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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

LESLIE JACK, et al.,

Plaintiffs,

v.

BORG-WARNER MORSE TEC
LLC, et al.,

Defendants.

CASE NO. C17-0537JLR

ORDER ON MOTIONS TO
EXCLUDE EXPERT
TESTIMONY

I. INTRODUCTION

Before the court are several motions to exclude the following experts: Sean Fitzgerald, Ronald Gordon, Carl Brodtkin, Arnold Brody, Barry Castleman, Charles Cushing, and William Longo. (*See Dkt.*) The following defendants bring the challenges: (1) Defendant DCo LLC (f/k/a Dana Companies, LLC) (“DCo”) moves to exclude Sean Fitzgerald (1st MTE Fitzgerald (Dkt. # 456); 2d MTE Fitzgerald (Dkt. # 511)); (2) DCo, Defendant Ford Motor Company (“Ford”), and Defendant Ingersoll Rand Company

1 (“Ingersoll Rand”) move to exclude Ronald Gordon (DCo MTE Gordon (Dkt. # 461));¹
2 Ford MTE Gordon (Dkt. # 465); Warren Pumps MTE (Dkt. # 470) at 3-8);² (3) Ingersoll
3 Rand, Honeywell, DCo, and Defendant Borg-Warner Morse TEC LLC (“Borg-Warner”)
4 move to exclude Carl Brodtkin (Warren Pumps MTE at 3-8; Honeywell MTE Brodtkin
5 (Dkt. # 483));³ DCo MTE Brodtkin (Dkt. # 497); Borg-Warner MTE Brodtkin (Dkt.
6 # 516)); (4) Ingersoll Rand and Honeywell move to exclude Arnold Brody (Warren
7 Pumps MTE at 3-8; Honeywell MTE Brody (Dkt. # 490));⁴ (5) Ford and Ingersoll Rand
8 move to exclude Barry Castleman (Ford MTE Castleman (Dkt. # 463));⁵ Warren Pumps
9 MTE at 14-17); (6) Ford moves to exclude Charles Cushing (MTE Cushing (Dkt.

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13 ¹ DCo inadvertently filed the wrong motion at docket entry 461 and attached the correct
14 motion as a later exhibit. (*See* Praecepte (Dkt. # 487); Corrected Mot. (Dkt. # 487-1).)

15 ² Ingersoll Rand and DCo join former Defendant Warren Pumps LLC’s (“Warren
16 Pumps”) motion to exclude, part of which challenged Dr. Gordon’s testimony. (*See* Warren
17 Pumps MTE at 3-8; 7/23/18 Order (Dkt. # 542) (granting Ingersoll Rand’s motions for joinder);
18 Not. of Joinder (Dkt. # 592).) On July 30, 2018, the court dismissed Warren Pumps pursuant to
19 the parties’ stipulation. (7/30/18 Order (Dkt. # 558).) DCo and Defendant Honeywell
20 International Inc. (“Honeywell”) additionally join Ford’s motion to exclude. (7/20/18 Order
21 (Dkt. # 539) (granting Honeywell’s motions for joinder); Not. of Gordon Joinder (Dkt. # 473).)

22 ³ DCo, Ford, and Ingersoll Rand join Honeywell’s motion to exclude Dr. Brodtkin. (Not.
of Brodtkin Joinder (Dkt. # 485); 7/19/18 Order (Dkt. # 529) (granting Ford’s motions for
joinder); 7/23/18 Order.)

⁴ DCo, Ford, Ingersoll Rand, and Defendant Union Pacific Railroad Company (“Union
Pacific”) join Honeywell’s motion to exclude Dr. Brody. (Not. of Brody Joinder (Dkt. # 492);
7/19/18 Order; 7/23/18 Order; 7/24/18 Order (Dkt. # 544) (granting Union Pacific’s motions for
joinder).)

⁵ DCo, Honeywell, and Union Pacific join Ford’s motion to exclude Mr. Castleman.
(DCo Not. of Castleman Joinder (Dkt. # 471); 7/20/18 Order; 7/24/18 Order.)

1 # 464));⁶ and (7) Ingersoll Rand and DCo move to exclude videos and studies conducted
2 by William Longo (Warren Pumps MTE at 8-14).

3 Defendant Viad Corporation (“Viad”) opposes the motion to exclude Mr. Cushing
4 (Cushing Resp. (Dkt. # 573)), and Plaintiffs Leslie Jack and David Jack (collectively,
5 “Plaintiffs”) oppose the remaining motions to exclude (Fitzgerald Resp. (Dkt. # 571);
6 Gordon Resp. (Dkt. # 554); Brodtkin Resp. (Dkt. # 561); Brody Resp. (Dkt. # 559);
7 Castleman Resp. (Dkt. # 563); Longo Resp. (Dkt. # 569)). Plaintiffs additionally file a
8 motion to extend the discovery deadline for Mr. Fitzgerald’s supplemental report. (Mot.
9 (Dkt. # 567).)

10 The court has reviewed the motions, the parties’ submissions in support of and in
11 opposition to the motions, the relevant portions of the record, and the applicable law.
12 Being fully advised,⁷ the court GRANTS Ford’s motion to exclude Mr. Cushing (Dkt.
13 # 464) and DENIES the remaining motions (Dkt. ## 456, 461, 463, 465, 470, 483, 490,
14 497, 511, 516). The court further DENIES Plaintiffs’ motion to extend the discovery
15 deadline (Dkt. # 567) as moot.

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⁶ DCo and Honeywell join Ford’s motion to exclude Mr. Cushing. (Not. of Cushing
18 Joinder (Dkt. # 472); 7/20/18 Order.)

19 ⁷ Ford and Honeywell request oral argument on their motions. (*See* Ford MTE Gordon at
20 1; Ford MTE Castleman at 1; Ford MTE Cushing at 1; Honeywell MTE Brodtkin at 1; Honeywell
21 MTE Brody at 1.) Plaintiffs request oral argument on all motions. (*See, e.g.*, Fitzgerald Resp. at
22 1.) The court finds that oral argument on these motions would not be helpful to its disposition of
the motions. *See* Local Rules W.D. Wash. LCR 7(b)(4). Moreover, district courts are not
required to hold a separate *Daubert* hearing before ruling on motions to exclude. *See*
Millenkamp v. Davisco Foods Int’l, Inc., 562 F.3d 971, 979 (9th Cir. 2009). The court finds that
the briefing, expert reports, deposition testimony, and other exhibits attached to the motions
provide an adequate record from which the court can make its rulings. *See id.*

II. BACKGROUND

1
2 Plaintiffs claim that decedent Patrick Jack was exposed to asbestos from various
3 asbestos-containing products manufactured or supplied by the defendants and that as a
4 result of this asbestos exposure, Mr. Jack developed mesothelioma and died from the
5 disease. (SAC (Dkt. # 253) ¶¶ 46E-46F.) They allege that Mr. Jack was exposed when
6 he worked as a machinist in the Navy and in the Naval reserve from 1954 to 1962; as a
7 machinist and piping inspector at the Puget Sound Naval Shipyard (“the Shipyard”) from
8 1967 to 1973; as a mechanic from 1962 to 1967; and when he performed automotive
9 work on personal vehicles from 1955 to 2001. (Brodkin Adams Decl. ¶ 2, Ex. 2
10 (“Brodkin Rep.”) at 1.1.)⁸ Plaintiffs bring various product liability and negligence claims
11 and seek compensatory and punitive damages. (SAC ¶¶ 47-59.)

12 The parties rely on expert witness testimony opining on matters ranging from
13 asbestos exposure to medical causation. (*See generally* Dkt.) The court now summarizes
14 the testimony of the challenged expert witnesses.

A. Sean Fitzgerald

15
16 Mr. Fitzgerald is a licensed geologist, mineralogist, and asbestos expert with 30
17 years of experience analyzing asbestos. (Fitzgerald Adams Decl. (Dkt. # 572) ¶ 2, Ex. F
18 (“4/17/18 Fitzgerald Rep.”) ¶ 1.) He is the Director of Research and Legal Services at the
19 Scientific Analytical Institute. (*Id.*) Mr. Fitzgerald received training on asbestos-related

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21 ⁸ Dr. Brodkin divides his report into sections and then numbers the pages within those
22 sections. (*See* Brodkin Rep. at 2.) Thus, the court cites the section number, followed by a period
and the page number.

1 air sampling and analysis of asbestos-containing materials. (*Id.* ¶ 5.) He has been
2 certified as an Environmental Protection Agency (“EPA”) asbestos inspector. (*Id.*) He
3 has published several articles on asbestos in peer-reviewed literature. (*See id.* ¶ 7.)

4 On October 24, 2017, Plaintiffs’ counsel sent Mr. Fitzgerald a sealed box stamped
5 “VICTOR GASKETS” with the words “Allis Chalmers complete O-Haul set”
6 handwritten on the top and an attached inventory list titled “Victor Gasket Set.” (*See id.*
7 ¶ 12; *see also* Fitzgerald Adams Decl. ¶ 2, Ex. A (photograph of sealed box with Victor
8 Gaskets labeling).) Plaintiffs’ counsel found this sealed box in Mr. Jack’s garage, and
9 Mr. Jack testified that the box contained gaskets “for an old Allis-Chalmers bulldozer
10 [he] worked on.” (Fitzgerald Adams Decl. ¶ 2, Ex. B (“Jack Dep.”) at 53:21-54:1.) Mr.
11 Fitzgerald noted that the box “appeared to be unopen and unused and in its original
12 condition.” (4/17/18 Fitzgerald Rep. ¶ 12.)

13 Utilizing EPA methods 600/R-93/116 and 600/M3-82-020, Mr. Fitzgerald
14 performed a bulk asbestos analysis using Polarized Light Microscopy (“PLM”) of the
15 gaskets in the sealed box. (*Id.* ¶ 13.) He found that of the 31 gaskets in the box, six
16 “contained between 25 and 60% chrysotile asbestos.” (*Id.* ¶ 14.) Based on his testing,
17 Mr. Fitzgerald concluded to a reasonable degree of scientific certainty that “the Victor
18 gaskets in Mr. Jack’s garage . . . contained 25 to 65% chrysotile asbestos.” (*Id.* ¶ 15.)

19 On May 29, 2018, Dr. Gordon, another one of Plaintiffs’ expert witnesses, notified
20 Plaintiffs’ counsel that he found both chrysotile and tremolite asbestos in Mr. Jack’s lung

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1 and lymph node tissue.⁹ (Fitzgerald Adams Decl. ¶ 3.) Plaintiffs’ counsel notified Mr.
2 Fitzgerald of those findings. (*Id.* ¶ 4.) Because Mr. Fitzgerald had tested only for
3 chrysotile—and not tremolite—Mr. Fitzgerald retested the gaskets “specifically for
4 amphiboles such as the tremolite found by [Dr.] Gordon.” (Fitzgerald Kero Decl. (Dkt.
5 # 457) ¶ 3, Ex. 2 (“6/8/18 Fitzgerald Rep.”) at 1.)

6 Mr. Fitzgerald followed the analytical procedures in test method
7 EPA/600/R-93/116 to analyze samples using Transmission Electronic Microscopy
8 (“TEM”) from the gaskets previously found to contain chrysotile asbestos. (*Id.* at 2.)
9 The TEM analysis revealed that various forms of amphibole asbestos—including
10 tremolite, actinolite, and anthophyllite—were throughout the gaskets. (*Id.*) Indeed, all
11 six of the gaskets “contained countable tremolite and/or actinolite asbestos fibrous
12 structures.” (*Id.*) Mr. Fitzgerald shared those findings with Plaintiffs’ counsel in his June
13 8, 2018, supplemental report. (*See generally* 6/8/18 Fitzgerald Rep.) That same day,
14 Plaintiffs’ counsel disclosed the supplemental report to defendants and offered Mr.
15 Fitzgerald for further deposition on June 15, 2018. (Fitzgerald Adams Decl. ¶ 5;
16 Fitzgerald Kero Decl. ¶ 8.) DCo declined to depose Mr. Fitzgerald after the supplemental
17 report. (*Id.* ¶ 7.)

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20 ⁹ Chrysotile and tremolite asbestos are from two distinct families of asbestos. (*See* Brody
21 Gaston Decl. (Dkt. # 491) ¶ 3, Ex. 2 (“Brody Rep.”) ¶ 7.) Tremolite asbestos are a type of
22 amphibole asbestos, whereas chrysotile asbestos are the only type of serpentine asbestos. (*Id.*)
Chrysotile is frequently contaminated with tremolite. (*Id.*) The class of amphibole asbestos is
known to be more potent in causing asbestos-diseases than chrysotile. (*Id.* ¶ 30.)

1 **B. Ronald Gordon**

2 Since 2003, Dr. Gordon has been a research professor and the Director of Electron
3 Microscopy in the Department of Pathology at the Mount Sinai School of Medicine.
4 (Gordon Adams Decl. (Dkt. # 555) ¶ 2, Ex. C (“Gordon CV”) at 1; *Id.* ¶ 2, Ex. A
5 (“Gordon Rep.”) at 4.) He holds a B.S. and a Ph.D., and he was a post-doctoral fellow as
6 well as an instructor of pathology at the State University of New York. (Gordon Rep. at
7 4.) Dr. Gordon serves as a reviewer for several journals, including the American Journal
8 of Pathology, American Journal of Industrial Medicine, and American Review of
9 Respiratory Disease. (*See* Gordon CV at 3.) He additionally serves as a grant reviewer
10 for the National Institutes of Health and the National Science Foundation. (*Id.* at 3-4.)
11 Dr. Gordon has published over 200 peer reviewed manuscripts and over a dozen books
12 and chapters. (Gordon Rep. at 4.)

13 Dr. Gordon reviewed Mr. Jack’s pathology report and answers to interrogatories
14 and analyzed Mr. Jack’s lung and lymph node tissue. (*Id.* at 5.) Dr. Gordon’s electron
15 microscopic analysis of Mr. Jack’s lung tissue revealed “two amphibole asbestos fibers
16 . . . identified as amosite type asbestos.” (*Id.*) Dr. Gordon also found “10 asbestos bodies
17 per gram wet weight of lung.” (*Id.*) Electron microscopic analysis of Mr. Jack’s lymph
18 node tissue “revealed one chrysotile and one tremolite asbestos fiber.” (*Id.* at 6.) Based
19 on these findings, Dr. Gordon concludes that Mr. Jack had “substantial exposure to
20 amosite, chrysotile[,] and tremolite asbestos.” (*Id.*; Gordon Adams Decl. ¶ 2, Ex. B
21 (“Gordon Dep.”) at 62:11-16 (stating that Mr. Jack “had to have been exposed to quite a
22 bit of [fibers]” based on his “exposure history and the fact that we’re still finding

1 | chrysotile . . . and/or tremolite . . . in his lungs”).) Dr. Gordon further opines to a
2 | reasonable degree of scientific certainty that “[Mr. Jack had] a mixed occupational
3 | exposure to asbestos which is documented by his fiber burden of chrysotile and
4 | amphibole asbestos fibers, tremolite, amosite and chrysotile and asbestos body counts.”
5 | (*Id.* at 7-8.) Dr. Gordon concludes that his “analytic fiber analysis findings of chrysotile,
6 | tremolite[,] and amosite . . . would account for the development of Mr. Jack’s pleural
7 | malignant mesothelioma.” (*Id.* at 8.)

8 | At his deposition, Dr. Gordon testified that he has looked at a number of cases
9 | analyzing the presence of asbestos fibers in brake dust and automotive products. (Gordon
10 | Adams Decl. ¶ 2, Ex. B (“Gordon Dep.”) at 15:23-16:2.) He also conducted a few
11 | studies specifically concerning brakes and clutches. (*Id.* at 16:5-17:3.) For instance, he
12 | has analyzed the dust collected from various automobile parts. (*Id.* at 18:1-19:3; *see also*
13 | *id.* at 92:6-8 (“I looked at brake dust . . . from car brakes.”).) However, Dr. Gordon
14 | acknowledged that he never researched fiber release from automotive products, although
15 | he has read reports on the subject. (*Id.* at 17:4-18; 92:19-25.)

16 | Dr. Gordon also expounded on his fiber burden analysis of the lymph nodes. He
17 | qualified lymph nodes as places in the body where “fibers and particles go . . . once they
18 | leave the lung or other structures.” (*Id.* at 112:7-9.) He explained that both the Helsinki
19 | criteria report and published research by Ronald Dodson support analyzing lymph nodes
20 | to determine the fiber burden. (*Id.* at 36:20-37:15.) However, Dr. Gordon acknowledged
21 | that on one occasion, he participated in a study attempting to find a correlation between
22 | asbestos exposure and fibers in the lymph nodes, but the researchers eventually

1 terminated the study when the correlation they were looking for did not materialize. (*Id.*
2 at 61:12-62:1.)

3 Opposing counsel questioned Dr. Gordon on whether the chrysotile fibers found in
4 Mr. Jack's tissue originated from his time in the Navy or at the shipyard. (*Id.* at
5 54:10-21.) Dr. Gordon responded that it was unlikely the fibers were from that time
6 period because any chrysotile fibers from Mr. Jack's stint in the Navy would have
7 digested away by the time of the fiber burden analysis. (*Id.* at 54:22-55:2.)

8 Subsequently, Plaintiffs' counsel asked Dr. Gordon the following hypothetical:

9 Q: I want you . . . to assume that there was a box of Victor gaskets found in
10 Mr. Jack's garage after his diagnosis with mesothelioma. Can you assume
that?

11 A: I can.

12 Q: And I want you also to assume that those Victor gaskets were tested for
13 asbestos content, and tremolite and chrysotile asbestos was found in the box
of Victor gaskets. Do you have that?

14 A: I do.

15 Q: How does that affect your opinions in this case about the source of the
16 tremolite and chrysotile fiber found in Mr. Jack's lymph system?

17 A: Well, based on the times that he was exposed to all of these products . . .
18 it's more than likely that the chrysotile and the tremolite came from those
products.

19 (*Id.* at 140:14-141:8.)

20 **C. Carl Brodtkin**

21 Dr. Brodtkin practices occupational and environmental medicine. (*See* Brodtkin
22 Adams Decl. (Dkt. # 562) ¶ 2, Ex. 1 ("Brodtkin CV") at 1.) He holds an M.D. from the

1 University of Colorado Medical School and an M.P.H. from the University of
2 Washington, School of Public Health. (*Id.*) For his report, Dr. Brodtkin conducted a
3 telephonic interview of Mr. Jack and reviewed his medical records, pathology reports,
4 deposition testimony, employment records, naval personnel records, and other discovery
5 documents regarding Defendants' products. (Brodtkin Rep. at 1.4-11.) He also relied on
6 a number of studies on occupational exposure to asbestos. (*See id.* at 6.)

7 Dr. Brodtkin recounts in detail Mr. Jack's occupational history, as well as the
8 asbestos-containing products that he worked with in each job. (*See id.* at 2.1-23.) For
9 instance, Dr. Brodtkin notes that Mr. Jack worked intermittently on automobiles from
10 1955 to after 2001. (*Id.* at 2.10.) During this time, Mr. Jack had direct exposure to
11 asbestos fibers from installing, cleaning, and removing brakes. (*Id.* at 2.10-11; *see also*
12 *id.* at 2.13 (qualifying Mr. Jack's exposure during his work with brakes as an identified
13 exposure).) Dr. Brodtkin opines that Mr. Jack also had direct exposure to asbestos when
14 he used compressed air to blow out clutch bell-housings when he removed clutches. (*Id.*
15 at 2.13-14.) Mr. Jack specifically recalled working with "lots" of Borg-Warner clutches
16 and performing "repeat clutch jobs" at the shop and on personal vehicles. (*See id.* at
17 2.14.) Dr. Brodtkin qualifies Mr. Jack's removal of clutches as an identified exposure,
18 whereas the installation and regular handling of the clutches only subjected Mr. Jack to
19 de minimis exposure. (*Id.* at 2.15.)

20 Based on Mr. Jack's occupational history, Dr. Brodtkin concludes that Mr. Jack's
21 mesothelioma is "causally related to direct and/or bystander occupational asbestos
22 exposure" from Mr. Jack's time as a naval machinery repairman aboard the naval vessel;

1 a shipyard shop machinist and a nuclear inspector at the Shipyard; and an automotive
2 mechanic. (*Id.* at 5.1.) Specifically, as to the exposure during his automotive work, Dr.
3 Brodkin observes that Mr. Jack regularly worked with brakes, clutches, and engine
4 gaskets over his three decades of automotive work, often in an enclosed garage setting.
5 (*Id.* at 5.4.) Such work included blowing out brakes with compressed air; grinding,
6 sanding, and filing new brakes in the installation process; cleaning up brakes; and
7 removing clutches with a compressed air blowout. (*Id.*) The literature reveals that these
8 activities release large amounts of asbestos fibers. (*See id.*) Moreover, the products
9 themselves have a high asbestos content. (*Id.*) Thus, Dr. Brodkin describes Mr. Jack’s
10 exposure to asbestos through his automobile work as “significant.” (*See id.*)

11 At his deposition, Dr. Brodkin stated that he could not express Mr. Jack’s total
12 exposure to asbestos because “there is not a way to quantify Mr. Jack’s dose” given that
13 he was “not wearing a dosimeter” at the time of exposure.¹⁰ (Brodkin Gaston Decl. (Dkt.
14 # 486) ¶ 19, Ex. 18 (“Brodkin Dep.”) at 26:23-27:6, 40:1-7; *see also id.* at 53:5-9 (“When
15 you use the word ‘quantitative,’ it implies that there is some actual measurement. That’s
16 not possible in Mr. Jack’s case.”).)¹¹ Indeed, Dr. Brodkin notes that the literature on
17 asbestos exposure does not identify a specific numerical threshold above which there is

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20 ¹⁰ A dosimeter is a device that measures exposure.

21 ¹¹ Other parties also attach portions of Dr. Brodkin’s deposition testimony to their
22 briefing. (*See* Brodkin Adams Decl. ¶ 2, Ex. 3; Brodkin Ross Decl. (Dkt. # 517) ¶ 3, Ex. C.)
Despite the multiple filings, the court refers generally to “Brodkin Dep.” when citing to Dr.
Brodkin’s deposition testimony.

1 risk of disease, although various studies provide a range of exposure that is correlated
2 with increased risk of disease. (*Id.* at 36:13-22, 50:21-24, 161:17-23.)

3 Instead, Dr. Brodtkin utilizes a qualitative approach, where the totality of the
4 evidence—that is, the occupational and environmental history—determines whether an
5 exposure increases the risk of an asbestos-related disease. (*Id.* at 35:5-8, 40:5-7.)

6 Whether an exposure is significant depends on the intensity, the duration, and the
7 frequency of that exposure. (*Id.* at 52:10-21; *see also id.* at 193:15-17 (“My assessment
8 . . . is qualitative in terms of characterizing the duration, frequency, [and] intensity of
9 exposures.”).) Dr. Brodtkin acknowledges that “[n]ot all exposures are significant.” (*Id.*
10 at 34:2-8, 122:15-24; *see also id.* at 45:1-3 (“Just because you have a source of asbestos
11 does not mean it is a significant exposure.”).) Rather, he looks for an “identified
12 exposure,” which is an exposure “that has a well-characterized source of asbestos, an
13 activity that disrupts that source to generate significant airborne asbestos fibers that have
14 sufficient intensity to overcome the body’s defenses, add to the body’s burden of
15 asbestos, and, therefore, increase risk for asbestos-related diseases.” (*Id.* at 47:2-7.)

16 **D. Arnold Brody**

17 Dr. Brody is the Professor Emeritus in the Pathology Department at Tulane
18 University Medical School and an adjunct professor at North Carolina State University in
19 the Department of Molecular and Biomedical Sciences. (Brody Rep. ¶ 1.) He holds a
20 B.S. in Zoology, an M.S. in Functional Vertebrate Anatomy, and a Ph.D. in cell biology.
21 (*Id.*) He focuses on the pathobiology of lung diseases and conducts experiments to
22 understand—on a cellular and genetic level—the progression of a disease. (*Id.* ¶ 2.)

1 Dr. Brody's report lays out what asbestos is and how asbestos fibers cause disease.
2 (*See generally id.*) He gives an overview of the types of asbestos fibers and the diseases
3 that asbestos fibers induce. (*Id.* ¶¶ 7-17.) He then describes how asbestos fibers
4 overcome the body's natural defenses and cause abnormalities on a cellular level,
5 ultimately leading to cancer. (*Id.* ¶¶ 22-43.) Dr. Brody states that "asbestos-induced
6 cancers are dose-response diseases" and that the "cumulative dose . . . cause[s] the
7 disease." (*Id.* ¶ 44.) He further expounds that "[s]cientists have established that brief or
8 low-level cumulative exposures to asbestos significantly increase the risk of developing
9 mesothelioma." (*Id.*) The "consensus scientific opinion . . . is that no amount of
10 exposure to asbestos above the background levels present in ambient air has been
11 established as too low to induce mesothelioma." (*Id.* ¶ 45.) In other words, "[t]he
12 mainstream scientific community is in consensus that there is no safe level of exposure to
13 asbestos." (*Id.*)

14 In his deposition, Dr. Brody reiterated that brief exposures can increase the risk of
15 developing mesothelioma, pointing to cases of mesothelioma where the patients had only
16 been exposed for short periods of time. (Brody Adams Decl. (Dkt. # 560) ¶ 2, Ex. 9
17 ("Brody Dep.") at 28:20-29:4.)¹² He stated that although background levels of exposure
18 are safe, whether an individual contracts mesothelioma often depends on that individual's
19 susceptibility. (*See id.* at 30:22-31:5.) As for levels of exposure above background, Dr.

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21 ¹² Honeywell also attaches portions of Dr. Brody's deposition testimony to its briefing.
22 (*See* Brody Gaston Decl. ¶ 4, Ex. 3.) Despite the multiple filings, the court refers generally to
"Brody Dep." when citing to Dr. Brody's deposition testimony.

1 Brody states that science has not determined whether there is a level that does not
2 increase the risk of disease. (*Id.* at 31:6-22.) However, Dr. Brody believes that every
3 exposure adds to the cumulative dose, or total amount, to which the individual is
4 exposed. (*Id.* at 34:13-16.)

5 **E. Barry Castleman**

6 Dr. Castleman works in the field of occupational and environmental health policy
7 and focuses on “the recognition of risk factors and the prevention of disease from
8 industrial activities.” (Castleman Adams Decl. (Dkt. # 564) ¶ 2, Ex. A (“Castleman
9 Rep.”) at 1.)¹³ He holds a B.S. in Chemical Engineering, an M.S.E. in Environmental
10 Engineering, and a Doctor of Science Degree in Health Policy. (*Id.*) As part of his
11 doctorate work, he concentrated in the areas of toxicology, epidemiology, biostatistics,
12 physiology, and public health policy. (*Id.*) Dr. Castleman additionally authored a thesis
13 titled “Asbestos: An Historical Case Study of Corporate Response to an Industrial Health
14 Hazard,” which was later published as a book: “Asbestos: Medical and Legal Aspects.”
15 (*Id.*) The thesis and book contain “an historical review of the asbestos problem,”
16 including “a comprehensive review of medical literature of all kinds, as well as other
17 literature available.” (*Id.* at 1-2.) Several courts, including the Supreme Court, have
18 cited Dr. Castleman’s book. *See, e.g., Amchem Prod., Inc. v. Windsor*, 521 U.S. 591, 631
19 (1997) (Breyer, J. concurring in part and dissenting in part).

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22 ¹³ The court cites the page number on the bottom center of the document. (*See generally*
Castleman Rep.)

1 Dr. Castleman has over 40 years of experience analyzing asbestos and other
2 occupational and environmental health problems. (*Id.* at 1.) He has examined both
3 published and unpublished historical documents—including corporate documents, trade
4 association minutes, and corporate officials’ testimony—regarding the asbestos hazard.
5 (*Id.* at 2.) Additionally, he has interviewed “old-timers in the field of industrial medicine
6 and hygiene,” including physicians and other authorities who studied asbestos in the
7 1900s. (*Id.*) In addition to his book, Dr. Castleman published numerous articles on
8 asbestos (*see id.* at 20-28) and testified in front of both the United States Senate and
9 House of Representatives regarding asbestos (*see id.* at 19-20). He served as a consultant
10 to various organizations, including the EPA, the Occupational Safety and Health
11 Administration (“OSHA”), and the National Academy of Sciences. (*Id.* at 18.)

12 In his report, Dr. Castleman reviews the body of knowledge regarding asbestosis,
13 lung cancer, and mesothelioma dating back to the 1800s. (*See id.* at 2-7.) Specifically,
14 he recounts studies in the automotive industry that analyzed asbestos in brakes, clutches,
15 and gaskets, as well as the history of regulation addressing asbestos in brake and clutch
16 work. (*Id.* at 14-15.) Based on his review, Dr. Castleman concludes that “the literature
17 had largely established that asbestos was a lethal material by the early 1930s” and that
18 “[b]y the mid-1940s, it was widely accepted . . . that asbestos inhalation could also cause
19 lung cancer.” (*Id.* at 17.) Mesothelioma, in particular, became “a subject of intense
20 discussion in the early 1960s.” (*Id.*) This literature, Dr. Castleman maintains, “was
21 available in the medical libraries to anyone who knew how to spell the word asbestosis”
22 and would not require a computer or other modern techniques to access. (*Id.*)

1 **F. Charles Cushing**

2 Dr. Cushing is the President of C.R. Cushing & Co., Inc., a firm of “naval
3 architects, marine engineers, and transportation consultants.” (Ford MTE Cushing, Ex. 1
4 (“Cushing Rep.”) at 27.)¹⁴ He holds a B.S. in Marine Transportation, a B.S. in Naval
5 Architecture and Marine Engineering, an M.S. in Ocean Transportation, and a Ph.D. in
6 Maritime Studies. (*Id.*) He has designed and constructed more than 250 vessels. (*Id.*)
7 His expertise also extends to risk analyses, safety audits, vessel maintenance, and air
8 quality monitoring. (*Id.*) Dr. Cushing belongs to numerous shipping and naval
9 professional associations, and he has authored several articles on ship design, naval
10 operations, and marine safety investigations. (*Id.* at 29.)

11 Dr. Cushing reviewed Mr. Jack’s deposition testimony, interrogatory answers,
12 personnel records, and the second amended complaint. (*Id.* at 26.) He summarizes Mr.
13 Jack’s career as a machinery repairman aboard various naval vessels and his work as an
14 inside machinist, a nuclear inspector, and an outside and inside engineer at the Shipyard.
15 (*Id.* at 4-13.) Dr. Cushing then reviews the use of asbestos by the U.S. Navy on naval
16 vessels. (*Id.* at 14-22.) Based on his review, Dr. Cushing concludes that Mr. Jack was
17 likely exposed to asbestos aboard naval vessels and at the Shipyard. (*Id.* at 23.) Dr.
18 Cushing additionally opines that Mr. Jack was likely exposed to asbestos when he
19 worked on automobiles, which involved handling clutches, brakes, and gaskets. (*Id.*)

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22 ¹⁴ The court cites the page number on the bottom center of the document. (*See generally*
Cushing Rep.)

1 **G. William Longo**

2 Dr. Longo has a Ph.D. in Materials Science and Engineering and has over 20 years
3 of experience utilizing electron microscopy methods to analyze all types of asbestos
4 samples. (Longo Adams Decl. (Dkt. # 570) ¶ 2, Ex. 3 (“Longo Aff.”) ¶ 2.) He was the
5 president of Materials Analytical Services, Inc. (“MAS”), an engineering consulting firm
6 that specializes in analyzing asbestos-containing products. (*Id.*) Although Plaintiffs have
7 not retained Dr. Longo as a testifying witness, Plaintiffs’ expert witnesses rely on studies
8 by Dr. Longo or MAS to determine the amount of dust Defendants’ products emit. (*See*
9 Longo Resp. at 1.) Plaintiffs also intend to offer two video demonstrations of these
10 studies to illustrate the visible dust released when working with brakes, gaskets, and other
11 products. (*Id.*; Warren Pumps MTE at 8 n.38.)

12 In their studies of gaskets, Dr. Longo and MAS utilize both a direct sample
13 preparation method in accordance with the NIOSH 7400 method and a TEM indirect
14 method to analyze how much airborne asbestos is released during the studies. (*See*
15 Longo Aff. ¶¶ 5, 5A.) The government recognizes TEM indirect method as a standard
16 method of analysis, and several peer-reviewed publications utilize this methodology to
17 evaluate asbestos exposures. (*Id.* ¶ 5D.)

18 Dr. Longo and MAS additionally employ a technique called “Tyndall Light
19 Scattering” (“Tyndall lighting”) in their video demonstrations. (*See id.* ¶¶ 6A-6E.) The
20 EPA developed Tyndall lighting as a standard testing method for visualizing microscopic
21 particles for industrial hygiene and environmental studies. (*Id.* ¶ 6A.) Industrial
22 hygienists generally use Tyndall lighting to more easily view the pathway of exposure.

1 (Id. ¶¶ 6A-6B.) Dr. Longo attests that Tyndall lighting “is a standard method that has
2 existed for decades . . . [and] has been extremely effective in demonstrating the pathways
3 of exposure.” (Id. ¶ 6D.)

4 Having summarized the expert testimonies at issue, the court now addresses the
5 motions to exclude.

6 III. ANALYSIS

7 A. Legal Standard

8 Rule 702 of the Federal Rules of Evidence governs the admission of expert
9 testimony:

10 A witness who is qualified as an expert by knowledge, skill, experience,
11 training, or education may testify in the form of an opinion or otherwise if:

12 (a) the expert’s scientific, technical, or other specialized knowledge will help
the trier of fact to understand the evidence or to determine a fact in issue;

13 (b) the testimony is based on sufficient facts or data;

14 (c) the testimony is the product of reliable principles and methods; and

15 (d) the expert has reliably applied the principles and methods to the facts of
16 the case.

17 Fed. R. Evid. 702. Rule 702 requires that the expert be qualified and that the “[e]xpert
18 testimony . . . be both relevant and reliable.” *Estate of Barabin v. AstenJohnson, Inc.*,
19 740 F.3d 457, 463 (9th Cir. 2014) (quoting *United States v. Vallejo*, 237 F.3d 1008, 1019
20 (9th Cir. 2001)); Fed. R. Evid. 702. Relevancy “simply requires that ‘[t]he evidence . . .
21 logically advance a material aspect of the party’s case.” *Estate of Barabin*, 740 F.3d at
22 463 (quoting *Cooper v. Brown*, 510 F.3d 870, 942 (9th Cir. 2007)).

1 Reliability requires the court to assess “whether an expert’s testimony has a
2 ‘reliable basis in the knowledge and experience of the relevant discipline.’” *Id.* (quoting
3 *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 149 (1999)) (internal citations and
4 alterations omitted). The Supreme Court has suggested several factors that courts can use
5 in determining reliability: (1) whether a theory or technique can be tested; (2) whether it
6 has been subjected to peer review and publication; (3) the known or potential error rate of
7 the theory or technique; and (4) whether the theory or technique enjoys general
8 acceptance within the relevant scientific community. *See Daubert v. Merrell Dow*
9 *Pharm., Inc.*, 509 U.S. 579, 592-94 (1993). The reliability inquiry is flexible, however,
10 and trial judges have broad latitude to focus on considerations relevant to a particular
11 case. *See Kumho Tire*, 526 U.S. at 150.

12 In determining reliability, the court must rule on the soundness of the expert’s
13 methodology, *Estate of Barabin*, 740 F.3d at 463 (citing *Primiano v. Cook*, 598 F.3d 558,
14 564 (9th Cir. 2010)), and the analytical connection between the data, the methodology,
15 and the expert’s conclusions, *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997); *see also*
16 *Cooper*, 510 F.3d at 942 (“Rule 702 demands that expert testimony relate to scientific,
17 technical or other specialized knowledge, which does not include unsubstantiated
18 speculation and subjective beliefs.”); Fed. R. Evid. 702 Advisory Committee’s Notes to
19 2000 Amendments (“[T]he testimony must be the product of reliable principles and
20 methods that are reliably applied to the facts of the case.”). The court should not rule on
21 the correctness of the expert’s conclusions. *Estate of Barabin*, 740 F.3d at 463. “[T]he

22 //

1 proponent of the expert . . . has the burden of proving admissibility.” *Cooper*, 510 F.3d
2 at 942 (citing *Lust v. Merrell Dow Pharms., Inc.*, 89 F.3d 594, 598 (9th Cir. 1996)).

3 Defendants raise a myriad of arguments against each of the challenged experts,
4 and the court addresses each expert in turn.

5 **B. Sean Fitzgerald**

6 DCo moves to exclude Mr. Fitzgerald’s testimony for two reasons: (1) his
7 supplemental report finding tremolite was untimely; and (2) his conclusions regarding the
8 asbestos content of Victor gaskets are based on speculation and thus are irrelevant,
9 unreliable, and unhelpful to a trier of fact. (*See generally* 1st MTE Fitzgerald; 2d MTE
10 Fitzgerald.) The court disagrees with both arguments.

11 First, as to the timeliness of disclosure, DCo is correct that a party must submit its
12 expert witness disclosures “at the times and in the sequence that the court orders.” Fed.
13 R. Civ. P. 26(a)(2)(C); (*see* 1st MTE Fitzgerald at 4-11.) However, “if the party learns
14 that in some material respect the disclosure or response is incomplete or incorrect, and if
15 the additional or corrective information has not otherwise been made known to the other
16 parties during the discovery process or in writing,” the party “must supplement or correct
17 its disclosure or response.” *Id.* 26(e)(1). Rule 26(e) is not “a loophole through which a
18 party who . . . wishes to revise her disclosures in light of her opponent’s challenges to the
19 analysis and conclusions therein, can add to them to her advantage after the court’s
20 deadline.” *Luke v. Family Care & Urgent Med. Clinics*, 323 F. App’x 496, 500 (9th Cir.
21 2009). Instead, Rule 26(e) applies only when the party “correct[s] an inaccuracy” or
22 “fill[s] in a gap based on information previously unavailable.” *Id.*

1 Mr. Fitzgerald’s supplemental report falls within the ambit of Rule 26(e). After
2 learning that Dr. Gordon found tremolite—information that was previously unavailable—
3 Mr. Fitzgerald “fill[ed] in a gap” in his prior report by retesting the gaskets for tremolite.
4 *See Luke*, 323 F. App’x at 500; (6/8/18 Fitzgerald Rep. at 1.) The situation here is unlike
5 that in *Luke*, upon which DCo relies, where the court excluded an untimely expert
6 declaration that “attempted to fix the weakness” identified by a summary judgment
7 motion. *See* 323 F. App’x at 500. Accordingly, Mr. Fitzgerald’s supplemental report is
8 timely. As such, the court denies DCo’s motion to exclude on this basis and denies
9 Plaintiffs’ motion to extend the discovery deadline for Mr. Fitzgerald as moot.

10 Second, the court finds that Mr. Fitzgerald’s conclusion regarding the asbestos
11 content in the gaskets is relevant, reliable, and helpful to the trier of fact. DCo maintains
12 that the testing of the gaskets found in Mr. Jack’s garage is irrelevant because (1) “there
13 is no evidence any of the asbestos-containing gaskets . . . are Victor gaskets,” and (2)
14 “there is no evidence [Mr. Jack] was exposed to any of the [tested] asbestos-containing
15 gaskets.” (2d MTE Fitzgerald at 8.) DCo misstates the record in its first point and
16 misconstrues the law in its second. The record contains sufficient evidence upon which a
17 jury may infer that the gaskets Mr. Fitzgerald tested were Victor gaskets: the gaskets
18 were found in a sealed box bearing the Victor logo with an inventory list titled “Victor
19 Gasket Set” (*see* Fitzgerald Adams Decl. ¶ 2, Ex. A; 6/8/18 Fitzgerald Rep. at 4), Mr.
20 Jack testified that the box contained Victor gaskets for a vehicle he was working on (*see*
21 Jack Dep. at 53:21-54:1), and the box remained sealed until Mr. Fitzgerald’s testing
22 (4/17/18 Fitzgerald Rep. ¶ 12). When opened, the gaskets in the box matched the

1 inventory list. (6/8/18 Fitzgerald Rep. at 1.) And at least one of the gaskets had a Victor
2 logo. (See Fitzgerald Adams Decl. ¶ 2, Ex. E (displaying a picture of the gasket).)

3 Similarly, the record contains evidence that Mr. Jack worked with Victor gaskets.
4 Mr. Jack testified that he recognized the box as containing Victor gaskets “for an old
5 Allis-Chalmers bulldozer I worked on.” (Jack Dep. at 53:23-54:1.) Moreover, he
6 specifically recalled Victor as a brand he worked with. (*Id.* at 43:18-23; 210:20-23.) But
7 even if Mr. Jack was not exposed to those specific gaskets, their asbestos content is
8 nonetheless relevant because it indicates the asbestos content in Victor gaskets generally.
9 Such information undoubtedly “logically advance[s] a material aspect of [Plaintiffs’]
10 case.” *See Cooper*, 510 F.3d at 942.

11 DCo’s reliability arguments are similarly unavailing. DCo first contends that
12 “there is no evidence that the asbestos-containing gaskets [Mr. Fitzgerald’s] laboratory
13 tested actually came from [Mr. Jack’s] garage.” (2d MTE Fitzgerald at 8.) But upon
14 receiving the sealed box of gaskets, Mr. Fitzgerald noted that the box had the same label
15 and same handwritten note as the box from Mr. Jack’s garage. (See 6/8/18 Fitzgerald
16 Rep. at 1; *compare id.*, Ex. 1 (Mr. Fitzgerald’s pictures of the box), *with* Fitzgerald
17 Adams Decl. ¶ 2, Ex. A (picture of box in Mr. Jack’s garage).) Moreover, the chain of
18 custody document shows that the box transferred from Mr. Jack to Plaintiffs’ counsel to
19 Mr. Fitzgerald. (Fitzgerald Adams Decl. ¶ 2, Ex. D at 5.) DCo may certainly
20 cross-examine Mr. Fitzgerald about the chain of custody, but the fact that the items
21 changed hands does not warrant exclusion.

22 //

1 Lastly, DCo argues that Mr. Fitzgerald’s methodology is unreliable because it
2 should be used only for building materials and insulation, not automotive gaskets. (2d
3 MTE Fitzgerald at 9.) But the record evinces that both EPA methods and PLM are
4 accepted and routinely used by scientists in the field. (*See* Fitzgerald Adams Decl. ¶ 2,
5 Ex. G (“Fitzgerald Dep.”) at 20:23-21:6, 42:11-25.) Mr. Fitzgerald’s lab has performed a
6 PLM analysis hundreds, if not thousands, of times to determine the presence of asbestos
7 in automotive gaskets. (*Id.* at 26:1-9.) Because Mr. Fitzgerald’s methodology is sound,
8 any qualms DCo has regarding the implementation of that methodology—such as
9 whether Mr. Fitzgerald compared the tested gaskets to the correct known samples—may
10 be addressed on cross-examination. *See Estate of Barabin*, 740 F.3d at 463.

11 In sum, Mr. Fitzgerald’s expert testimony is both relevant and reliable. *See id.*
12 Accordingly, the court denies both of DCo’s motions to exclude Mr. Fitzgerald’s
13 testimony.

14 **C. Ronald Gordon, Carl Brodkin, and Arnold Brody**

15 Defendants’ challenges to Dr. Gordon, Dr. Brodkin, and Dr. Brody all involve the
16 application of the “every exposure theory.” (*See, e.g.,* Warren Pumps MTE at 3-8.)
17 Thus, the court first addresses the admissibility of that theory and its variants before
18 turning to the admissibility of each expert.

19 1. Every Exposure Theory

20 The “every exposure” theory posits that “any exposure to asbestos fibers
21 whatsoever, regardless of the amount of fibers or length of exposure constitutes an
22 underlying cause of injury.” *Krik v. Exxon Mobil Corp.*, 870 F.3d 669, 672 (7th Cir.

1 2017). A minor variation of the “every exposure” theory states that “every exposure to
2 asbestos above a threshold level is necessarily a substantial factor in the contraction of
3 asbestos-related diseases.” *McIndoe v. Huntington Ingalls Inc.*, 817 F.3d 1170, 1177 (9th
4 Cir. 2016). A further outgrowth of the “every exposure” theory is the “cumulative
5 exposure” theory: the cumulative exposure to asbestos is the cause of the disease, but
6 because each exposure, no matter how small, adds to that cumulative exposure, each
7 exposure becomes a substantial contributing factor. *See Krik*, 870 F.3d at 672-73.

8 The court recently reviewed in detail the legal landscape surrounding the “every
9 exposure” and “cumulative exposure” theories.¹⁵ *See Barabin v. Scapa Dryer Fabrics,*
10 *Inc.*, No. C07-1454JLR, 2018 WL 840147, at *11-16 (W.D. Wash. Feb. 12, 2018). After
11 surveying the relevant precedent—including *McIndoe v. Huntington Ingalls Inc.*, 817
12 F.3d 1170 (9th Cir. 2016)—the court “agree[d] with t[he] overwhelming precedent that
13 the ‘every exposure’ theory is unreliable” because it “is not tied to the severity of
14 exposure,” is not based on sufficient supporting facts and data, cannot be tested, and does
15 not have a known error rate. *See Barabin*, 2018 WL 840147, at *11-12. The court
16 further concluded that the “cumulative exposure” theory is unreliable because it “contains
17 the same reliability problems that the ‘every exposure’ theory does”—namely that “every
18 exposure becomes a substantial factor based on one fact alone: that it was part of the
19 total dose.” *Id.* at *13.

20
21 ¹⁵ As the court stated in *Barabin*, the “every exposure” theory goes by many names,
22 including the “any exposure” theory, the “single fiber” theory, and the “each and every
exposure” theory. *See* 2018 WL 840147, at *11 n.11 (citing *Yates v. Ford Motor Co.*, 113 F.
Supp. 3d 841, 846 (E.D.N.C. 2015)).

1 The court reiterates its conclusion regarding the unreliability of the “every
2 exposure” and “cumulative exposure” theories. Neither theory addresses the frequency
3 of, regularity of, proximity to, or the strength of the exposure in question; indeed, neither
4 theory depends on any characteristic of the exposure at all. Instead, the fact that the
5 exposure occurs is sufficient under either theory to qualify that exposure as a substantial
6 factor. Allowing these theories to be presented at trial would, as the Ninth Circuit
7 articulated, “undermine the substantial factor standard” and allow “unbounded liability.”
8 *McIndoe*, 817 F.3d at 1177.

9 Having concluded that neither the “every exposure” nor the “cumulative
10 exposure” theory is admissible under Rule 702 and the *Daubert* standard, the court now
11 ascertains whether any of the challenged causation experts rely on those theories.

12 2. Ronald Gordon

13 DCo, Ford, and Ingersoll Rand challenge the admissibility of Dr. Gordon’s
14 testimony regarding his microscopic testing of Mr. Jack’s lung and lymph node tissues.
15 (*See* DCo MTE Gordon; Ford MTE Gordon; Warren Pumps MTE at 3-7.) They raise
16 three main arguments: (1) Dr. Gordon relies on the impermissible “every exposure”
17 theory (Ford MTE Gordon at 9-10; Warren Pumps MTE at 3-7); (2) Dr. Gordon,
18 although qualified to give opinions regarding microscopy, is not qualified to opine on the
19 source of the detected fibers (DCo MTE Gordon at 8; Ford MTE Gordon at 10-11); and
20 (3) Dr. Gordon’s focus on lymph nodes is unreliable (Ford MTE Gordon at 7-9).¹⁶

21
22 ¹⁶ DCo additionally argues that a portion of Dr. Gordon’s deposition testimony is an
untimely opinion precluded by Federal Rule of Civil Procedure 37(c). (DCo MTE Gordon at

1 The first argument is now moot because Plaintiffs clarify that Dr. Gordon “will not
2 be offering an opinion in this case that ‘each and every exposure’ to asbestos causes
3 mesothelioma or that ‘each and every exposure’ to asbestos caused [Mr.] Jack’s
4 mesothelioma.” (Gordon Resp. at 12.) Instead, he will focus on his “microscopy
5 findings” and “the significance of those findings in evaluating [Mr.] Jack’s exposure.”
6 (*Id.*; *see id.* at 1 (offering Dr. Gordon to “opine as to [Mr. Jack’s] exposure to asbestos”).)
7 Thus, the court declines to exclude Dr. Gordon on this ground.¹⁷ Defendants may renew
8 this objection, however, if Dr. Gordon proffers causation testimony during trial.

9 The court addresses the remaining arguments in turn.

10 *a. Dr. Gordon’s Qualifications*

11 No party challenges Dr. Gordon’s qualifications in microscopy or his credentials
12 to testify about the fiber burden study that he performed on Mr. Jack’s lung and lymph
13 node tissue. (*See* DCo MTE Gordon at 8; Ford MTE Gordon at 10-11.) Instead, they
14 question Dr. Gordon’s qualifications to opine on the source of those fibers, and in
15 particular, whether the fibers may have originated from automotive products. (*See id.*)

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17 _____
18 6-8.) But Dr. Gordon gave the testimony at issue in response to a hypothetical posed by
19 Plaintiffs’ counsel, in which Plaintiff’s counsel informed Dr. Gordon of Mr. Fitzgerald’s findings
20 regarding the asbestos content of automotive products. (Gordon Dep. at 140:14-141:8.) A
21 hypothetical is generally allowed as long as there is a reasonable basis for the facts posed by the
22 hypothetical. *Woods v. Conagra Foods Lamb Weston, Inc.*, No. 4:15-cv-05067-SAB, 2016 WL
4719886, at *4 (E.D. Wash. June 3, 2016). The court finds no reason to doubt the facts posed by
Plaintiffs’ counsel’s hypothetical. Thus, the court declines to exclude the testimony as an
untimely supplemental report under Rule 37(c).

¹⁷ Because Dr. Gordon will not be testifying to causation, Ford’s argument that he is not
qualified to render causation opinions is also moot. (*See* Ford MTE Gordon at 10.)

1 Although Dr. Gordon is a microscopist, his experience is not limited to that role.
2 Instead, he has participated in studies of the asbestos content of various products. (*See*
3 Gordon Adams Decl. ¶ 2, Ex. N (attaching an article co-authored by Dr. Gordon that
4 analyzes the asbestos concentration of talcum powder).) More significantly, Dr. Gordon
5 analyzed automotive parts in particular. For instance, he has “looked at a number of
6 cases of people that have been exposed to brake dust as mechanics” and additionally
7 analyzed “what fibers have been associated with . . . those brakes . . . and correlated them
8 with the exposures.” (Gordon Dep. at 15:23-16:2.) In fact, Dr. Gordon conducted
9 studies on brakes and clutches to determine whether they correlated to fibers found in the
10 patient. (*Id.* at 16:7-14.) Moreover, Dr. Gordon has reviewed literature on the asbestos
11 content in automotive products. (*See id.* at 17:13-23.)

12 True, Dr. Gordon has not conducted any fiber release studies to measure the
13 exposure levels that automotive products produce, nor is he aware of the manufacturer of
14 the brakes. (*Id.* at 16:11-18, 17:4-6.) But Dr. Gordon does not opine on the fibers/cc
15 level of exposure from automotive products or identify any specific brand. (*See* Gordon
16 Rep.; Gordon Dep. at 139:20-140:13.) Instead, he opines on whether the fibers could
17 have originated from automotive products based on his experience studying such
18 products. (*See id.*) Dr. Gordon’s experience with automotive products enables him to
19 draw links between Mr. Jack’s fiber burden study and automotive products generally.

20 *b. Lymph Node Study*

21 Ford challenges the reliability of Dr. Gordon’s fiber burden study of Mr. Jack’s
22 lymph nodes, arguing that there is no correlation between fibers found in lymph nodes

1 and occupational exposure to asbestos. (Ford MTE Gordon at 7-9.) Thus, Ford seeks to
2 exclude “Dr. Gordon’s lymph node fiber burden analysis . . . as lacking foundation in
3 reliable, peer-reviewed science.” (*Id.* at 9.) The court disagrees.

4 Expert testimony may be admitted when the knowledge in the field “permits the
5 assertion of a reasonable opinion.” *United States v. Sandoval-Mendoza*, 472 F.3d 645,
6 655 (9th Cir. 2006) (internal quotation marks omitted) (quoting *United States v. Finley*,
7 301 F.3d 1000, 1007 (9th Cir. 2002)). “A court may admit somewhat questionable
8 testimony if it falls within ‘the range where experts might reasonably differ, and where
9 the jury must decide among the conflicting views.’”¹⁸ *S.M. v. J.K.*, 262 F.3d 914, 921
10 (9th Cir. 2001) (quoting *Kumho Tire*, 526 U.S. at 153). Here, Dr. Gordon’s extrapolation
11 of Mr. Jack’s exposure, based on the presence of fibers in Mr. Jack’s lymph node tissue,
12 is reasonable, even if experts might reasonably differ about that extrapolation.

13 Various published studies support the notion that asbestos fibers can deposit in the
14 lymph nodes after the fibers leave the lungs. For example, the report on the Helskini
15 criteria states that asbestos bodies, which are “the hallmark of asbestos exposure,” are
16 “deposited in the lung parenchyma” but “may also be found in regional lymph nodes.”
17 (Gordon Adams Decl. ¶ 2, Ex. J at 127.) Several publications by Ronald Dodson also
18 correlate asbestos fibers in lymph node tissue with exposure. Dr. Dodson’s book
19 *Asbestos Risk Assessment, Epidemiology, and Health Effects* explains that because lymph

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21 ¹⁸ Ford questions the applicability of this authority because it predates *Estate of Barabin*.
22 (Gordon Reply (Dkt. # 593) at 3.) But *Estate of Barabin* did not address, let alone overrule, this
statement of law. See 740 F.3d at 464.

1 nodes are the “reservoirs of retained material,” the ability of fibers to “relocate through
2 the lymphatic system to the . . . lymph nodes is well recognized.” (*Id.* ¶ 2, Ex. L at 74.)
3 A comparative study performed by Dr. Dodson on eight shipyard workers revealed that
4 all but one had asbestos bodies in their lymph node tissue, suggesting “a relocation of
5 mature bodies from the lungs to the lymph nodes.” (*Id.* at 75.)

6 Indeed, Dr. Gordon has also published an article detailing the correlation of
7 asbestos exposure with fibers found in the lymph nodes. (*See* Gordon Adams Decl. ¶ 2,
8 Ex. N.) When studying a patient exposed to asbestos through talcum powder, Dr. Gordon
9 performed analysis on the lung and lymph node tissues. (*Id.* at 4-5.) He found asbestos
10 fibers in both locations. (*Id.* at 7-9.) The study “tracked the asbestos in the talc . . . into
11 the lung and lymph nodes of the users of those products.” (*Id.* at 13.) The above
12 literature persuades the court that there is a reasonable and reliable basis in science for
13 Dr. Gordon’s lymph node fiber burden analysis.

14 Ford provides its own expert testimony disclaiming lymph node fiber burden
15 analyses; its pathologist Andrew Churg even characterizes Dr. Gordon’s conclusions as
16 “completely illegitimate.” (Ford MTE Gordon, Ex. 3 at 1; *id.*, Ex. 4 at 55:11.) But Dr.
17 Churg’s disagreement with Dr. Gordon’s conclusion only illustrates that this is an area
18 about which reasonable experts may disagree. In such a situation, the jury—not the
19 court—must decide amongst the conflicting views. *See S.M.*, 262 F.3d at 921; *see also*
20 *Marketquest Grp., Inc. v. BIC Corp.*, No. 11-cv-618-BAS (JLB), 2018 WL 1756117, at
21 *4 (S.D. Cal. Apr. 12, 2018) (leaving the determination of “which of several competing
22 scientific theories has the best provenance” to the jury).

1 Because the court finds that Dr. Gordon is sufficiently qualified and relies on a
2 sufficient foundation, the court concludes that his testimony is admissible.

3 3. Carl Brodkin

4 Honeywell challenges the reliability of Dr. Brodkin’s testimony regarding brake
5 dust, whereas Borg-Warner focuses on his conclusions regarding clutches.¹⁹ The court
6 therefore addresses the two categories of arguments.

7 *a. Brake Dust*

8 Honeywell generally challenges the reliability of Dr. Brodkin’s causation
9 opinions. First, it points out that Dr. Brodkin does not determine Mr. Jack’s cumulative
10 dose, and thus, Dr. Brodkin “simply concludes that because there is not a known
11 threshold for safe exposure, no exposure . . . is safe.” (Honeywell MTE Brodkin at 10.)
12 Thus, Honeywell seemingly argues that Dr. Brodkin relies on the “every exposure”
13 theory. (*See id.* (noting that Dr. Brodkin qualifies “exposure to any identified (but
14 unquantified) level of fiber release . . . [to be] biologically significant in the development
15 of [Mr. Jack’s] disease”); *see also* Warren Pumps MTE at 3-7.)

16 But Dr. Brodkin’s causation conclusions are not based on the theory that every
17 exposure must necessarily be a substantial factor. Instead, he looks for an “identified

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19 ¹⁹ DCo also brought a motion challenging Dr. Brodkin’s testimony. (*See* DCo MTE
20 Brodkin.) However, DCo’s motion largely mirrors Honeywell’s motion, with the caveat that
21 DCo challenges Dr. Brodkin’s conclusions concerning automotive gaskets rather than brake dust.
22 (*See id.* at 2-3.) Thus, the court addresses DCo’s motion in conjunction with Honeywell’s
motion. Ingersoll Rand, which joined in former Defendant Warren Pumps’s motion, argues Dr.
Brodkin relies on the inadmissible “every exposure” theory. (*See* Warren Pumps MTE at 3-8.)
Because this argument overlaps with Honeywell’s, the court addresses them together.

1 exposure,” which requires a “well-characterized source, activity that generates fibers
2 overcoming the body’s defenses, and add[s] to the body[’s] burden of asbestos.”
3 (Brodkin Dep. at 195:19-25.) An “identified exposure” must be a “well-characterized
4 source of asbestos, an activity that disrupts the source to generate significant airborne
5 asbestos fibers that have sufficient intensity to overcome the body’s defenses, add to the
6 body’s burden of asbestos, and therefore, increase risk for asbestos-related diseases.” (*Id.*
7 at 46:25-47:7.) In other words, Dr. Brodkin analyzes the duration, frequency, and
8 intensity of exposures to determine whether an exposure is significant. (*Id.* at
9 193:15-19.) Indeed, Dr. Brodkin’s report belies Honeywell’s contention that he
10 subscribes to the “every exposure” theory. For instance, Dr. Brodkin recognizes that Mr.
11 Jack was exposed to asbestos fibers when installing and handling clutches but did not
12 characterize those exposures as identified exposures. (Brodkin Rep. at 2.15.)

13 Honeywell next challenges Dr. Brodkin’s identified exposure approach as
14 unreliable. The court again disagrees. Dr. Brodkin analyzed Mr. Jack’s occupational and
15 environmental history at length—including during an interview with Mr. Jack—and
16 compared Mr. Jack’s activities to the exposure associated with those activities
17 documented in numerous published studies. (*See* Brodkin Rep. at 5.4.) He additionally
18 factored in the asbestos content of the materials, how often Mr. Jack worked with those
19 materials, how long he did that work, and where he worked with the materials. (*See id.*)
20 Dr. Brodkin relies on his significant experience compiling and analyzing occupational
21 histories to then determine which of the exposures qualify as identified exposures. (*See*
22 *generally* Brodkin CV.) Thus, Dr. Brodkin’s characterization of Mr. Jack’s identified

1 exposures has “a ‘reliable basis in the knowledge and experience of the relevant
2 discipline.’” *See Estate of Barabin*, 740 F.3d at 463.

3 Dr. Brodkin further relies on the Helsinki criteria, a document created by a group
4 of 19 experts from around the world to clarify how to diagnose and attribute
5 asbestos-related diseases. (*See Brodkin Adams Decl.* ¶ 2, Ex. 4.) The Helsinki criteria
6 notes that “a history of significant occupational, domestic, or environmental exposure to
7 asbestos will suffice for attribution” and that even an “occupational history of brief or
8 low-level exposure should be considered sufficient for mesothelioma to be designated as
9 occupationally related.” (*Id.* at 313.) And finally, Dr. Brodkin references various
10 published articles, government agency statements, and industry textbooks that support
11 how he pinpoints identified exposures. (*See Brodkin Dep.* at 46:25-47:7.) In light of
12 those publications, the court is further persuaded that Dr. Brodkin’s methodology is
13 reliable and thus admissible.

14 Honeywell makes much of the fact that Dr. Brodkin does not quantify Mr. Jack’s
15 exposure. (*See Honeywell MTE Brodkin* at 9-10; *Brodkin Reply* (Dkt. # 594) at 2-3.)
16 But Dr. Brodkin explained that direct quantification is difficult because no equipment
17 measured Mr. Jack’s real-time exposure, and retroactively estimating his exposure
18 involves a “wide range of uncertainty.” (*Brodkin Dep.* at 40:17-41:13.) Nor is
19 quantification necessary legally. *See Mavroudis v. Pittsburgh-Corning Corp.*, 935 P.2d
20 684, 687 (Wash. Ct. App. 1997) (requiring only that a substantial factor be “important,”
21 “material,” and not “insignificant”); *see also Barabin v. Scapa Dryer Fabrics Inc.*, No.
22 C07-1454JLR, Dkt. # 248, at 6 (“[T]he [c]ourt finds that the substantial factor causation

1 standard is a qualitative one that does not require hard and fast numerical absolutes
2 tracing each defendant’s asbestos fibers to the plaintiff’s lungs.”). Thus, the court
3 declines to exclude Dr. Brodkin’s testimony on account of his qualitative analysis.

4 Lastly, Honeywell and DCo dispute whether brake dust or gaskets increase the
5 risk of mesothelioma. (Honeywell MTE Brodkin at 11; DCo MTE Brodkin at 2-3.) In so
6 arguing, both defendants point to studies or expert testimony that disagree with Dr.
7 Brodkin’s cited studies. (See Honeywell MTE Brodkin at 2-4, 11; DCo. MTE Brodkin at
8 2-3.) But the court cannot rule on the correctness of Dr. Brodkin’s conclusions. See
9 *Estate of Barabin*, 740 F.3d at 463. And there is nothing to indicate that the four pages of
10 published studies Dr. Brodkin relies upon utilize unsound methodology. (See Brodkin
11 Rep. at 6.12-15.)

12 Honeywell and DCo’s contrary studies may well influence the weight a jury
13 assigns to Dr. Brodkin’s testimony, but they do not warrant exclusion. See *PacTool Int’l,*
14 *Ltd. v. Kett Tool Co., Inc.*, No. C06-5367BHS, 2012 WL 3637391, at *3 (W.D. Wash.
15 Aug. 22, 2012) (declining to exclude contradicting expert testimonies because “these
16 issues are best left to the factfinder to weigh during the battle of the experts”). Instead,
17 they merely highlight an area that reasonable experts may disagree about; it is not the
18 court’s role to “determine which of several competing scientific theories has the best
19 provenance.” *Marketquest Grp.*, 2018 WL 1756117, at *4 (quoting *Ruiz-Troche v. Pepsi*
20 *Cola*, 161 F.3d 77, 85 (1st Cir. 1998)) (internal quotation marks omitted).

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22 //

1 In summary, the court concludes that Dr. Brodkin’s testimony passes muster under
2 Rule 702 and the *Daubert* standard. Accordingly, the court denies Honeywell and DCo’s
3 motions to exclude.²⁰

4 *b. Clutches*

5 Borg-Warner raises two separate arguments: (1) Dr. Brodkin’s causation
6 testimony regarding clutches is not based on the facts of this case (Borg-Warner MTE
7 Brodkin at 7-9); and (2) Dr. Brodkin’s two underlying studies on clutches are unreliable
8 (*id.* at 9-10).²¹ Neither ground warrants exclusion.

9 First, Borg-Warner’s argument regarding the underlying facts go to the weight and
10 not the admissibility of Dr. Brodkin’s testimony. Dr. Brodkin documents that Mr. Jack
11 reported working with “lots” of Borg-Warner clutches from 1955 to 1986, including
12 several clutch bell housing removal-blowouts, removals of clutches, and repeat clutch
13 jobs. (Brodkin Rep. at 2.14.) Mr. Jack also performed clutch replacements, which
14 required disassembly of the clutch bell-housing part. (*Id.* at 2.13.) During this clutch
15 work, Mr. Jack recalled using compressed air to blow out the clutch bell housings, which
16 generated visibly dusty conditions. (*Id.*) Mr. Jack’s work with clutches—in combination

17
18 ²⁰ To the extent that Ingersoll Rand joins in Warren Pumps’s product-specific
19 argument—that Dr. Brodkin failed to analyze pumps (Warren Pumps MTE at 7-8)—the court
20 concludes that this argument is unavailing. Ingersoll Rand, to state the obvious, did not produce
pumps. And Dr. Brodkin explicitly references Ingersoll Rand compressors as products that Mr.
Jack worked with. (*See, e.g.*, Brodkin Rep. at 2.5-6.) Thus, Dr. Brodkin did not fail to address
Ingersoll Rand compressors. (*Id.* at 5.2.)

21 ²¹ Borg-Warner additionally argues that Dr. Brodkin’s methodology is unreliable because
22 he does not conclude “what number of clutch removals is a substantial contributing factor to
mesothelioma.” (Borg-Warner MTE Brodkin at 10.) The court rejects this argument for the
same reasons it rejected Honeywell’s quantification argument. *See supra* § III.B.3.a.

1 with the high asbestos content of clutches and the level of exposure such activities
2 generate—constitute a sufficient factual basis for Dr. Brodkin’s conclusion that Mr.
3 Jack’s work with clutches constitutes an identified exposure. Thus, Borg-Warner’s
4 disagreements over the factual basis of Dr. Brodkin’s opinions do not make his report so
5 fundamentally flawed that it could not assist the jury on the issue of causation. *See*
6 *Marketquest Grp.*, 2018 WL 1756117, at *3.

7 Borg-Warner’s qualms with two of Dr. Brodkin’s cited studies also do not warrant
8 exclusion. Borg-Warner challenges a 1987 study conducted by Timo Kauppinen and
9 Kari Korhonen (“Kauppinen Study”) and a 1970 study conducted by D.E. Hickish and
10 K.L. Knight (“Hickish Study”). (Borg-Warner MTE Brodkin at 9-10.) At the outset, the
11 court observes that Dr. Brodkin also relied on other studies involving clutches. (*See*
12 *Brodkin Rep.* at 6.12-15.) Even though not all of the studies involve Borg-Warner
13 clutches, the studies remain relevant to Dr. Brodkin’s overall analysis of exposure from
14 clutches. Thus, Borg-Warner is incorrect that without those two studies, Dr. Brodkin
15 lacks scientific support for his conclusions. (*See Borg-Warner MTE Brodkin* at 9-10.)

16 Turning to the studies, the court agrees with Borg-Warner that the Hickish Study
17 does not measure exposure from working with clutches. Instead, as Borg-Warner argues,
18 the study measures break work exposure from the position of someone performing clutch
19 repair work in an adjacent bay. (*See Brodkin Ross Decl.* ¶ 5, Ex. E (“Hickish Study”) at
20 18.) But the Kauppinen Study does explicitly measure the fiber release during “clutch
21 repair.” (*Id.* ¶ 4, Ex. D (“Kauppinen Study”) at 500-03.) The Kauppinen Study,
22 combined with the other studies on clutches, constitute a sufficient scientific basis for Dr.

1 Brodkin’s conclusion. Borg-Warner’s remaining concerns, such as whether “clutch
2 repair” sufficiently mirrors the work Mr. Jack performed, do not undermine the reliability
3 of the underlying study and can be addressed on cross examination.

4 Accordingly, the court denies Borg-Warner’s motion to exclude Dr. Brodkin’s
5 causation testimony regarding clutches.

6 4. Arnold Brody

7 Honeywell and Ingersoll Rand assert that Dr. Brody’s causation testimony relies
8 on the “every exposure” theory. (Honeywell MTE Brody at 1-4; Warren Pumps MTE at
9 6.) Plaintiffs respond that Dr. Brody will testify only on “matters of general causation”
10 such as “how asbestos fibers move through the body . . . and cause disease on a cellular
11 level,” and that Dr. Brody “will not offer any case-specific testimony about [Mr.] Jack.”
12 (Brody Resp. at 1-2.) Thus, Plaintiffs maintain that Dr. Brody “will not attribute Mr.
13 Jack’s disease to ‘every exposure’ he had to asbestos.” (*Id.* at 2.) The court agrees with
14 Plaintiffs that, subject to those limitations, Dr. Brody’s testimony is admissible.

15 First, the court notes that the bulk of Dr. Brody’s proffered testimony—which
16 explains what asbestos is and how it affects the body on a cellular level—goes
17 unchallenged. (*See* Brody Rep. ¶¶ 7-43.) Instead, Honeywell and Ingersoll Rand take
18 issue with statements in two paragraphs of Dr. Brody’s report: (1) that “science has not
19 identified an exposure to asbestos above background that does not induce mesothelioma”;
20 and (2) that “every exposure to asbestos contribute[s] to [an individual’s] cumulative
21 dose.” (Honeywell MTE Brody at 2-3 (quoting Brody Dep. at 29:20-22, 34:13-15); *see*
22 *also* Warren Pumps MTE at 6; Brody Rep. ¶¶ 44-45.)

1 Neither of these statements run afoul of *Daubert* because they are general
2 statements of the science behind asbestos-related disease. (See Brody Rep. ¶¶ 44-45.)
3 The fact that every exposure adds to the total dose is an “irrefutable scientific fact,” and it
4 is “well-established” that the threshold level for developing mesothelioma is unknown.
5 See *Rost v. Ford Motor Co.*, 151 A.3d 1032, 1045 (Pa. 2016). These “irrefutable
6 scientific fact[s]” do not answer the legal question of whether particular exposures to
7 asbestos are substantial factors. See *id.* Put another way, even an exposure that increases
8 the risk of mesothelioma may fail to constitute a substantial factor.²² See *Mavroudis*, 935
9 P.2d at 687. When concluding that the “every exposure” theory is inadmissible, it is not
10 this court’s intention “to preclude expert witnesses from informing juries about certain
11 fundamental scientific facts . . . even if those facts do not themselves establish legal
12 (substantial factor) causation.” See *Rost*, 151 A.3d at 1045.

13 Second, Dr. Brody does not make the inferential leap that is troublesome in the
14 “every exposure” or “cumulative exposure” theories—that is, he does not opine that
15 because an exposure occurred and necessarily adds to the total dose, that single exposure
16 must be a substantial cause. In fact, Dr. Brody stops short of offering any conclusion
17 about the specific exposures Mr. Jack may have endured. (See Brody Rep. ¶¶ 44-45.)

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19 ²² In conflating Dr. Brody’s review of the literature with the “every exposure” theory,
20 Honeywell skips over this distinction. (See Brody Reply (Dkt. # 585) at 2-4.) The court
21 acknowledges that Dr. Brody’s testimony regarding the failure to locate a safe level of exposure
22 touches on the “every exposure” theory. However, the court recognizes a fine line between any
increase of risk and one that is important, material, and not insignificant, as is required to qualify
as a substantial factor. See *Mavroudis*, 935 P.2d at 687. Honeywell and Ingersoll Rand may
renew their objections should Dr. Brody cross that line at trial.

1 Given this limitation, the court allows Dr. Brody’s testimony to the extent that Dr. Brody
2 expresses no opinion on Mr. Jack’s individual exposures and whether those exposures
3 constitute substantial factors. Accordingly, the court denies Honeywell and Ingersoll
4 Rand’s motion to exclude Dr. Brody’s expert testimony.

5 **D. Barry Castleman**

6 Ford, Ingersoll Rand, and DCo challenge Dr. Castleman’s historical overview of
7 asbestos literature and his conclusion of when asbestos hazards became well-known.
8 Their arguments center on two contentions: (1) Dr. Castleman is not qualified to opine
9 on medical and scientific literature; and (2) Dr. Castleman, without the proper
10 qualifications, can only speculate as to the knowledge defendants had at any given time.²³
11 (See Ford MTE Castleman at 4-6; Warren Pumps MTE at 14-17.)

12 In response, Plaintiffs clarify the scope of Dr. Castleman’s testimony. Dr.
13 Castleman will provide “historical information regarding the state-of-the-art knowledge
14 of asbestos and asbestos-related diseases, which . . . is relevant to what Defendants knew
15 or should have known about asbestos and its hazards.” (Castleman Resp. at 1.) Dr.

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17 ²³ Ford additionally argues that Dr. Castleman should be precluded from testifying about
18 the content of any article he reviewed because the underlying articles constitute impermissible
19 hearsay. (Ford MTE Castleman at 6.) However, the court notes that pursuant to Rule 703, an
20 expert may disclose otherwise inadmissible underlying facts or data “if their probative value in
21 helping the jury evaluate the opinion substantially outweighs their prejudicial effect.” Fed. R.
22 Evid. 703. Thus, Rule 703 “permits . . . hearsay, or other inadmissible evidence, upon which an
expert properly relies, to be admitted to explain the basis of the expert’s opinion . . . for the
limited purpose of explaining the basis for his expert opinion but not as general proof of the truth
of the underlying matter.” *Paddack v. Dave Christensen, Inc.*, 745 F.2d 1254, 1261-62 (9th Cir.
1984) (internal citations omitted). Plaintiffs acknowledge that none of the articles underlying Dr.
Castleman’s opinion will be admitted for the truth of the matter. (Castleman Resp. at 11-12.)
Thus, the court declines to issue a blanket exclusion of all underlying studies.

1 Castleman will not testify on whether the asbestos literature was in fact correct (*id.* at 6
2 n.4) or “what any particular [d]efendant knew or should have known at any given time
3 regarding asbestos” (*id.* at 10).

4 Given these limitations, the court concludes that Dr. Castleman’s testimony is
5 admissible under Rule 702 and *Daubert*. In fact, with those limitations, there is little
6 dispute regarding Dr. Castleman’s qualifications. The parties agree that Dr. Castleman is
7 qualified to testify about the historic availability of literature on asbestos and the
8 development of that literature. (*See* Ford MTE Castleman at 4 (acknowledging that Dr.
9 Castleman is “certainly qualified to testify as to the existence of articles that discuss the
10 relationship between asbestos dust and mesothelioma”); Warren Pumps MTE at 15
11 (same); Castleman Resp. at 1.) The parties additionally agree that Dr. Castleman is not
12 qualified to judge the correctness of the medical literature. (Ford MTE Castleman at 4-5;
13 Warren Pumps MTE at 16; Castleman Resp. at 6 n.4.) And lastly, the parties agree that
14 Dr. Castleman does not know what any particular defendant knew about the hazards of
15 asbestos. (Ford MTE Castleman at 5; Warren Pumps MTE at 15; Castleman Resp. at 10.)

16 Dr. Castleman is undoubtedly qualified to testify about the historical development
17 of knowledge regarding the health hazards of asbestos. He has significant experience in
18 researching the state of the art for asbestos from a historical perspective—indeed, his
19 thesis, now a book in its fifth edition, focuses entirely on that topic. (*See* Castleman Rep.
20 at 1.) Several courts considering Dr. Castleman’s qualifications have concluded that he
21 possesses “specialized knowledge” regarding the availability of asbestos literature, which
22 will “assist the jury in understanding the state of the art with respect to asbestos . . . given

1 the sheer volume of data available on this topic.” *Krik v. Crane Co.*, 71 F. Supp. 3d 784,
2 787 (N.D. Ill. 2014); *see also Waite v. All Acquisition Corp.*, 194 F. Supp. 3d 1298,
3 1310-11 (S.D. Fla. 2016) (concluding that Dr. Castleman satisfies the “relatively low
4 burden” of being qualified to testify). The court reaches the same conclusion here.

5 Undeterred, Ford maintains that Plaintiffs’ limitations of Dr. Castleman’s
6 testimony renders it wholly irrelevant. (Castleman Reply (Dkt. # 591) at 1-2 (asking
7 “why is [Dr. Castleman] going to take up the jury’s time”).) Although Dr. Castleman
8 will not testify to what any specific defendant knew, his testimony is nonetheless relevant
9 for several reasons. First, Dr. Castleman’s research “can serve the purpose of providing
10 context and grounding scientific information integral to the determination of this case.”
11 *Waite*, 194 F. Supp. 3d at 1311. Second, under Washington law, “evidence of historical,
12 medical, and scientific knowledge about the dangers of asbestos . . . may be considered
13 by the trier of fact” on both strict liability and negligence claims. *Crittenden v.*
14 *Fibreboard Corp.*, 794 P.2d 554, 559 (Wash. Ct. App. 1990). Because Plaintiffs bring
15 both negligence and strict liability claims (*see* SAC ¶¶ 49-50), Dr. Castleman’s testimony
16 assists the jury in determining what any defendant knew or should have known based on
17 the available literature, *see Crittenden*, 794 P.2d at 559.

18 Because the court finds Dr. Castleman qualified to testify within the limitations set
19 by Plaintiffs, and because the court further finds that testimony to be relevant, the court
20 denies Ford, Ingersoll Rand, and DCo’s motions to exclude Dr. Castleman’s testimony.

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1 **E. Charles Cushing**

2 Ford moves to exclude Dr. Cushing’s statements regarding Mr. Jack’s “likely
3 expos[ure]” to asbestos during automotive work. (MTE Cushing at 1-2.) Ford
4 emphasizes that Dr. Cushing is a naval architect with expertise in naval ships and
5 shipyards, not automobiles or the brakes, gaskets, and clutches used in automobiles. (*Id.*
6 at 4-5.) Thus, although Dr. Cushing is “plainly qualified to opine on the
7 asbestos-containing products that were likely present on the naval and marine vessels Mr.
8 Jack worked on,” Ford maintains that Dr. Cushing “is not qualified to render opinions
9 about the asbestos content of automotive products and asbestos exposure that might occur
10 during automotive repair work.” (*Id.* at 4.) The court agrees.

11 An expert must be “qualified . . . by knowledge, skill, experience, training, or
12 education” to render expert opinions. Fed. R. Evid. 702. Thus, an expert must be
13 qualified in the field they will testify about. *See Lucido v. Nestle Purina Petcare Co.*,
14 217 F. Supp. 3d 1098, 1103 (N.D. Cal. 2016) (concluding that an expert in one field is
15 not qualified to provide opinions about a different field). Dr. Cushing is undisputedly
16 qualified in the construction of naval ships and products that are used on those ships.
17 (*See Cushing Rep.* at 27.) However, he does not have any qualifications or experience
18 examining the inner workings of automobiles, the asbestos content of automobile
19 products, or what activities performed on those products would lead to asbestos exposure.
20 (*See generally id.*) Thus, the court concludes that Dr. Cushing is not qualified under Rule
21 702 to opine on Mr. Jack’s exposure to asbestos from his automotive work.

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1 Viad does not contend otherwise. (*See* Cushing Resp.) Indeed, Viad seemingly
2 concedes that Dr. Cushing has no expertise in automobiles, arguing instead that “Dr.
3 Cushing’s opinion that Mr. Jack was exposed to asbestos from brakes is admissible . . . as
4 lay opinion” testimony. (*Id.* at 1.) Federal Rule of Evidence 701 allows lay testimony
5 that is rationally based on the witness’s perception, helpful to the trier of fact, and not
6 based on scientific, technical, or specialized information. *See* Fed. R. Evid. 701. In
7 *Lucido*, a veterinarian sought to provide opinions about what a reasonable consumer
8 would consider to be material when purchasing dog food. 217 F. Supp. 3d at 1103.
9 Although the veterinarian had no scientific, technical, or other specialized knowledge in
10 marketing or consumer purchasing behavior, the court concluded that the veterinarian
11 offered admissible lay testimony because she was drawing on particularized knowledge
12 she had by virtue of her position—namely, what her clients have indicated is important.
13 *Id.* Thus, although she was not an expert, she could testify based on her experience to
14 what her clients relayed. *Id.* at 1104.

15 Mr. Cushing has no analogous experience with automobiles. There is no
16 indication—and Viad provides no evidence—that Mr. Cushing has any experience with
17 automobile work, such that he bases the challenged portion of his testimony on his
18 perception or particularized knowledge. *See id.* at 1103-04. Moreover, asbestos
19 exposure is an issue that requires scientific, technical, and specialized knowledge, as
20 evidenced by the many experts in this case who opine on exposure. (*See, e.g.,* Brodtkin
21 Rep.) Because Mr. Cushing’s opinion on Mr. Jack’s exposure to asbestos from

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1 automobile products is not rationally based on Mr. Cushing’s perception and requires
2 specialized knowledge, the court declines to admit it as a lay opinion.

3 In sum, pursuant to Rule 702, Mr. Cushing is not qualified as an expert to render
4 opinions about exposure during automotive work. *See* Fed. R. Evid. 702. The opinion is
5 additionally not a proper lay opinion pursuant to Rule 701. *See* Fed. R. Evid. 701.
6 Accordingly, the court grants Ford’s motion to exclude Mr. Cushing from testifying
7 about Mr. Jack’s asbestos exposure during automotive work.

8 **F. William Longo**

9 Ingersall Rand and DCo make three main arguments to exclude Dr. Longo and the
10 MAS videos simulating the release of dust when working with brakes, gaskets, and
11 insulation: (1) the studies are irrelevant due to the use of Tyndall lighting (Warren
12 Pumps MTE at 9-10); (2) the studies are irrelevant because they are not substantially
13 similar to the conditions in which Mr. Jack worked with the products (*id.* at 10-12; Longo
14 Reply (Dkt. # 586) at 2-3); and (3) Dr. Longo utilized unreliable scientific methods to
15 measure exposure to asbestos (Warren Pumps MTE at 13-14). Plaintiffs respond that Dr.
16 Longo and the MAS studies are probative of Mr. Jack’s general exposure to asbestos and
17 rely on techniques that are “widely used by industrial hygienists and safety professionals
18 in asbestos monitoring.” (Longo Resp. at 2-12.) At this stage, during which the court is
19 considering only whether the studies are allowable under Rule 702 and *Daubert*, the court
20 agrees with Plaintiffs that the studies pass muster.²⁴

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22 ²⁴ Ingersoll Rand in its reply argues that the videos should be excluded under Rule 403
because any probative value is substantially outweighed by their prejudicial effect. (Longo

1 First, as to relevancy, the court reiterates that relevance in the *Daubert* context
2 simply requires that “the evidence will assist the trier of fact to understand or determine a
3 fact in issue.” *Cooper*, 510 F.3d at 942. That is, as long as the evidence “logically
4 advance[s] a material aspect of the party’s case,” that evidence is relevant. *Id.* Against
5 this standard, the court concludes that Dr. Longo and the MAS studies will assist the trier
6 of fact in understanding the issue of exposure. The video simulations depict the release
7 of particles from brakes, gaskets, and insulation—products that are at issue here—when a
8 person works with those products, as Mr. Jack did. Such evidence “logically advance[s]
9 a material aspect” of Plaintiffs’ case: When Mr. Jack worked with brakes, gaskets, and
10 insulation, the work created visible dust and released asbestos fibers into the air, a fact
11 that is foundational to establishing exposure. *See id.*; *see Lockwood v. AC&S, Inc.*, 744
12 P.2d 605, 612 (Wash. 1987). The use of Tyndall lighting does not alter the relevancy of
13 those videos to the issue of exposure.

14 Ingersoll Rand and DCo are correct that tests must be conducted “under conditions
15 substantially similar to the actual conditions” under which Mr. Jack worked. *See Lipson*
16 *v. ON Marine Servs. Co., LLC*, No. C13-1747TSZ, 2013 WL 6536923, at *2 (W.D.
17 Wash. Dec. 13, 2013) (quoting *Champeau v. Fruehauf Corp.*, 814 F.2d 1271, 1278 (8th
18 Cir. 1987)) (internal quotation marks omitted). However, “dissimilarities between testing
19 conditions and actual conditions ‘affect the weight of the evidence, not its admissibility.’”

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22 Reply at 3-4); *see* Fed. R. Evid. 403. Such an argument is premature, and thus, the court does
not reach the Rule 403 issue. Ingersoll Rand may renew its argument in its motions in limine or
at trial.

1 *Id.* (quoting *Champeau*, 814 F.2d at 1278). Thus, whether dissimilarity warrants
2 exclusion depends on the degree of dissimilarity. *See Barabin*, 2018 WL 840147, at *9.
3 For instance, in *Krik v. Crane Co.*, the court excluded Dr. Longo’s studies because there
4 was “no relationship between the Longo/[MAS] [v]ideos [and] the facts of [that] case.”
5 71 F. Supp. 3d at 791. Because the studies had “nothing to do with [the plaintiff] at all,”
6 there was an “insufficient ‘fit’ between the Longo/MAS Videos and the facts of [that]
7 case to warrant their use at trial.” *Id.*

8 But Plaintiffs proffer more than the plaintiff in *Crane Co.* did to illustrate fit. *See*
9 *id.* Specifically, Mr. Jack viewed the videos and testified that they depicted events
10 similar to the work he performed. (Jack Dep. at 85:14-87:13.) For instance, Mr. Jack
11 identified the brake product, the tools used, and the activities performed on the brakes in
12 the video as similar to the work he did with brakes. (*See id.*) Mr. Jack also characterized
13 the cleaning of gasket material off of a used valve as “fairly similar” to how he handled
14 gaskets and valves. (*Id.* at 110:23-111:20.) Thus, unlike in *Crane Co.*, there is some
15 relationship between the videos and this case; thus, the court concludes that the studies
16 are not so dissimilar that exclusion is warranted.²⁵ *See* 71 F. Supp. 3d at 791; *Barabin*,
17 2018 WL 840147, at *9. Ingersoll Rand and DCo’s concerns regarding the differences
18 go to weight rather than admissibility. *See Lipson*, 2013 WL 6536923, at *2.

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21 ²⁵ Ingersoll Rand and DCo point to other courts that have found the studies not
22 sufficiently similar. (Warren Pumps MTE at 11-12; Longo Reply at 5.) Although that precedent
is instructive, the court must consider the record before it. Mr. Jack’s deposition testimony
persuades the court that the degree of dissimilarity is not sufficient to warrant exclusion. (*See*
Jack Dep. at 85:14-87:13, 110:23-111:20.)

1 Lastly, the court finds that Dr. Longo’s methodology to measure the quantity of
2 asbestos release is reliable. Defendants do not directly challenge the reliability of the
3 PCM, TEM, or the Tyndall lighting methods that Dr. Longo utilizes to measure asbestos
4 release. (*See Warren Pumps MTE* at 13-14.) Nor would such a challenge succeed, as
5 those techniques are published, peer-reviewed, and standardized protocols that constitute
6 well-established practices in the scientific community. (*See Longo Aff.* ¶¶ 5E, 6D.)

7 For example, the PCM method is part of the NIOSH 7400 air sampling method,
8 which is OSHA’s accepted method of analysis when evaluating occupational exposures.
9 (*See Longo Adams Decl.* ¶ 2, Ex. 4 (attaching an OSHA letter interpreting the PCM
10 method as part of the OSHA/NIOSH 7400 air sampling methodology for measuring
11 asbestos fibers in gasket removal testing).) The EPA and the International Standards
12 Organization (“ISO”) have published the TEM method, and Dr. Longo has additionally
13 published the protocol in a peer-reviewed article. (*See Longo Aff.* ¶¶ 3, 5E; *Longo*
14 *Adams Decl.* ¶ 2, Ex. 7.) Tyndall lighting is a technique used for many years by
15 industrial hygienists to visualize the pathway of exposure; the EPA developed the
16 technique as a standard testing method, and many published articles recognize the use of
17 the technique.²⁶ (*See Longo Aff.* ¶¶ 6A, 6D; *see generally Longo Adams Decl.* ¶ 2, Ex.

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19 ²⁶ Although the court recognizes that Tyndall lighting is an accepted technique within the
20 scientific community such that it is reliable under *Daubert* standards, the court emphasizes that it
21 reaches no conclusion on the prejudicial effect, if any, of the technique. The court acknowledges
22 that many courts have excluded the videos because of its prejudicial effect. (*See Morgan Decl.*
(Dkt. # 475) ¶ 13, Ex. 11 (attaching order of exclusion because “the probative value of [the
videos] would be substantially outweighed by its prejudicial effect”).) The court does not
presently reach that issue. *See supra* n.24.

1 7.) The court is persuaded that these published methodologies enjoy general acceptance
2 within the relevant scientific community. *See Daubert*, 509 U.S. at 592-94; *see also*
3 *Lipson*, 2013 WL 6536923, at *2 (qualifying Dr. Longo’s methodologies as reliable).

4 Ingersoll Rand and DCo focus instead on two other courts that dismissed Dr.
5 Longo’s studies as “junk science.” (Warren Pumps MTE at 13-14.) But neither case
6 explains why the above methodologies are unreliable. *In re Lamar County Asbestos*
7 *Litigation* acknowledged that the standards perpetuated by OSHA, EPA, and other
8 agencies “provide reliable source evidence . . . in understanding generally accepted
9 scientific methodologies” but nonetheless summarily concluded that “[t]he MAS tests
10 constitute ‘junk science.’” (Morgan Decl. ¶ 9, Ex. 7 at 1.) *In re Garlock Sealing Tech.,*
11 *LLC* did not address the PCM or TEM methods at all; instead, the court fixated on typos
12 and other shortcomings in Dr. Longo’s expert report, the malfunctioning of Dr. Longo’s
13 equipment, and Dr. Longo’s use of “tools above their safety ratings.”²⁷ 504 B.R. 71,
14 79-80 (Bankr. W.D.N.C. 2014). No such facts are presented here. (*See Warren Pumps*
15 *MTE*; Longo Reply.) Thus, based on the record before it, the court declines to exclude
16 Dr. Longo’s studies as unreliable.

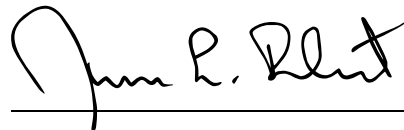
17 Accordingly, the court denies Ingersoll Rand and DCo’s motion to exclude Dr.
18 Longo’s studies.

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20 ²⁷ *In re Garlock Sealing Tech.* characterizes Tyndall lighting as having “no scientific
21 purpose” but does not expound on why that method is unreliable in light of its recognition by
22 various government and professional entities. *See* 504 B.R. at 79. This conclusory statement is
insufficient for the court to discount the evidence presented by Plaintiffs that Tyndall lighting is
an accepted method utilized by industrial hygienists. (*See Longo Aff.* ¶¶ 6A-6E; Longo Adams
Decl. ¶ 2, Ex. 7 (publishing a study utilizing Tyndall lighting).)

1 **IV. CONCLUSION**

2 For the foregoing reasons, the court GRANTS Ford’s motion to exclude Mr.
3 Cushing’s testimony on automotive products (Dkt. # 464) and DENIES the other motions
4 to exclude (Dkt. ## 456, 461, 463, 465, 470, 483, 490, 497, 511, 516). The court further
5 DENIES Plaintiffs’ motion to extend the discovery deadline (Dkt. # 567) as moot.

6 Dated this 10th day of August, 2018.

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9 JAMES L. ROBART
United States District Judge

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