). In each report, it provided separate indemnity and defense

[20] See Carroll, Stephen J., D. Hensler, J. Gross, E. M. Sloss, M. Schonlau, A. Abrahamse, and J. S. Ashwood, "Asbestos Litigation," *Rand*, 2005.

[21] See *Owens Corning v. Credit Suisse First Bos., 322 B.R. 719, 720 (D. Del. 2005)*.

costs estimates and offered no justification for the inclusion of a defense cost estimate.

i. In Garlock, LAS issued two reports: (i) Garlock (2013), which was submitted as part of the estimation hearings and did not include defense costs and (ii) Garlock (2017), which was submitted as part of the confirmation hearings on the Modified Joint Plan and did include defense costs.

ii. In Armstrong, LAS issued an initial report, Armstrong (2003) that included an estimate of future defense costs. These costs were dropped from a revised report, Armstrong (2006). Both reports were submitted for estimation hearings.

### E. Sackett Improperly Applies a Negative Real Discount Rate of -2.1% for a Period of More than 30 Years

37. As explained above in Section IV, to equalize the expected trust assets and liabilities as the projected claims come due, it is customary to adjust indemnity estimates for any inflation expected to occur between the time of the forecast and the time future claims will be paid ($\pi^e$), and also to discount these inflated amounts back to the present using a nominal discount rate ($i$). Fisher's Equation, named after economist Irving Fisher, links these expected inflation and nominal discount rates.[22] In simplified terms, if $i$ is the nominal discount rate on 10-year Treasury notes and $\pi^e$ is the average annual inflation rate expected to occur over that 10-year period:[23]

$$r \approx i - \pi^e$$

[22] See, e.g., Brealey, R. A., S. C. Myers, F. Allen, and A. Edmans, *Principles of Corporate Finance (14th ed.)*, McGraw-Hill Education, 2023, p. 156.

[23] More formally, $r = (1+i)/(1+\pi^e) - 1$.

where *r* is the real 10-year discount rate. Fisher's Equation indicates that to properly reflect the current value of the future liabilities, the inflation and nominal discount rates used in this analysis must reflect expectations as of the same point in time.[24]

38. In inflating and discounting the asbestos liability he estimates for the Debtors, however, Sackett uses rates taken from different points in time that do not embed the same expectations. Specifically:

a. Sackett uses actual inflation rates observed over the period 2020 to 2024 to inflate the liability costs he projects would have been paid over those years had the Debtors remained in the tort system. He then uses an expected annual inflation rate of 3.2% to inflate the liability costs he projects will be incurred from 2025 to 2059 that is based on expectations as of March 2025.[25]

b. He uses a different method when discounting. Rather than using actual short-term nominal discount rates observed over the period 2020 to 2024 and then the longer term rate expected as of 2025, he discounts back his inflated liability estimate over the full forecast period (2020 to 2059) using a nominal risk-free discount rate of 1%. The purported support for this 1% figure is a reference to the nominal interest rates on 3-month, 10-year and 30-year Treasuries of 0.16%, 0.71% and 1.47%, respectively, as of June 2020.[26] The nominal discount rate applied for the entire forecast, then, reflects expectations nearly five years earlier than the

[24] See, Brealey, R. A., et al (2023), p. 156 ("Never mix real cash flows with nominal discount rates and nominal flows with real rates"); Emery, D. R. and J. D. Finnerty, *Corporate Financial Management*, Prentice Hall, 1997, p. 381, ("Whatever the case, the analysis should be cast in a consistent manner, entirely in real terms or entirely in nominal terms" emphasis in original); Rosen, Harvey S., *Public Finance* (2nd. ed), Richard D. Irwin, Inc, 1988, p. 234 ("It is crucial, however, that dollar magnitudes and discount rates be measured consistently. If real values are used for the Rs [stream of future returns], then the discount rate must also be measured in real terms – the market rate of interest minus the expected inflation rate. Alternatively, if the market rate of interest is used for discounting, then returns should be measured in nominal terms."); Ross, S. A., R. W. Westerfield, and J. F. Jaffe, *Corporate Finance*, (2nd ed.), Richard D. Irwin, Inc., 1990, p. 1987 ("Financial practitioners correctly stress the need to maintain consistency between cash flows and discount rates. That is, nominal cash flows must be discounted at the nominal rate. Real cash flows must be discounted at the real rate.").

[25] Footnote 31 of the Sackett Report indicates that the 3.2% figure is an equally-weighted average of: (i) CBO's estimate, as of March 2025, of the average annual inflation rate for the next 25 years, which was 2.3%; (ii) Medical Care CPI average inflation rates over 25 years prior to March 2025, which was 3.4%; and (iii) the Employment Cost Index average inflation rates over the 25 years prior to March 2025, which was 4.0%.

[26] No further explanation is provided as to how the 1% was derived from these reported rates.

inflation rate Sackett applies from 2025 forward. Importantly, the nominal discount rate expectations applied by Sackett were formed during Covid, a highly unusual economic period.[27]

39. By assuming a nominal interest rate of 1% and an expected inflation rate of 3.2%, Sackett is assuming a negative real discount rate of -2.1% over the period from 2025 to 2059, a period of more than 30 years. In addition to being contradicted by economic theory, application of such a rate over the period of the forecast lacks empirical foundation. For example, as shown by each of the long-term budget reports issued by the Congressional Budget Office ("CBO") from September 2020 through March 2025, the average 10-year real rates expected over the period 2020 to 2055 (approximately the period of Sackett's forecast) were projected to be positive.[28]

40. Further, the steeply negative real discount rate of -2.1% that Sackett uses is a function of a mismatch between the "as of" date for the expected inflation rate and discount rate that were applied from 2025 to 2059. Using Sackett's approach, had both rates been taken using expectations as of March 2025 (post-Covid), the real discount rate would again have been positive.[29]

41. In each of LAS's prior reports, prepared over a 15-year period, their forecasts assumed a positive real discount rate over the period of the forecast, ranging from 0.7% to 3.41% across those reports.

[27] See, *e.g.*, Ihrig, J. E., G. Weinbach, and S. A. Wolla, "COVID-19's Effects on the Economy and the FED's Response," Federal Reserve Bank of St. Louis, August 10, 2020.

[28] See "The 2020 Long-Term Budget Outlook," Congressional Budget Office, September 2020, p. 47;"The 2021 Long-Term Budget Outlook," Congressional Budget Office, March 2021, p. 43; "The 2022 Long-Term Budget Outlook," Congressional Budget Office, July 2022, p. 45; "The 2023 Long-Term Budget Outlook," Congressional Budget Office, June 2023, p. 31; "The Long-Term Budget Outlook: 2024 to 2034", Congressional Budget Office, March 2024, p. 37; "The Long-Term Budget Outlook: 2025 to 2025", Congressional Budget Office, March 2025, p. 36. These reports also includes data on historical real interest rates on 10-year Treasury notes. These rates were also positive, on average, over the 30 years prior to the start of Sackett's estimation period. See, CBO (September 2020), p. 47.

[29] On March 31, 2025, yields on constant maturity Treasuries over the periods cited in the Sackett Report were 4.32% for the 3-month, 4.23% for the 10-year, and 4.59% for the 30-year, all of which exceeded Sackett's estimate of expected inflation as of March 2025 of 3.2%.

## VI. Conclusion

42. While the methodology used in the Sackett Report shares some formulaic elements of the accepted methodology and the methodology used in prior LAS applications of the methodology, it deviates in several critical ways:

a. Sackett reallocates unknown claims according to the pattern of the known pending claims, when such claims are disproportionately likely to be resolved with a non-malignant disease.

b. With no empirical analysis of whether this outcome is to be expected here, Sackett assumes all pending claims will resolve.

c. Sackett double-counts the impact of potential future verdicts on settlement values.

d. Sackett includes defense costs in his estimate.

e. Sackett uses mismatched dates when obtaining his estimated inflation and discount rates and obtains his discount rate from a highly unusual economic period. The result is an assumed negative real discount rate of -2.1% for a period of more than 30 years.

43. Each of these deviations from the accepted methodology lacks a basis in economics and is inconsistent with the methodology used in LAS's prior publicly-available reports.

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My analysis in this matter is on-going. I respectfully reserve the right to update the opinions offered in this report to reflect any additional information that becomes available to me.

Denise N. Martin

March 27, 2026

NERA

**Exhibit A**

# Denise Neumann Martin, Ph.D.
## Affiliated Consultant

## Education

**Harvard University**
Ph.D., Economics, 1991
M.A., Economics, 1988

**Wellesley College**
B.A., *magna cum laude*, Economics and French, 1985
Honors: Phi Beta Kappa

## Professional Experience

**NERA Economic Consulting**

2025 Affiliated Consultant

2001-2025 Senior Managing Director

1998-2000 Vice President

1994-1997 Senior Consultant

1991-1993 Senior Analyst

**Harvard University**

1986-1990 Teaching Fellow, Department of Economics
Taught courses in Microeconomics and Industrial Organization at the graduate and undergraduate levels. Assisted senior honors candidates with theses. Awarded Danforth Prize in Teaching.

1986-1990 Research Associate, Department of Economics
Projects included an investigation of the timing of international horizontal mergers, an evaluation of the effect of generic entry into the pharmaceutical market, and a comparison of technical efficiency across countries.

**Urban Systems Research and Engineering/Economica, Inc.**

1987-1988 Economic Consultant
Consulted on all aspects of government agency projects, including proposals and the design of survey instruments. Provided economic forecasts and technical support.

**Federal Reserve Bank of New York**

1985-1986 Assistant Economist, International Financial Markets
Analyzed Eurobond markets, interest rate swap markets, and US commercial banks' balance sheets.

## Expert Testimony and Reports (Four Years)

Rebuttal Report, United States District Court, District of Delaware in the matter of *Etienne Maugain et al. v. FCA, US LLC f/k/a Chrysler Group LLC*, 2026.

Expert Report and Deposition Testimony, United States District Court, Eastern District of Michigan Southern Division, *Chrysler Pacifica Fire Recall Products Liability Litigation*, July 2025.

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Expert Report and Deposition Testimony, Supreme Court of Wisconsin, *Phelps v. Physicians Insurance Company of Wisconsin, Inc.,* July 2024.

Expert Report and Deposition Testimony, Superior Court of the State of California, *Gabriela Miguel et al., v. Apple Inc.,* June 2024.

Expert Report and Deposition Testimony, United States Bankruptcy Court Western District of New York, *The Diocese of Rochester vs. The Continental Insurance Company et al.*, June 2024.

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March 2026

# Exhibit B

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