

EXHIBIT S6 TO DECLARATION OF
STEPHEN G. SCHWARZ IN SUPPORT OF
PLAINTIFFS' MOTION FOR CLASS
CERTIFICATION

At an IAS Term of the Supreme Court of the State of New York, held in and for the County of Rensselaer, in the City of Troy, New York on the 9th day of August 2019

PRESENT: HON. PATRICK J. McGRATH
Justice of the Supreme Court

STATE OF NEW YORK
SUPREME COURT COUNTY OF RENSSELAER

**JAY BURDICK, CONNIE PLOUFFE, EDWARD PLOUFFE,
FRANK SEYMOUR, SUZANNE SEYMOUR, AND EMILY MARPE,
as parent and natural guardian of E.B., an infant, and
G.Y., and infant, JACQUELINE MONETTE, WILLIAM SHARPE,
EDWARD PERROTTI-SOUSIS, MARK DENUE, and
MEGAN DUNN, individually, and on behalf of all similarly situated,**

Plaintiffs,

DECISION AND ORDER
Index No. 253835

- against -

TONOGA, INC. (d/b/a TACONIC),

Defendant.

APPEARANCES: FARACI LANGE, LLP
WEITZ & LUXENBERG, PC
Co-Lead Class Counsel

GREENBERG TRAUIG, LLP
HOLLINGSWORTH, I.LP
Attorneys for the Defendant

McGRATH, PATRICK J., JSC

This case stems from the contamination of groundwater in the Town of Petersburg, New York with perfluorooctanoic acid (hereinafter "PFOA"). In a decision and order dated July 3, 2018, this Court granted plaintiffs' motion to certify four (4) classes. Three of those classes allege harms related to property damage and nuisance stemming from contamination of class members' property and drinking water with PFOA. The fourth class seeks the establishment of a class-wide medical monitoring program to provide medical surveillance to class members exposed to PFOA via the

municipal water supply or contaminated wells within a seven mile radius of defendant's facility. Plaintiffs assert causes of action that sound in negligence and strict liability claims related to property, negligence and strict liability claims related to PFOA ingestion, private nuisance and trespass.

Defendant brings what it characterizes as a *Frye* motion to preclude plaintiff's environmental standard of care expert, Nicholas P. Cheremisinoff, Ph.D., from testifying. Plaintiffs challenge this characterization, arguing that the motion should not be considered under a *Frye* analysis and at most, constitutes subject matter for cross-examination or a *motion in limine*. Defendant has submitted a Reply.

The Frye Test

In determining the admissibility of expert testimony, New York follows the rule of *Frye v United States*, 293 F 1013 (1923), specifically, "that expert testimony based on scientific principles or procedures is admissible but only after a principle or procedure has 'gained general acceptance' in its specified field." *See also* *People v Wesley*, 83 NY2d 417, 422 (1994); *People v Wernick*, 89 NY2d 111, 115 (1996). "[G]eneral acceptance does not necessarily mean that a majority of the scientists involved subscribe to the conclusion. Rather it means that those espousing the theory or opinion have followed generally accepted scientific principles and methodology in evaluating clinical data to reach their conclusions." *Zito v Zabarsky*, 28 AD3d 42, 44 (2d Dept. 2006), *quoting* *Beck v Warner-Lambert Co.*, 2002 NY Slip Op 40431[U], *6-7 (Sup. Ct., New York County, 2002). "The *Frye* 'general acceptance' test is intended to protect[] juries from being misled by expert opinions that may be couched in formidable scientific terminology but that are based on fanciful theories." *Styles v General Motors Corp.*, 20 AD3d 338 (1st Dept. 2005) (Catterson, J., concur) [internal quotation marks omitted].

A *Frye* inquiry is directed at the basis for the expert's opinion and does not examine whether the expert's conclusion is sound. "*Frye* is not concerned with the reliability of a certain expert's conclusions, but instead with 'whether the experts' deductions are based on principles that are sufficiently established to have gained general acceptance as reliable.'" *Nonnon v City of New York*, 32 AD3d 91, 103 (1st Dept. 2006), *quoting* *Marsh v Smyth*, 12 AD3d 307, 308 (1st Dept. 2006). Put another way, "[t]he court's job is not to decide who is right and who is wrong, but rather to decide whether or not there is sufficient scientific support for the expert's theory." *Gallegos v Elite Model Mgmt. Corp.*, 195 Misc 2d 223, 225 (Sup. Ct., New York County, 2003). "The appropriate question for the court at ... a [*Frye*] hearing is the somewhat limited question of whether the proffered expert opinion properly relates existing data, studies or literature to the plaintiff's situation, or whether, instead, it is 'connected to existing data only by the *ipse dixit* of the expert.'" *Marsh v Smyth*, 12 AD3d 307, 312 (1st Dept. 2004) (Saxe, J., concur.) *quoting* *General Elec. Co. v Joiner*, 522 US 136, 146 (1997).

Nicholas P. Cheremisinoff, Ph.D.

Dr. Cheremisinoff was retained by the plaintiffs to provide a critical assessment of the air pollution and waste stream pollution management practices of the defendant. He is Principal of No Pollution Enterprises (aka N&P Limited), an environmental consulting firm located in Charles Town, West Virginia. He is a member of the Board of Directors of ThermoChem Recovery International, a developer of steam reforming gasification systems located in Baltimore, Maryland. He is a senior technical advisor on environmental projects to Princeton Energy Resources, International, in Rockville, Maryland. Princeton Energy Resources, International (PERI) is an environmental consulting firm providing engineering, technical, economic, policy, and regulatory services to various government agencies, bilateral and multilateral financial institutions, and private sector clients worldwide.

Dr. Cheremisinoff is a chemical engineer specializing in the safe handling and management of chemicals and hazardous materials. He has 40 years of industry, business, and applied research experience. He has authored, co-authored or edited more than 100 technical books and several hundred state-of-the-art review articles and research papers on chemical engineering processes, pollution prevention, refinery and petrochemical manufacturing practices, waste and pollution management, air pollution control technologies, and worker safety, all embodying best practices as a theme. He has decades of experience working with industry stakeholders, communities, lending institutions, and governmental officials on responsible waste and pollution management, the application of best management practices, and technologies that prevent worker and community exposures from the mishandling of toxic and dangerous waste and chemical products resulting from industrial activities.

He states that the standard of care assessment is a benchmarking assessment based on comparing the practices of the facility in question against standards and norms of practice. Best practices are embodied in:

- Best industry practices aimed at controlling and eliminating pollution;
- Environmental management; and
- Environmental due diligence

He states that the term “standards” means best practices, best management practices or good industry practices, all of which he considers synonymous. He states that it is “universally understood” by industry that the standards contained within the following opinion constitute good industry practice. He notes that it is possible for a company to strictly follow its statutory requirements but still cause harm to others.

Dr. Cheremisinoff describes his Best Practices methodology as first performing a forensic reconstruction of events and activities and then comparing what was done against good industry practices. He assembles all relevant documents and records according to subject categories and arranges them from earliest to latest. Each document is examined for its relevance to the work

assignments and pollution management practices of the defendant. A timeline of the events, practices employed, and the information obtained from each of the relevant documents is summarized and documented. No attempts are made to interpret information gathered from documents. No relevant facts obtained from a document are excluded, including contradictory statements and information. Where contradictions of fact are identified, effort is made to identify and consider other records and/or testimony to corroborate and distinguish between more likely than not or most probable facts and suspect information.

In the case of testimonies, all statements made by fact witnesses are considered to be truthful and factual. Testimonies given by designated corporate representatives are considered to be formal statements made on behalf of a defendant and are taken to be factual. Testimonies given by fact witnesses that are not corporate representatives are considered factual to within the best recollection of the person. In situations where testimony is found to contradict documented information or events, period documents and other evidence such as photographs and engineering drawings are considered to be more reliable. Discrepancies between oral testimony and written documents and other physical evidence are identified and highlighted in the analysis. The forensic reconstruction provides a timeline of activities concerning relevant material handling and air pollution management practices.

He does not assume that the absence of records establishes that certain actions or practices were not followed. Rather, he relies on indicators and cross-references to determine whether certain practices were likely relied on or not. Dr. Cheremisinoff states that by examining the records, including the contemporaneous statements of relevant stakeholders and participants, it is reasonable to conclude what a company knew or should have known and/or understood based on the information that was available to it. His analysis is supplemented by considering authoritative references from the regulatory, scientific, and industrial communities.

His findings include the following:

- Material Safety Data Sheets (MSDS) produced by Taconic, dating back as far as 1989, disclose that PTFE dispersion products used by Taconic were toxic. There is sufficient warning to the user that air emissions and wastes containing these products should not be released into the environment where the general public may be exposed. The warnings are sufficient for a sophisticated industrial user to understand that wastes containing these products should not be released to groundwater sources, especially those which may be drinking water sources. In addition, because of the high water solubility of components of these dispersions, including specifically APFO, a sophisticated industrial user would also understand that air releases of chemicals used in this product could eventually make their way into surface and groundwater.
- The coating process at Taconic generated air, water, and solid waste emissions. Various pollution controls and practices were relied on at different points in time. Taconic knew or should have known at the time it performed the stack tests in 1997, and certainly knew or should have known by 2003, that the 1997 stack testing on the

Fume Eliminator was unreliable with regard to its PFOA results. There is no evidence that Taconic conducted stack testing for APFO after it learned of new test methods capable of detecting PFOA. Defendant did not simply suspect but it knew that its initial stack tests were unreliable and insensitive, and that by 2003 more reliable analytical test methods were available for stack testing; yet it appears to not have bothered to measure its air emissions. Further, the defendant could have and should have given priority to pollution prevention practices given what it did know and was advised about its APFO air emissions by the DEC, but the records the defendant produced in this litigation do not even provide a hint that pollution prevention practices were considered.

- the facility generated wastewater through the process of cleaning PTFE dispersions off of the equipment and from the dip pans. Many products that were manufactured required different PTFE dispersions coated on top of each other. Each time there was a change for a product run, the old dispersion would need to be cleaned out of the pan and off of the rollers in preparation for the next production run. These rinse waters which contained APFO were, at various times, discharged to septic, sent to a leach field, and sent offsite. In 1996, an Evaporator unit that was designed to evaporate a portion of the water in wastewater was installed in order to reduce the volume of waste the facility had to dispose of after it stopped releasing wastewater into the septic system in the ground. While this practice reduced the volume of aqueous waste, it generated an air emission source which introduced an additional air pollution emissions source. Prior to the time that Taconic installed the evaporator, all of the wastewater was released into the septic system and leach fields into the groundwater and outfalls. Even after this evaporator unit was installed, however, groundwater was able to seep into the underground storage tank (UST) holding the wastewater prior to its being pumped in the evaporator, meaning wastewater was also seeping out into the ground. By 2000, the evaporator was no longer being used and wastewater was being stored on site in aboveground storage tanks (ASTs) and then sent off site for disposal.

His opinions include the following:

- The defendant used poor and ineffective air pollution controls and even no controls at times. Prior to 1999, there were also few to no attempts on the part of the defendant to improve poor wastewater management practices which its records show persisted for years. He notes that the defendant's own corporate representative has clearly explained the mentality and policy of the company with regard to pollution management and control. According to Mr. Kawczak, "Andy [Russell] [the current CEO of Taconic and has been since the mid-1990s] was always of the opinion that unless it's a requirement, we're not going to volunteer and do it [test water off-site]."
- Taconic is a sophisticated user and processor of polymer products. It knew or should have known from its MSDS for dispersions containing APFO and safe handling practices recommended by the Society of Plastics, as well as guidance from ACGIH

and the DEC, that APFO contained in the PTFE dispersions it used and the nature of this chemical was dangerous and could cause harm from air emissions. Despite this knowledge, Taconic relied on outdated air pollution control technology to manage the air emissions from its ovens.

- Even if Taconic did not fully understand how potentially dangerous APFO was early on, it understood or should have understood that its air emissions on the whole were dangerous and should be controlled. And certainly by 2005 Taconic was aware of the Barr Engineering Report, which reported significant amounts of APFO being exhausted from ovens tested during the PTFE fabric coating process. It is unreasonable for the company not to have evaluated whether its air pollution controls were adequate and to have upgraded them to reduce air emissions even at this late stage
- Taconic operated its facility for years misrepresenting its air emissions. It was a major source according to the NYDEC. It ignored the potential to emit. It should have been operating under a Title V permit from the mid-1990s onward when the permit program began to be implemented.
- Taconic's practice prior to 1996 of disposing waste streams containing PTFE and APFO in a septic system was unreasonable because it understood its industrial waste had the potential to contaminate drinking water sources, including the water sources for its own facility, which it learned by 2004/2005 were contaminated. There was sufficient information to understand that even small releases over time could cause contamination of drinking water sources which required it to err on the side of conservatism and consider other practices.

Defendant fails to supply an expert opinion to contradict that of Dr. Cheremisinoff. Rather, in a memorandum of law, defense counsel argues that Dr. Cheremisinoff takes on the role of an “advocate” or “storyteller”, providing background and narrative that need not be supplied by an expert; that he offers his own personal opinions about defendant’s conduct, for example, that defendant was “highly irresponsible” and showed “callous indifference toward the safety of the neighboring community”; that Dr. Cheremisinoff speculates concerning defendant’s state of mind, specifically, that defendant only began to assess whether its practices caused harm “after it realized it could get sued”; that he embraces the legal conclusion that defendant’s conduct “fell below a reasonable standard of care for a sophisticated user and processor of polymer products”; and that some of the expert’s conclusions concerning defendant’s environmental management practices are belied by the facts, specifically, Dr. Cheremisinoff’s opinion that defendant’s APFO emissions were more likely than not “large and uncontrolled for many years”. For all of the aforementioned reasons, defendant argues that Dr. Cheremisinoff’s proffered opinions fail to meet the threshold standards for admissibility of expert testimony and must be excluded.

The Court finds that *Frye* issues with respect to methodology and principles are not implicated in the instant motion, as defined by the parties' arguments, because Dr. Cheremisinoff's forensic reconstruction does not rely on novel scientific evidence. As noted above, Defendant does not submit any expert witness affidavit in support of the *Frye* motion, nor does defense counsel's

memorandum of law even argue that Dr. Cheremisinoff has relied upon novel methodology or principle here. Rather, defense counsel argues that the proposed opinions exceed the boundaries of proper expert testimony.

First, the Court notes that expert testimony regarding the relevant industry standard of care and how it was violated is necessary in this case. "[I]n cases involving the pollution of underground waters, the plaintiff must demonstrate that the defendant failed to exercise due care in conducting the allegedly polluting activity." Ivory v. International Bus. Machines Corp., 116 A.D.3d 121, 127 (3d Dept. 2014) quoting Fetter v DeCamp, 195 AD2d 771, 773 (3d Dept. 1993). Expert testimony is necessary to prove a deviation from accepted standards of care "unless the matter is one which is within the experience and observation of the ordinary juror." Lyons v McCauley, 252 AD2d 516, 517 (2d Dept. 1998), lv denied 92 NY2d 814; see also De Long v County of Erie, 60 NY2d 296, 307 (1983) ("As a general rule the admissibility of expert testimony on a particular point is addressed to the discretion of the trial court... The guiding principle is that expert opinion is proper when it would help to clarify an issue calling for professional or technical knowledge, possessed by the expert and beyond the ken of the typical juror."); see also People v Cronin, 60 NY2d 430, 432 (1983) ("Opinion testimony of an expert witness necessarily enters upon the jury's province, since the expert -- and not the jury -- draws conclusions from the facts, which the jury is then asked to adopt. Such testimony, however, is admissible where the conclusions to be drawn from the facts depend upon professional or scientific knowledge or skill not within the range of ordinary training or intelligence. Both sides may of course cross-examine and impeach the opposition's experts, and adduce different opinions through their own experts.") (internal citations omitted). In this case, defendant's practices to avoid and/or ameliorate pollution, as compared to best practices, are both subjects of a highly technical nature and are, to a large extent, beyond the ken of jurors of ordinary training and intelligence.

Defendant cites two federal cases (applying the *Daubert* standard) wherein the court precluded the plaintiffs' expert from acting as a "storyteller" or "advocate" where the experts recounted the regulatory history which could have been presented by fact witnesses and/or documentary evidence. In this case, Dr. Cheremisinoff provides context necessary to bring his relevant expertise to bear on the facts. Moreover, Dr. Cheremisinoff's opinions as to what defendant knew, what it should have known, and whether it failed to act reasonably in accordance with best practices is necessary to prove a deviation from accepted standards of care. Contrary to defense counsel's assertions, an expert's opinion as to how defendant violated the standard of care is not a legal conclusion, nor does it amount to an opinion that defendant was negligent, the ultimate issue before the jury. Further, these are not personal opinions, without reference to or reliance on evidence. Rather, Dr. Cheremisinoff cites the record and documentary evidence as the factual support for his opinions concerning defendant's knowledge of the risks associated with these chemicals, the point in time defendant became knowledgeable of those risks, and how defendant acted and reacted to this knowledge.

However, "there are situations ... in which an expert so palpably overtakes the jury's function to decide matters within its unaided competence." People v Inoa, 25 NY3d 466, 472 (2015). In this case, Dr. Cheremisinoff provides the opinion that Taconic only assessed whether its practices could

cause harm "after it realized it could get sued," but provides no factual support concerning its motivation. Further, that defendant was "*highly irresponsible*" and evinced a "*callous indifference*" to the safety of the surrounding community. This type of opinion evidence as to the nature of defendant's decision-making process, and whether defendant was motivated by genuine concern or fear of litigation, are well within the province of the jury. Dr. Cheremisinoff can certainly provide the underlying facts that may ultimately support counsel's arguments in this respect, but is not allowed to testify as to personal opinion of defendant as a bad or malicious actor and stick to opinions concerning the relevant standard of care and how defendant deviated therefrom.

Finally, defendant argues that Dr. Cheremisinoff's opinion concerning defendant's environmental management practices are devoid of factual and scientific support. Again, the defendant has not provided any expert testimony in support of this motion, and therefore, the lack of scientific support is only a matter of defense counsel's personal opinion. As to factual support, Dr. Cheremisinoff states that defendant failed to test its emissions to determine the efficiency of the technologies it did employ." Defendant states that efficiency tests were conducted on its fume eliminator in 1997 and 2016. However, Dr. Cheremisinoff argues that these tests were meaningless, a fact defendant knew at the time the tests occurred. He notes that while those emissions came back non-detect for PFOA, "non-detect" does not mean there was zero PFOA in the stack emissions; only that the analytical measurement method used was insensitive. He states that at the time the tests of the Fume Eliminator were conducted in 1997, standard, federally-approved analytical methods for PFOA were not available. He notes that Taconic's engineering manager, Malcolm Green, reported internally in April 1997 "that there is no accepted method to test for ammonium perfluorooctanoate." Adirondack Environmental Services Inc., the company Taconic retained to perform the stack testing, also reported in April 1997 that "there is no acceptable stack test method for the parameter ammonium perfluorooctanoate." Dr. Cheremisinoff notes that Mr. Green testified that he did not know whether Adirondack's testing methods were capable of detecting APFO, stating that the results "would indicate that the testing did not detect any or couldn't - that's the level - the lowest level it would detect it." Dr. Cheremisinoff notes that the record reveals that Taconic did not test its stacks again for APFO until 2016, after it had ceased using PTFE dispersions that contained APFO. The Court finds that Dr. Cheremisinoff's opinion has a foundation in the record, and any disagreement on this point goes to weight, not admissibility.

Defendant also seeks to preclude Dr. Cheremisinoff's opinion that defendant's practice, prior to 1996, of disposing liquid waste streams containing PTFE and APFO in a septic system was unreasonable because Taconic understood that industrial waste had the potential to contaminate drinking water. Defendant notes that from 1989 through 2003, it had a New York State Pollutant Discharge Elimination Permit (SPDES Permit) which allowed it to discharge industrial wastewater onsite. Dr. Cheremisinoff's responds that when Taconic applied for that permit, it characterized the wastewater as a non-hazardous industrial waste despite having reasonable knowledge of the chemical nature of its waste streams. He opines that defendant's MSDS established that APFO and other ingredients were potentially harmful to humans because the MSDS reported that safe handling requirements included the use of neoprene gloves, chemical protective clothing, chemical resistant boots and respirators. The MSDS reports for APFO, "... Ingestion causes weight loss,

gastrointestinal irritation and enlarged liver. Repeated exposures produced liver, kidney, pancreas and testes changes, anemia and cyanosis. Tests in male rats demonstrated weak tumorigenic activity based on an increased incidence of benign testicular, pancreatic, and liver tumors. . . . Evidence suggests that skin permeation can occur in amounts capable of producing the effects of systemic toxicity. . . . Ingestion may cause gastrointestinal tract irritation; abnormal liver function . . . or abnormal blood forming system function with anemia. Individuals with preexisting diseases of the liver or bone marrow may have increased susceptibility to the toxicity of excessive exposures. This compound is absorbed by the body and may be detected in the blood stream following ingestion, inhalation or skin contact. Animal and human experience indicate that this compound has a long half-life in the blood, and may be detected years after exposure." He notes that the public literature available to defendant reported that when processing aids of the C8 family like APFO are released into the environment, they do not break down and are extremely stable. He opines that the widespread contamination defendant created with its actions were foreseeable, preventable and therefore, unreasonable. Dr. Cheremisinoff's opinion are record-based; any disagreement concerning the reasonableness of defendant's actions and/or opinions in this regard are for the jury to determine.

In accordance with the foregoing, it is hereby

ORDERED that the defendant's motion to preclude the testimony of Nicholas P. Cheremisinoff, Ph.D., to the extent modified herein, is **DENIED**.

This shall constitute the Decision and Order of the Court. This original Decision and Order is returned to Weitz & Luxenberg, PC, co-lead class counsel. All other supporting papers are being delivered by the Court to the Rensselaer County Clerk for filing. The signing and delivery of this Decision and Order does not constitute entry or filing under CPLR 2220. Plaintiffs are not relieved from the applicable provisions of that rule respecting filing, entry and notice of entry.

Dated: November 15, 2019
Troy, New York



PATRICK J. McGRATH
Justice of the Supreme Court

Papers Considered:

1. Notice of Motion; Affidavit of Thomas R. Smith, with Exhibits attached; Taconic's Memorandum of Law in Support of Motion to Exclude Expert Testimony of Dr. Nicholas Cheremisinoff.
2. Affidavit, Nicholas P. Cheremisinoff, Ph.D., with Exhibits attached; Plaintiffs' Omnibus Memorandum of Law in Opposition to Defendant's Motion to Exclude Plaintiffs' Experts.
3. Taconic's Omnibus Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Affidavit, Jessica Kaplan, Esq., in Support of Taconic's Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts.

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PRESENT: HON. PATRICK J. McGRATH
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STATE OF NEW YORK
SUPREME COURT COUNTY OF RENSSELAER

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as parent and natural guardian of E.B., an infant, and
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monitoring program to provide medical surveillance to class members exposed to PFOA via the municipal water supply or contaminated wells within a seven mile radius of defendant's facility. Plaintiffs assert causes of action that sound in negligence and strict liability claims related to property, negligence and strict liability claims related to PFOA ingestion, private nuisance and trespass.

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Drs. Alan Ducatman, Donald Sloane Shepard and Donald R. Brandt

Dr. Donald Sloane Shepard performs subsidiary medical monitoring program-related

accounting and economic analysis.

Dr. Donald R. Brandt is the President of CTI Administrators, Inc., the company that plaintiffs have designated to administer the medical monitoring program and evaluate its cost.

Dr. Alan Ducataman provides the medical basis for the design and elements of the plaintiffs' proposed medical monitoring program. He is board certified in Internal Medicine and Occupational Medicine. He is Professor Emeritus at the West Virginia University, where he practiced medicine for 26 years. From 2012 to June 2018, he was a Professor of Public Health at West Virginia University School of Public Health and Professor of Medicine at West Virginia University School of Medicine. He was the Director of the Environmental Medical Service at Massachusetts Institute of Technology from 1986-1992. He has participated on and chaired an external scientific advisory committee to the Agency for Toxic Substances and Disease Registry (ATSDR) and the National Center for Environmental Health (NEHC) of the US Centers for Disease Control and Prevention (CDC). He has written extensively about the relationship of environmental chemicals to human disease, including, but not limited to PFAS such as PFOA. Dr. Ducataman advised the leaders of the C8 Health Project and has published approximately 30 peer-reviewed articles relating to PFAS, mostly based upon analysis of the C8 Health Project data and the nationally representative NHANES data. He has have created or participated directly in a number of medical monitoring projects in addition to the C8 Health Project mentioned above.

Dr. Ducataman states that the ATSDR is a lead agency in the CDC tasked with conducting health surveillance assessments to evaluate exposure to hazardous agents in the environment and identify trends in adverse health outcomes resulting from chemical exposures. The ATSDR provides criteria for considering the establishment of medical monitoring programs in its Final Criteria for Determining the Appropriateness of a Medical Monitoring Program under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), published in the Federal Register. He states that this methodology is generally accepted in the medical monitoring field for determining if medical monitoring is warranted in a particular community.

Dr. Ducataman has used the ATSDR's Federal Register routinely in the consideration/evaluation of requests for medical monitoring. The ATSDR states that "[m]edical monitoring should be directed toward a target community identified as being at significant increased risk for disease on the basis of its exposure. Significant increased risk will vary for particular sites depending upon such factors as the underlying risk of the selected outcome, the risk attributable to the exposure, and the presence of sensitive subpopulations." The ATSDR outcome criteria for considering medical monitoring states that 1) there should be documented human health research that demonstrates a scientific basis for a reasonable association between an exposure to a hazardous substance and a specific adverse health effect (such as an illness or change in a biological marker or effect); 2) the monitoring should be directed at detecting adverse health effects that are consistent with the existing body of knowledge and amenable to prevention or intervention measures and 3) the adverse health effects (disease process, illness, or biomarkers of effect) should be such that early detection and treatment or intervention interrupts the progress to symptomatic disease, improves the

quality of life of the individual, or is amenable to primary prevention.”

Dr. Ducataman opines that the instant plaintiffs are at a significantly increased risk for diseases based on their exposure to PFOA from the Taconic facility. He notes that peer-reviewed literature has established an association between PFOA exposure in the community and significantly increased risk of health effects as compared to the general population. He references the studies and opinions offered by Dr. Savitz, noting that the health concerns linked with PFOA exposure constitute serious health risks that are amenable to early detection and intervention. Dr. Ducataman recommends a program that is not duplicative of care that can be anticipated as already reliably provided to proposed program participants.

He opines that ATSDR's exposure criteria for considering Medical Monitoring have been met in this case. There is proven environmental exposure that meets a level reported in the peer-reviewed literature to result in some adverse health effect. Further, that ATSDR's outcome criteria for considering medical monitoring have been met as well, as the peer-reviewed medical literature demonstrates PFOA exposure is associated with excess risks of adverse health effects as compared to the background population. He states that the purpose of the program he proposed is to detect the diseases above as early as possible in order to minimize disease morbidity and mortality and improve health outcomes for class members. The program is designed to provide class members with targeted diagnostic monitoring - through annual survey questionnaires, meaningful clinical evaluation and testing, and education- that results in improved quality of life due to earlier detection and identification of the diseases for which class members are at a known higher risk due to their PFOA exposure.

Based on his clinical experience and significant experience in the evaluation and medical monitoring of humans exposed to PFOA, he has considered what clinical testing would best provide adequate medical monitoring and early disease detection for this exposed population, which is described in detail in his affidavit with respect to each health condition.

Defendant moves to preclude Dr. Ducataman's testimony in its entirety. Defendant relies on the affidavit of Stephen Washburn, principal of Ramboll Environ and a member of the Ramboll Group Executive Board. He has 30 years of experience in science and engineering, with emphasis on chemical fate and transport, exposure assessment and risk assessment. With respect to Dr. Ducataman, he states that the source of 1.86 ug/L as the 2013-2014 geometric mean “is not clear.”

Defendant also relies on two affidavits provided by Jessica Herzstein, MD, MPH, a physician with more than 25 years of training and experience in the fields of environmental and occupational medicine. In 2012, she was appointed by the Secretary of HHS to the United States Preventive Services Task Force (USPSTF), an internationally recognized panel of experts in primary care and preventative medicine, which makes evidence based recommendations to guide the delivery of preventive services.

She argues that the epidemiologic studies of populations exposed to PFOA have not shown

that PFOA causes any specific disease. She compares mean exposures as measured by blood levels in other communities in which PFOA has been detected in the drinking water to that of the affected community here to support her opinion that the exposure here does not warrant monitoring. She states that Dr. Ducataman's proposed program will lead to unnecessary tests, most of which will result in negative and false positive results. She argues that the testing he proposes is "highly unlikely" to discover the disease at the asymptomatic stage. Therefore, clinical outcome will not be improved as a result of screening. She also notes the harms of screening, which include "false alarms, indeterminate findings, worry for patients, and overdiagnosis and overtreatment." Additionally, that Dr. Ducataman's proposed program confuses diagnostic tests with screening tests. She reviews the six diseases and two biomarkers identified by Dr. Savitz and states her basis as to why medical monitoring of each would be ineffective and in some cases harmful. She notes that the proposed program includes a financial incentive to participate, which is "contrary to their best interest in that their judgment about what is acceptable risk versus benefit could be altered by a monetary reward for doing screening." She also states that the extent of administrative oversight of the proposed program is "vastly in excess of what is needed for a medical monitoring program in a population this size."

Dr. Ducataman responds that he now knows the geometric mean background level for 2015-2016 based on the US NHANES dataset is 1.56 µg/L. This data was published in January 2019 and reflects the geometric mean background level at the time the Petersburg PFOA blood testing was conducted. Therefore, the threshold level for eligibility here (1.86 µg/L) is a conservative number.

He states that Dr. Herzstein's opinion regarding whether PFOA exposure causes disease in humans is not generally accepted in the scientific community and is contradicted by a significant body of epidemiological literature. Moreover, causation is not required under the generally accepted ATSDR criteria. He states that Dr. Herzstein ignores that fact that approximately 508 of 1,500 or so residents (33%) were tested, and the NYSDOH did not have geographically-targeted screening criteria, but generously tested those who wanted to be tested. He states that it is not scientifically sound that Dr. Herzstein then uses this "all comers" number to determine the mean serum in a specific contaminated community because it does not represent the population that would be eligible for screening here. He acknowledges Dr. Herzstein's concerns regarding overtesting as a valid consideration for the general population, but argues that the target population here has PFOA in their blood and is already aware it is at increased risk of disease as a result. He states that the context within which the screening occurs must be taken into account, and Dr. Herzstein fails to do so. He notes that improved clinical outcomes is not the only goal of ATSDR, which states "the adverse health effects (disease process, illness, or biomarkers of effect) should be such that early detection and treatment or intervention interrupts the process to symptomatic disease, improves the quality of life of the individual, or is amendable to primary prevention." He states that early detection of these diseases, which leads to intervention and/or treatment, including lifestyle interventions that beneficially avoid treatment, is reasonably likely to improve the quality of life of a participant. He states that the issue of screening versus diagnostic monitoring is "simply semantics and is irrelevant." The program is clearly stated to have both intake and follow-up characteristics. He

addresses and contests Dr. Herzstein's opinions as to each health conditions, and how early detection and treatment have the potential to improve a the participants' quality of life. Both Dr. Shepard and Dr. Ducataman support a financial incentive to participate.

Dr. Ducataman notes that Dr. Herzstein does not cite any authority to support her proposition concerning the financial incentive or explain how an incentive payment would affect a person's judgment about risk versus benefit. He notes that Dr. Herzstein does not cite mainstream literature which acknowledges the possibility of undue influence in enrollment in the context of research, yet emphasizes the cost of participation to participants and the desirability of payments. In this case, the purpose is not research, the costs of exposure to participants have already been substantial, and participation is the most empowering means to address and reduce the health aspects of the costs and harms *post hoc*. He states that incentives are a reasonable and small way to account for effort and time from participants, among so many accounted and unaccounted costs of exposure. He notes that monetary incentives were used in the C8 Health Project, and it is probable that compensation along with public concern contributed to participation. Finally, he states that incentive payments are as or more appropriate here, in a biomonitoring program without research intent, and there is no evidence that they would affect participant's ability to analyze risks and benefits.

Defense counsel argues that even if the plaintiffs experts are permitted to testify about their MMP, they still should not be permitted to include certain costs and elements that are not generally accepted components of such monitoring, such as costs to facilitate/conduct research and the designation of a retained testifying expert as the beneficiary of a 30 year stream of work that could cost in excess of \$36 million dollars. Counsel argues that plaintiffs have designated their retained expert, Dr. Brandt, and his company to play a principal role "in return for substantial compensation in violation of fundamental principles that are generally accepted in the community of persons who regularly engage in decisions as to whether and how to medically monitor an exposed population." Defendant does not present any expert testimony as to the specific fundamental principles referenced herein, or how they have been violated.

Dr. Ducataman responds that a Third Party Administrator (TPA) would be beneficial for implementation and administration of the medical monitoring program because it ensures payment of costs that are incurred on behalf of an exposure population. The TPA can also provide quality assurance and also review program fidelity in key areas. Services provided by a TPA may include ensuring the following:

- a. That program participants are truly qualified to participate, and that the program has collected and secured the eligibility documents in a responsive and consistent manner;
- b. That payments to consultants are consistent with expectations;
- c. That clinical testing and associated costs are consistent with expectations; and
- d. That quality assurance data (c.g., the technique used by the selected laboratory to measure PFOA) are archived and accessible to program personnel, and that technological changes, which are inevitable over time, are recorded

Further, Dr. Ducataman states that the expert panel, consisting of an Epidemiologist and a Clinician, who represents local community interests is consistent with Phase II of the ATSDR guidance concerning medical monitoring concerning community feedback concerning efficacy and benefit of the program.

The Court does not find that defendant has made a motion requiring a *Frye* analysis with respect to Drs. Ducataman, Sloane Shepard or Brandt. Defendant appears to argue that they may have a conflict of interest based on potential financial gain, but nothing in the defendant's motion asserts that either expert has rendered an opinion based on principles that are not sufficiently established to have gained general acceptance in their respective fields. Nor is there even a foundational question here. The true issue here is the parameters of the medical monitoring program, which have been developed and proposed by Dr. Ducataman, and its administration.

The Court finds that *Frye* issues are not directly implicated in the instant motion, as defined by the parties' arguments, because Dr. Ducataman is not utilizing novel methodology or principle here. To the contrary, defendant's experts acknowledge that the methodology adopted by ATSDR is generally accepted in the field for determining if medical monitoring is warranted in a particular community. Rather, the inquiry here is foundational and the central issue is whether a legally sufficient foundation exists for admissibility of Dr. Ducataman's testimony. This in turn, depends upon whether the procedures Dr. Ducataman employed were appropriately applied to generate his opinions and conclusions.

The foundation for Dr. Ducataman proposed medical monitoring program relies heavily on the research and conclusions of the C8 study as well as his own research, which demonstrate a "more probable than not" casual relationship between PFOA exposure at or near background and six health conditions and two elevated biomarkers. He proposes a medical monitoring program founded on the well established dictates of ATSDR. The Court has reviewed both sets of affidavits here in detail to highlight the numerous factual disagreements between the parties' experts regarding the specific parameters of the proposed program. However, Dr. Ducataman's opinions are foundationally sound because, as noted above, his conclusions are grounded in evidence. Factual disagreements go to the weight to be accorded to the testimony, not admissibility. As previously noted, the court should not render an assessment as to the ultimate merit of the opinion testimony of the plaintiffs' experts. *See People v Wesley, supra* at 425. The weight of this evidence can be debated by the parties' experts at trial, but the court will not exclude the proposed testimony under *Frye* or based on a lack of foundation.

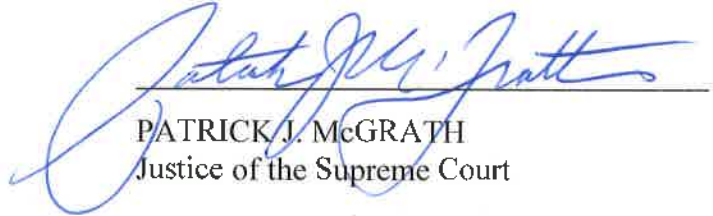
In accordance with the foregoing, it is hereby

ORDERED that the defendant's motion to preclude the testimony of Drs. Alan Ducatman, Donald Sloane Shepard and Donald R. Brandt is **DENIED**.

This shall constitute the Decision and Order of the Court. This original Decision and Order is returned to Weitz & Luxenberg, PC, co-lead class counsel. All other supporting papers are being

delivered by the Court to the Rensselaer County Clerk for filing. The signing and delivery of this Decision and Order does not constitute entry or filing under CPLR 2220. Plaintiffs are not relieved from the applicable provisions of that rule respecting filing, entry and notice of entry.

Dated: November 15, 2019
Troy, New York



PATRICK J. McGRATH
Justice of the Supreme Court

Papers Considered:

1. Notice of Motion; Affidavit of Thomas R. Smith, with Exhibits attached; Affidavit, Jessica Herzstein, MD, dated March 28, 2018; Affidavit, Jessica Herzstein, MD, dated February 28, 2019; Affidavit, Stephen Washburn; Taconic's Memorandum of Law in Support of Motion to Exclude Expert Testimony of Drs. Alan Ducatman, Donald Sloane Shepard and Donald R. Brandt.
2. Affidavit, Alan Ducatman, MD; Plaintiffs' Omnibus Memorandum of Law in Opposition to Defendant's Motion to Exclude Plaintiffs' Experts.
3. Taconic's Omnibus Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Affidavit, Jessica Kaplan, Esq., in Support of Taconic's Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts.

At an IAS Term of the Supreme Court of the State of New York, held in and for the County of Rensselaer, in the City of Troy, New York on the 9th day of August 2019

PRESENT: HON. PATRICK J. McGRATH
Justice of the Supreme Court

STATE OF NEW YORK
SUPREME COURT COUNTY OF RENSSELAER

**JAY BURDICK, CONNIE PLOUFFE, EDWARD PLOUFFE,
FRANK SEYMOUR, SUZANNE SEYMOUR, AND EMILY MARPE,
as parent and natural guardian of E.B., an infant, and
G.Y., and infant, JACQUELINE MONETTE, WILLIAM SHARPE,
EDWARD PERROTTI-SOUSIS, MARK DENUÉ, and
MEGAN DUNN, individually, and on behalf of all similarly situated,**

Plaintiffs,

DECISION AND ORDER
Index No. 253835

- against -

TONOGA, INC. (d/b/a TACONIC),

Defendant.

APPEARANCES: FARACI LANGE, LLP
WEITZ & LUXENBERG, PC
Co-Lead Class Counsel

GREENBERG TRAUIG, LLP
HOLLINGSWORTH, LLP
Attorneys for the Defendant

McGRATH, PATRICK J., J.S.C.

This case stems from the contamination of groundwater in the Town of Petersburg, New York with perfluorooctanoic acid (hereinafter "PFOA"). In a decision and order dated July 3, 2018, this Court granted plaintiffs' motion to certify four (4) classes. Three of those classes allege harms related to property damage and nuisance stemming from contamination of class members' property and drinking water with PFOA. The fourth class seeks the establishment of a class-wide medical monitoring program to provide medical surveillance to class members exposed to PFOA via the

municipal water supply or contaminated wells within a seven mile radius of defendant's facility. Plaintiffs assert causes of action that sound in negligence and strict liability claims related to property, negligence and strict liability claims related to PFOA ingestion, private nuisance and trespass.

Defendant brings what it characterizes as a *Frye* motion to preclude Hyeong Moo Shin, Ph.D. and Donald I. Siegel, Ph.D. from providing testimony concerning the fate and transport of PFOA in the environment. Plaintiffs challenge this characterization, arguing that the motion should not be considered under a *Frye* analysis and at most, constitutes subject matter for cross-examination or a *motion in limine*. Defendant has submitted a Reply.

The Frye Test

In determining the admissibility of expert testimony, New York follows the rule of *Frye v United States*, 293 F 1013 (1923), specifically, "that expert testimony based on scientific principles or procedures is admissible but only after a principle or procedure has 'gained general acceptance' in its specified field." *See also People v Wesley*, 83 NY2d 417, 422 (1994); *People v Wernick*, 89 NY2d 111, 115 (1996). "[G]eneral acceptance does not necessarily mean that a majority of the scientists involved subscribe to the conclusion. Rather it means that those espousing the theory or opinion have followed generally accepted scientific principles and methodology in evaluating clinical data to reach their conclusions." *Zito v Zabarsky*, 28 AD3d 42, 44 (2d Dept. 2006), *quoting Beck v Warner-Lambert Co.*, 2002 NY Slip Op 40431[U], *6-7 (Sup. Ct., New York County, 2002). "The *Frye* 'general acceptance' test is intended to protect[] juries from being misled by expert opinions that may be couched in formidable scientific terminology but that are based on fanciful theories." *Styles v General Motors Corp.*, 20 AD3d 338 (1st Dept. 2005) (Catterson, J., concur) [internal quotation marks omitted].

A *Frye* inquiry is directed at the basis for the expert's opinion and does not examine whether the expert's conclusion is sound. "*Frye* is not concerned with the reliability of a certain expert's conclusions, but instead with 'whether the experts' deductions are based on principles that are sufficiently established to have gained general acceptance as reliable.'" *Nonnon v City of New York*, 32 AD3d 91, 103 (1st Dept. 2006), *quoting Marsh v Smyth*, 12 AD3d 307, 308 (1st Dept. 2006). Put another way, "[t]he court's job is not to decide who is right and who is wrong, but rather to decide whether or not there is sufficient scientific support for the expert's theory." *Gallegos v Elite Model Mgmt. Corp.*, 195 Misc 2d 223, 225 (Sup. Ct., New York County, 2003). "The appropriate question for the court at ... a [*Frye*] hearing is the somewhat limited question of whether the proffered expert opinion properly relates existing data, studies or literature to the plaintiff's situation, or whether, instead, it is 'connected to existing data only by the *ipse dixit* of the expert.'" *Marsh v Smyth*, 12 AD3d 307, 312 (1st Dept. 2004) (Saxe, J., concur.) *quoting General Elec. Co. v Joiner*, 522 US 136, 146 (1997).

Hyeong Moo Shin, Ph.D.

Dr. Shin is an assistant professor in the Department of Earth and Environmental Sciences at the University of Texas at Arlington. He was involved in the analysis of data obtained from the C8 Health Project which involved the simulation of the fate and transport of C8, the trade name for the chemical ammonium perfluorooctanoate (APFO) which when released into the environment is converted to PFOA and was found to have contaminated the drinking water in communities along the Ohio River in the states of Ohio and West Virginia. Dr. Shin has published papers in the peer-reviewed scientific literature as a result of this research, including four papers in which he was the lead author. He has been a lead author or a co-author of 14 papers published in the scientific peer-reviewed literature related to PFOA exposure and epidemiologic studies.

He has reviewed the deposition transcripts and documentary discovery thus far in this case. He placed particular importance on Dispersion Processor Material Balance Project Report prepared by Barr Engineering Company in 2005. This study was undertaken as part of a commitment made by the Fluoropolymer Manufacturers Group of the Society of the Plastics Industry, Inc. (SPI) to understand whether and how APFO in aqueous PTFE dispersions could be a significant exposure pathway for PFOA to the general population. A number of dispersion processors that performed manufacturing operations similar to Taconic participated in this study to determine the proportion of APFO in these dispersions that was destroyed, released into the air, released into wastewater, contained in solid waste or remained in the final products. In performing this study, Barr analyzed various PTFE dispersions utilized by these processors at the time and determined the average amount of APFO contained in these dispersions to be 0.28%. Barr also studied and quantified the percentage of APFO from the dispersions that was released into the air based upon the type of ovens that were utilized by the processor, either radiant heating or recirculating ovens. Dr. Shin notes that Timothy Kosto, Taconic's Director of Technology and Manufacturing, testified that he utilized this report to provide him the information he needed to estimate Taconic's emissions because Taconic did not have testing data from its facility.

Dr. Shin states that his research on the C8 Health Project focused on modeling the environmental fate and transport of PFOA and on developing exposure models to predict historical exposures of these individuals to PFOA. In that study, PFOA was found in the water supplies of approximately 70,000 people who lived along the Ohio River in Ohio and West Virginia. The source of this PFOA was determined to be DuPont's Washington Works facility. The principal route of the contamination to the groundwater was from air deposition to the soil, where the chemical dissociated and was dissolved into rain water and carried through the vadose zone (i.e., the zone between the ground surface and down to the water table) into the groundwater contaminating the well fields of these communities. For some of these communities, discharge of liquid waste containing APFO into the Ohio River was also determined to be a route of the contamination. PFOA was detected in soil and private well water located more than 5 miles from the Washington Works plant in the prevailing wind direction for the area. The major route of PFOA exposure found through the C8 Health Project research was ingestion of drinking water contaminated with the substance, although breathing of particulate matter and ingestion of fruits and vegetables onto which PFOA was deposited were also

found to be likely routes of exposure.

In this case, the methodologies Dr. Shin utilized to analyze and assess the fate and transport of APFO/PFOA involve reviewing published literature regarding the behavior of chemical substances released into the environment, reviewing the testing of environmental media for such substances, and analyzing patterns of contamination utilizing various modeling or statistical techniques. He notes that plotting contaminant levels vs. distance from the source, as well as testing such plots using regression analysis, are standard methodologies in analyzing the transport of air emissions and investigating the likely source of such emissions. He states that prediction of wind-driven transport of air emissions based upon both prevailing wind directions and topography is also a generally accepted method of analyzing and modeling the transport of contaminants from air emissions.

Dr. Shin's opinions in this case can be summarized as follows:

The source of the PFOA found in the 215 private wells and the municipal wells located within an approximate 7-mile radius of the Taconic facility originated from air releases of APFO from the Taconic facility.

From approximately 1961 through at least 2013, Taconic utilized large volumes of PTFE and FEP dispersions that contained APFO. Dispersion processors manufacturing PTFE coated fabrics using two types of ovens: radiant heated and recirculating ovens. Both reached temperatures of 572-752 F. The Barr study demonstrated that for radiant heated ovens, the percentage of the total APFO in the dispersions that was released into the air during the fabric coating manufacturing process ranged from 39 to 54%. For the recirculating ovens, the percentage of the total APFO released into the air ranged from 9 to 19%. Temperatures in the coating ovens ranged from 150-300 F in the lower or drying zone to 250-450 F in the middle or baking zone and around 700-800 F in the upper or sinter zone. There appeared to be an equal number of the two types of ovens which all reached temperatures in the 572-752 F range in the upper zones of the ovens. Thus, to estimate the percentage of APFO emitted from Taconic's ovens into the air, Dr. Shin utilized the average of the percent APFO releases in the two types of ovens found in the Barr study of 31.5%.

Taconic produced two documents which contained estimates of yearly APFO-containing dispersion use at the approximate time of the Barr study. One document states that Taconic was using 987,000 lbs. of PTFE dispersion in 2005. The other document summarizes the volumes of PTFE dispersions containing APFO that were used in manufacturing at Taconic from 2006 to 2013, indicating dispersion usage fluctuating between 956,000 lbs. and 1,283,000 lbs. per year. Using 987,000 as a conservative estimate of annual PTFE dispersion usage together with the Barr's estimate of the average amount of APFO in those dispersions (0.28%), Dr. Shin estimated that 2,763 lbs. of APFO per year entered Taconic's ovens during this time period. Assuming that approximately 987,000 lbs. of PTFE dispersions containing an average of 0.28% APFO were used and an average of 31.5% of that APFO was released from the ovens to the air, it is estimated that approximately 870.5 lbs. [=956,000 lbs \times 0.315 \times 0.0028] of APFO was released annually from Taconic's coating

ovens to the environment through 2006.

Between 1961 and 1991, Taconic employed no pollution control devices, and therefore, all of the APFO in the exhaust stream was released to the environment. Assuming a similar volume of dispersions were utilized over this period results in over 13 tons (26,115 lbs. = 870.5 lbs./year 30 years) of APFO being released into the environment via air emissions by Taconic prior to 1991.

The first pollution control device used at Taconic, the "Smog-Hog", was installed in 1991. Dr. Shin opines that it is unlikely that any appreciable amount of the APFO in the exhaust stream was in the form of particulate matter that is large enough to be captured by the Smog Hog. Further, that without any testing data showing otherwise, it is impossible to conclude that this device removed any appreciable amount of APFO. If Taconic utilized a similar amount of dispersion between 1991 and 1996 as was utilized in 2005, another 4,352 lbs. of APFO was released through air emissions during those years.

In 1996 the first Fume Eliminator was added, although the Smog Hog was retained as backup. Further, documents produced by Taconic demonstrated that additional fume eliminators were added after 1996. Dr. Shin opines that the fume eliminators probably removed some of the APFO air emissions after 1996. The only test data produced by Taconic showing the efficiency of a fume eliminator was performed in 2016 by the APCC. This testing was performed on emissions from a new fume eliminator that was installed in 2014. In 2016, Taconic was using APFO-free dispersions, so there should not have been any APFO in the exhaust stream. Nevertheless, some APFO was detected in the air stream both before and after passing through the fume eliminator, with the device removing 78% of that trace amount.

Dr. Shin finds that this 78% removal efficiency unreliable because (1) the fume eliminator involved in this test was not in use during the years Taconic used dispersions containing the standard amount of APFO; (2) the amount of APFO entering the fume eliminator during this test was a tiny fraction of the amount of APFO that was in the exhaust stream during earlier years; and (3) this was a single test performed in December when the ambient temperature was cold enhancing the conversion of APFO vapors to particulate matter. Rather, he finds it "highly likely" that the efficiency of the fume eliminators used between 1996 and 2006 when more APFO was contained in the exhaust, and especially in summer months, has been lower than 78%, making the percentage of APFO released into the air during those years higher than 22%. However, even if he were to adopt the 78% efficiency estimate and used it to reduce emissions from 1996 to 2005, this would yield another 191.5 lbs. per year or a total of another 1,915 lbs. of APFO released by Taconic into the environment between 1996 and 2005.

Between 2006 and 2013 Taconic transitioned from standard level APFO dispersions to low level APFO dispersions and eventually to APFO-free dispersions. In 2006 and 2007, Taconic utilized 1,110,703 lbs. of standard level APFO dispersions as well as some low level APFO dispersions. Using the same assumptions as above, Taconic released an additional 215 lbs. of APFO into the air in 2006-2007. When utilizing the lower content APFO dispersions in the following years through

2013, Taconic released an additional amount of APFO in its exhaust emissions that is not captured in Dr. Shin's estimate, but he states it is was not negligible.

According to the above calculations, Dr. Shin states that Taconic released over 16 tons of APFO into the Petersburg environment between 1961 and 2007. Virtually all of the APFO/PFOA released from this facility to ambient air is transported to the soil, surface water and groundwater in the area because PFOA is extremely stable in the environment. Based upon his experience and research in the Ohio River Valley, 8 tons of APFO can easily contaminate the groundwater at the levels detected in the 215 private wells and the Town of Petersburg municipal wells.

In addition, some of the PFOA found in the wells located on and close to Taconic's property was likely contributed through Taconic's wastewater emissions containing additional APFO/PFOA released into Taconic's septic system that leached into the groundwater. He relies on Taconic documents and employee testimony which indicates that prior to 1996, all wastewater was discharged into a septic system and leach fields. According to the Barr report, APFO released in liquid waste averaged approximately 1-3% of total APFO in the dispersions utilized.

Dr. Shin notes that O'Brien & Gere (OBG) conducted air modeling for volatile organic compounds (VOCs) at Taconic in 2014. Although testing was not performed for APFO/PFOA, this modeling used the same inputs and made the same assumptions that would be used to model APFO air dispersion off the Taconic property. OBG determined that the wind rose (graphic depiction of wind speed and the prevailing wind directions) from the meteorological station at the Bennington airport, Vermont, is not representative of the prevailing wind at the Taconic site because of its valley orientation. Instead, OBG relied on a wind rose from the Albany airport, New York. OBG concluded "the [Albany] wind rose shows high frequencies of southerly and west northwest winds. Since the valley orientation at the [Taconic] site would likely create a dominance of southerly winds, the Albany meteorological data is proposed to be used in this analysis." Dr. Shin agrees with OBG's assessment that the dominant wind direction at the Taconic site would be from the south toward the northeast based upon the prevailing winds and steepness and orientation of the valley.

Dr. Shin opines that Taconic is the primary source of PFOA contamination in private wells in this area. He created two graphs plotting the approximate distance from Taconic and PFOA concentrations in private wells for contaminated private wells located northeast of the Taconic facility, which establish a strong inverse log-linear relationship between the distance from Taconic and PFOA concentrations in private wells. He notes a high model performance that supports to a reasonable degree of scientific certainty that the source of the PFOA in the contaminated wells is Taconic. He notes that this pattern is consistent with that found in Little Hocking, Ohio from APFO emissions from the DuPont Washington Works facility.

He opines that the soils on the properties with contaminated wells and the soils on the properties within the Town of Petersburg Water District are also highly likely to be contaminated with PFOA released from the Taconic facility. He cites the results of NYSDEC's soil testing that show consistent PFOA soil contamination. When comparing results of five soil samples located in

the prevailing wind direction to the northeast from the plant, higher PFOA concentrations were measured in the first two samples (located 1600 feet from the plant) than the next three samples (located 6100 feet from the plant) with the lowest levels measured the farthest away that testing was done (25,080 feet). He notes that this pattern is similar to that depicted for the contaminated wells, demonstrating an inverse or negative relationship between distance from the Taconic facility and PFOA soil concentrations. This is consistent with the soil and groundwater contamination having a single source - air emissions from Taconic. He states that PFOA contamination of soil above contaminated groundwater is a "virtual certainty" because nearly all of the PFOA in the groundwater came from air emissions of APFO that were deposited on the soil, dissolved in precipitation and migrated into the groundwater aquifer.

Finally, he states that the primary route of exposure of the residents of Petersburg who have elevated PFOA blood serum levels above background is likely to be ingestion of contaminated drinking water. This conclusion is based upon published research from the C8 Health Project.

Defendant moves to preclude Dr. Shin's testimony in its entirety. Defendant relies on the affidavit of chemical engineer Stephen Washburn, principal of Ramboll Environ and a member of the Ramboll Group Executive Board. Mr. Washburn has an MS in Chemical Engineering from MIT and a BSE in Chemical Engineering from Princeton University. He has 30 years of experience in science and engineering, with emphasis on chemical fate and transport, exposure assessment and risk assessment. He has extensive experience in exposure and risk assessment, having conducted exposure and risk assessments at a "broad array" of industrial facilities, hazardous waste site, transportation facilities, waste management facilities, agricultural properties and residential developments, specifically for PFOA and other perfluorinated compounds (PFC) in air, surface water, ground water, wildlife, livestock and consumer articles.

He argues that if Dr. Shin is correct that air emissions are the primary source of PFOA within the seven mile radius of the Taconic facility, and the primary wind direction is northeast and to the south, then emissions from another facility in Hoosick Falls (Saint Gobain/Alliced Signal), which lies approximately 12 miles north of Taconic, would also be transported to the seven mile radius surrounding Taconic.

Both Mr. Washburn and Paul Wm. Hare¹ note that three other locations in the same general geographic region as the Taconic facility at one time used PTFE dispersions or resins that contained APFO: 1) the former Chemfab facility in North Bennington Vermont; 2) the former Warren Wire Facility in Pownal, Vermont and 3) the Saint-Gobain facility in Hoosick Falls, New York. Mr. Washburn opines that atmospheric releases from any of these sources "would have the potential" to

¹
Mr. Hare is Senior Technical Director in the Applied Sciences Group at O'Brien & Gere Engineers, Inc. (OBG). Taconic retained OBG to prepare a work plan for the remedial investigation and feasibility study for the Taconic site.

impact surface water and groundwater quality within the Little Hoosick Valley including areas within a 7 mile radius of the Taconic facility.

He also argues that Dr. Shin failed to take the Petersburg landfill into account, which is two miles southeast of Taconic. The landfill ceased accepting waste in 1991 and was closed in 1997. In 2016, PFOA was reported at 4,200 parts per trillion (ppt) in a leachate sample. He states that landfill leachate “was observed” to discharge into a small unnamed stream that discharges into the Little Hoosick River less than a mile downriver from Taconic. Washburn states that Dr. Shin’s assessment therefore omits a known and “potentially significant” source of PFOA.

He also argues that Dr. Shin failed to consider the tests conducted on the Fume Eliminator in 1997, where PFOA was not detected in the exhaust from the facility, and that emissions were less than 0.0002 lb./hr. from the nine coating ovens included in that study. Nor did he place enough emphasis on the 2016 testing, which showed 78% removal efficiency for PFOA in the Fume Eliminator. Mr. Washburn acknowledges that PFOA had been phased out of use at Taconic since 2006.

Mr. Washburn states that Dr. Shin’s calculations in connection with water sampling from the Fume Eliminator include an error that results in a significant overestimate in the amount of PFOA emitted from the facility into the air. He notes that Dr. Shin used a PFOA concentration in the water of 172,000 ppb, when in fact the concentration was 172,000,000 ppb. When the error is corrected, the result is 13,000 lbs removed, not 13 lbs.

Mr. Washburn disputes Dr. Shin’s opinion that the Smog Hog had no effect on controlling APFO emissions. He states that Dr. Shin incorrectly assumes that exhaust gas from the ovens remained at a high temperature in the Smog Hog, such that PFOA remained in a vapor form. Mr. Washburn cites discovery provided by Taconic which indicates that the exhaust from the ovens was actually cooled, which would cause PFOA to condense into particulate, which could then be removed by the Smog Hog.

With respect to the Saint-Gobain facility in Hoosick Falls, Dr. Shin responds Mr. Washburn presents no data showing PFOA levels detected in groundwater between North Petersburg and Hoosick Falls. He notes that there is no publicly available data on Hoosick Falls nor investigations documenting PFOA groundwater contamination from Hoosick Falls in a southerly direction stretching to North Petersburg. He states that it is “scientifically implausible” for the Saint-Gobain facility to be the source of PFOA found in North Petersburg without PFOA being detected in other wells closer to Hoosick Falls. The topography and prevailing winds explain why APFO/PFOA would not migrate south from Hoosick Falls to reach North Petersburg or Petersburg. Specifically, the topography of Hoosick Falls from the south to the east flattens out significantly, while Petersburg has the deep narrow valley topography. He relies on OBG’s assessment that “the valley orientation at the [Petersburgh] site would likely create a dominance of southerly winds” is also relevant here, since Hoosick Falls is north of Petersburg. To reach the contaminated wells in Petersburg, Dr. Shin states that the air emissions from Hoosick Falls would have to flow against

the dominant southerly winds which would predominate until the area north of North Petersburg, where the elevation to the east drops off and would permit the resumption of a more west to east dominant wind pattern. Without any evidence of PFOA contamination in wells between North Petersburg and Hoosick Falls, he states that it is not scientifically possible to attribute any of the PFOA contamination found between North Petersburg and Petersburg as coming from air emissions from the Saint-Gobain facility in Hoosick Falls.

With respect to the Petersburg landfill, Dr. Shin notes that Mr. Washburn provides no data to support his statements that leachate contaminated with PFOA that entered that unnamed stream could potentially affect wells in the area. Dr. Shin also notes that the NYSDEC tested four surface water (SW) samples for PFOA levels in the Little Hoosick River: (1) a sample collected near the Taconic facility (SW-3), (2) a sample collected a few hundred feet downstream from where the unnamed tributary that drains the former landfill empties into the Little Hoosick River (SW-4), (3) a sample collected approximately one mile further downstream (SW-5) and (4) a sample collected approximately two miles further downstream (SW-6) before the Little Hoosick River converges into the Hoosick River. All four samples from the testing have virtually identical PFOA levels of 18, 23, 19 and 17 ppt. respectively. Although there are some higher PFOA levels measured in this small creek before it flows into the Little Hoosick River at point SW-4, once it merges the levels measured in the Little Hoosick are essentially the same as the levels before the creek flows into the river. Dr. Shin states that based upon these data points, there is no evidence that PFOA from the unnamed tributary is having any significant effect on the PFOA level in the Little Hoosick River. There is no further data showing that PFOA-contaminated water from the Little Hoosick River is recharging any of the contaminated private wells or the municipal wells. Most of the contaminated wells are located upstream from the confluence of the unnamed tributary. This means even if there was some recharge occurring from the Little Hoosick River, it would be occurring with water from the river before the tributary joined the river, so that the landfill could not be a plausible source. Finally, because the PFOA levels in the Little Hoosick River are virtually stable from the point of the Taconic property to the convergence of the Little Hoosick River into the Hoosick River, it appears that if water from the Little Hoosick River containing PFOA is recharging any of the contaminated wells, then this PFOA likely also came from Taconic, most likely from historical air emissions that deposited in the soil and are now being carried by precipitation to the river ("runoff").

Dr. Shin also notes that Taconic initially stated in its Answer to Interrogatories promulgated by the New York State Senate that dispersions it used contained approximately 1% APFO, and that he previously used this percentage in calculations that were presented in Plaintiffs' expert disclosure, while also performing separate calculations using the average APFO concentration in PTFE dispersions set forth in the Barr Mass Balance report (0.28%). He notes that Taconic has apparently changed its original answer of the average APFO in the dispersions it historically utilized. However, in his calculations of Taconic's likely APFO air emissions, Dr. Shin utilized the 0.28% provided in the Barr Mass Balance report, which was done in collaboration with multiple dispersion processors similar to Taconic.

Dr. Shin notes that Mr. Washburn relies on a Clough Harbour & Associates (CHA) report where testing was performed for Taconic to establish that the average "stack temperature" was between 130 and 132 F, and therefore, Dr. Shin's conclusion that the Smog Hog would not likely have removed any significant amount of APFO is incorrect. However, he notes that Mr. Washburn provides no test data to support his claim that the Smog Hog removed any APFO from the air stream. Further, the CHA Report does not provide sufficient data to contradict Dr. Shin's conclusion because it does not indicate how far the air traveled in the exposed stack after it passed through the Smog Hog at the point its temperature was measured.

Dr. Shin also notes that at the time the tests of the Fume Eliminator were conducted in 1997, standard, federally-approved analytical methods for PFOA were not available and thus there is increased uncertainty in the results. With respect to the 2016 test, Dr. Shin questions its reliability for the reasons previously stated.

Donald L. Siegel, Ph.D.

Dr. Siegel is a Professor and Chair of the Department of Earth Sciences at Syracuse University. He holds a Ph.D. in hydrogeology. He is a principal at Independent Environmental Scientists, Inc. and a Fellow in the American Geophysical Union, the American Association for the Advancement of Science and President Elect of the Geological Society of America. He states that he is an expert in the field of hydrogeology and that he has been retained by plaintiffs to analyze and provide opinions regarding the groundwater contamination in Petersburg, New York.

In forming his opinions, he relied upon the discovery exchanged in this case, as well as documents and data obtained from the NYDEC and the NYDOH. These documents and electronic files include data on well concentrations of PFOA in the vicinity of Petersburg, New York, information on the depths of these wells, data showing soil PFOA concentrations measured in the vicinity of Petersburg, as well as surface water sampling conducted for PFOA concentration in this area. The documents and testimony also include information about the manufacturing processes performed at the Taconic Petersburg facility as well as the PFOA concentrations typically found in the PTFE dispersions that Taconic used.

Dr. Siegel notes that Taconic and Petersburg are located in a north/south oriented valley in the Taconic Mountain Region of eastern New York. The Little Hoosic River flows to the north down the center of a geologically ancient fault-controlled valley eroded into ancient metamorphic bedrock.

There are two groundwater systems in the valley: 1) a shallow water table aquifer in the Kame and alluvium deposits, and 2) a deep bedrock aquifer in the underlying bedrock. He states that shallow and deep bedrock aquifers are more likely than not hydraulically connected through near-surface fractured bedrock contact with highly permeable sand and gravel of the shallow aquifer.

He states that shallow groundwater flow typically mimics topography and flows in the area of the Taconic facility to the east and northeast towards the Little Hoosic River and Petersburg. Deep bedrock flow is typically controlled by rock fracture and bedding plane geometry. Fractures

and faults are oriented in a north-northeast/south-southwest direction throughout the Taconic Mountains; therefore, he opines that deep bedrock groundwater flows are more likely than not in a north/south direction. He states that pumping the deep groundwater aquifer with the three production water wells at the Taconic plant more likely than not induced downward movement of PFOA from the shallow aquifer to the bedrock aquifer, and that deep bedrock water wells located close to the Taconic facility are therefore susceptible to PFOA contamination through this mechanism.

Dr. Siegel opines that PFOA measured in surface water, groundwater and soil within 7 miles of the Taconic facility is derived from atmospheric and wastewater discharges from Taconic. He states that the discharge of large volumes of process wastewater to the ground through septic systems, dry wells and leach fields until at least 1996 likely had a significant impact on the PFOA contamination of the groundwater. According to the 2005 report of a mass balance study performed for the Fluoropolymer Manufacturers Group of the Society of the Plastics Industry, APFO released in liquid waste from dispersion coating processes similar to Taconic's averaged approximately 1-3% of total APFO in the dispersions utilized. As noted above, the average APFO content of the dispersions obtained from suppliers according to the Barr report was .28%. According to documents produced by Taconic, the annual dispersion usage in the 2005 time period was 987,000 lbs. From 2006-2013 the average PTFE dispersion usage ranged from 937,155 lbs. to 1,283,570 lbs. Assuming 987,000 lbs. as a conservative usage estimate, Dr. Siegel calculates that between 27 and 82 lbs. per year of PFOA or 919.62 and 2818.87 lbs. of PFOA for 34 years was released into the ground until 1996.

Dr. Siegel states that the hydrogeologic setting of the Petersburg valley is highly vulnerable to the migration of contamination of PFOA that is deposited onto the soil in the form of particulate matter. Surficial materials near the valley bottom contain highly permeable sand and gravel. Thin soil covers the bedrock valley walls. Upper (near-surface) bedrock is fractured from tectonic forces and glacial erosion. The water table is shallow. The bed of the Little Hoosic River itself consists of fractured bedrock covered by permeable materials of variable thickness. Given these conditions, Dr. Siegel opines that it is more likely than not PFOA would have reached the water table aquifer almost immediately after release from the septic and leach field systems and within a year of release to the atmosphere. He states that contamination from Taconic would have spread quickly towards the Little Hoosic River and deep water wells when they were pumped.

Dr. Siegel states that it is "highly likely" that by 2005, PFOA contamination moved through the groundwater in a northeast direction and contaminated properties beyond two residences to the north of the plant that tested positive in 2005 to wells that were found in 2016 to be contaminated northeast of those residences. He notes that these homes had some of the highest contamination levels when tested in 2016 and include the former home of plaintiffs E.B. and G.Y. and the current home of plaintiff William Sharpe.

Further, he opines that it is more likely than not that PFOA contaminated wells will remain contaminated in the foreseeable future even though PFOA is no longer being released by Taconic

operations because of heterogeneities and dual porosity conditions which store and then release PFOA later within the aquifers in question. Due to aquifer heterogeneity inherent with bedrock aquifers, it is also more likely than not that the full extent of PFOA contaminated groundwater has not yet been determined. He states that it is not possible to predict which wells were affected by groundwater discharge versus atmospheric deposition until more is understood about groundwater flow conditions and the hydraulic connections between shallow and deep aquifers. However, the contaminated wells closest to the Taconic facility are more likely to have been influenced by groundwater discharges.

Dr. Siegel's opines with reasonable scientific certainty that shallow and deep groundwater near and downgradient of the Taconic facility was contaminated by wastewater discharge and atmospheric deposition. The extent to which the two sources of PFOA from Taconic mixed depends on the particular location with respect to the direction of groundwater flow, PFOA atmospheric deposition rate, and degree to which water was pumped for domestic or other purposes at or nearby the location. Regardless of the pathway, he opines with a reasonable degree of scientific certainty, that Taconic's manufacturing facility was the source all of the PFOA contamination in the contaminated municipal wells as well as the private wells within seven miles of the Taconic site.

In support of the motion to preclude Dr. Siegel's testimony, Mr. Washburn notes that there are many groundwater wells within a 7 mile radius of Taconic that are not located along the groundwater flow directions cited by Dr. Siegel and thus are not likely to be impacted by Taconic's releases through groundwater. He notes that a detailed hydrogeological evaluation has not yet been performed for Taconic and the Petersburg area, and therefore it is not possible to know which wells are hydraulically connected to releases from Taconic. Due to the heterogeneity in overburden and bedrock fractures, it is "possible" that some wells are hydraulically connected to contamination from PFOA sources other than Taconic.

Mr. Washburn states that PFOA does not readily absorb into aquifer material, and so concentrations should decline over time as clean groundwater flushes through the groundwater system, especially in the high permeability sediments along the valley bottom. He states that Dr. Siegel does not provide a scientific basis for his opinion that PFOA contaminated wells will remain contaminated in the foreseeable future.

Dr. Siegel responds that contrary to Mr. Washburn's assertions, he has not opined that wastewater discharges were the sole source of PFOA contamination of drinking water wells within the class area. Rather, he opines that such discharges were, even assuming the accuracy of Mr. Washburn's restrictive assumptions, a significant source. Dr. Siegel notes that Taconic discharged PFOA in ways other than wastewater discharges. As documented by plaintiffs' expert, Hyeong-Moo Shin, Ph.D., an even larger source of the contamination in the class area was atmospheric dispersion, through Taconic's largely uncontrolled, high volume emissions into the air, which were not subject to the same constraints as groundwater flow and were likely responsible for the contamination of wells that the wastewater discharges did not affect.

Dr. Siegel states that Mr. Washburn provides no data to support his conclusion that all deep groundwater flow is constrained toward one part of the class area - the center of the valley - by the Little Hoosic River. To the contrary, he states that the direction of deep groundwater flow applies to the entire Petersburg area.

With respect to the other potential sources of PFOA contamination cited by Mr. Washburn, (Pownal, Hoosick Falls and/or the landfill in Petersburg), Dr. Siegel states that there is no data to support a source for a hydraulic connection to contaminated wells other than Taconic's facility. Further, that Mr. Washburn's assumptions ignore atmospheric dispersions, which is likely to be the main source of contamination for most of the wells. He relies on Dr. Shin's affidavit that the "potential sources" identified by Mr. Washburn and Mr. Hare cannot account for the PFOA contamination of wells within the class area.

Finally, Dr. Siegel states that his opinion that PFOA contaminated wells will remain contaminated in the foreseeable future is grounded in the scientific literature. He cites Stahl, et al (2013) found that 96.88 % of PFOA remained in soil after a five-year leachate study; Weber, et al (2017) found PFAS persisted in a sand and gravel aquifer for more than twenty years; and that Filipovic et al. (2015) found high PFOA concentrations remaining in soil for more than 30 years after local PFOA usage was discontinued. In its Drinking Water Health Advisory for PFOA (2016), cited by Mr. Washburn, the USEPA stated "PFOA persists in soil near manufacturing facilities." He notes that the persistence of PFOA in the environment is also confirmed by actual data in this case. Sampling results in 2016, produced by the NYDEC show widespread positive concentrations of PFOA in surface water, soil and groundwater within the class area, including the groundwater utilized by multiple private wells. He notes that these results were found in samples taken years after Taconic purportedly stopped discharging PFOA.

The Court finds that *Frye* issues with respect to methodology and principles are not directly implicated in the instant motion, as defined by the parties' arguments as neither Dr. Shin nor Dr. Seigel are utilizing novel methodology or principle here. Rather, defendant has presented affidavits from experts who disagree with the opinions of plaintiffs' experts. In reality, Mr. Hare provides no opinions; rather, he states geographical facts and then offers speculation concerning other sites which potentially may have contributed to the contamination. Mr. Washburn lodges a number of criticisms of assumptions made by both of plaintiffs' experts but does not claim that either used a methodology that is in any way novel. To the extent that defendant takes issue with the specific reliability of the procedures employed by plaintiffs' experts, defendant's challenges "are actually matters going to trial foundation or the weight of the evidence, both matters not properly addressed in the pretrial *Frye* proceeding." People v. Wesley, 83 NY2d 417, 426 (1994). Accordingly, defendant's challenges merely raise issues of credibility, and are insufficient to warrant a *Frye* hearing.

Nor have defendants established that the plaintiffs' expert opinions lack foundational reliability. Both experts cited their foundational data, which included documents produced by


defendant and the applicable state agencies supporting their opinions. Disagreement as to the source of the PFOA constitute grounds for cross examination. However, the court notes that defendant never disputes that it was a source of APFO/PFOA contamination. The experts also dispute the amount of PFOA that Taconic released into the environment, but these are differences in calculations. The Court notes that Dr. Shin ultimately relied on the 0.28% APFO amount provided by the Barr Report. Defendant can dispute this or any other calculation/percentage during cross examination, but the opinions are founded on data rather than speculation.

In accordance with the foregoing, it is hereby

ORDERED that the defendant's motion to preclude the testimony of Hyeong Moo Shin, Ph.D. and Donald I. Siegel, Ph.D. is **DENIED**.

This shall constitute the Decision and Order of the Court. This original Decision and Order is returned to Weitz & Luxenberg, PC, co-lead class counsel. All other supporting papers are being delivered by the Court to the Rensselaer County Clerk for filing. The signing and delivery of this Decision and Order does not constitute entry or filing under CPLR 2220. Plaintiffs are not relieved from the applicable provisions of that rule respecting filing, entry and notice of entry.

Dated: November 15, 2019
Troy, New York



PATRICK J. McGRATH
Justice of the Supreme Court

Papers Considered:

1. Notice of Motion; Affidavit of Thomas R. Smith, with Exhibits attached; Affidavit, Paul Hare; Affidavit, Stephen Washburn; Taconic's Memorandum of Law in Support of Motion to Exclude Expert Testimony of Drs. Hyeong Moo Shin and Donald I. Siegel.
2. Affidavit, Hyeong Moo Shin, Ph.D.; Affidavit, Donald I. Siegel, Ph.D.; Plaintiffs' Omnibus Memorandum of Law in Opposition to Defendant's Motion to Exclude Plaintiffs' Experts.
3. Taconic's Omnibus Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Affidavit, Jessica Kaplan, Esq., in Support of Taconic's Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Affidavit, Karen Toth; Affidavit, Stephen Washburn.

At an IAS Term of the Supreme Court of the State of New York, held in and for the County of Rensselaer, in the City of Troy, New York on the 9th day of August 2019

PRESENT: HON. PATRICK J. McGRATH
Justice of the Supreme Court

STATE OF NEW YORK
SUPREME COURT COUNTY OF RENSSELAER

**JAY BURDICK, CONNIE PLOUFFE, EDWARD PLOUFFE,
FRANK SEYMOUR, SUZANNE SEYMOUR, AND EMILY MARPE,
as parent and natural guardian of E.B., an infant, and
G.Y., and infant, JACQUELINE MONETTE, WILLIAM SHARPE,
EDWARD PERROTTI-SOUSIS, MARK DENUÉ, and
MEGAN DUNN, individually, and on behalf of all similarly situated,**

Plaintiffs,

DECISION AND ORDER
Index No. 253835

- against -

TONOGA, INC. (d/b/a TACONIC),

Defendant.

APPEARANCES: FARACI LANGE, LLP
WEITZ & LUXENBERG, PC
Co-Lead Class Counsel

GREENBERG TRAURIG, LLP
HOLLINGSWORTH, LLP
Attorneys for the Defendant

McGRATH, PATRICK J., J.S.C.

This case stems from the contamination of groundwater in the Town of Petersburg, New York with perfluorooctanoic acid (hereinafter "PFOA"). In a decision and order dated July 3, 2018, this Court granted plaintiffs' motion to certify four (4) classes. Three of those classes allege harms related to property damage and nuisance stemming from contamination of class members' property and drinking water with PFOA. The fourth class seeks the establishment of a class-wide medical monitoring program to provide medical surveillance to class members exposed to PFOA via the municipal water supply or contaminated wells within a seven mile radius of defendant's facility. Plaintiffs assert causes of action that sound in negligence and strict liability claims related to property, negligence and strict liability claims related to PFOA ingestion, private nuisance and trespass.

Defendant brings what it characterizes as a *Frye* motion to preclude plaintiff's expert Jeffrey Zabel, Ph.D, an economics professor retained to testify concerning changes in property values in Petersburg and the seven mile radius class area, from testifying. Plaintiffs challenge this characterization, arguing that the motion should not be considered under a *Frye* analysis and at most, constitutes subject matter for cross-examination or a *motion in limine*. Defendant has submitted a Reply.

The Frye Test

In determining the admissibility of expert testimony, New York follows the rule of *Frye v United States*, 293 F 1013 (1923), specifically, "that expert testimony based on scientific principles or procedures is admissible but only after a principle or procedure has 'gained general acceptance' in its specified field." *See also* *People v Wesley*, 83 NY2d 417, 422 (1994); *People v Wernick*, 89 NY2d 111, 115 (1996). "[G]eneral acceptance does not necessarily mean that a majority of the scientists involved subscribe to the conclusion. Rather it means that those espousing the theory or opinion have followed generally accepted scientific principles and methodology in evaluating clinical data to reach their conclusions." *Zito v Zabarsky*, 28 AD3d 42, 44 (2d Dept. 2006), *quoting* *Beck v Warner-Lambert Co.*, 2002 NY Slip Op 40431[U], *6-7 (Sup. Ct., New York County, 2002). "The *Frye* 'general acceptance' test is intended to protect[] juries from being misled by expert opinions that may be couched in formidable scientific terminology but that are based on fanciful theories." *Styles v General Motors Corp.*, 20 AD3d 338 (1st Dept. 2005) (Catterson, J., concur) [internal quotation marks omitted].

A *Frye* inquiry is directed at the basis for the expert's opinion and does not examine whether the expert's conclusion is sound. "*Frye* is not concerned with the reliability of a certain expert's conclusions, but instead with 'whether the experts' deductions are based on principles that are sufficiently established to have gained general acceptance as reliable.'" *Nonnon v City of New York*, 32 AD3d 91, 103 (1st Dept. 2006), *quoting* *Marsh v Smyth*, 12 AD3d 307, 308 (1st Dept. 2006). Put another way, "[t]he court's job is not to decide who is right and who is wrong, but rather to decide whether or not there is sufficient scientific support for the expert's theory." *Gallegos v Elite Model*

Mgmt. Corp., 195 Misc 2d 223, 225 (Sup. Ct., New York County, 2003). "The appropriate question for the court at ... a [Frye] hearing is the somewhat limited question of whether the proffered expert opinion properly relates existing data, studies or literature to the plaintiff's situation, or whether, instead, it is 'connected to existing data only by the *ipse dixit* of the expert.'" Marsh v Smyth, 12 AD3d 307, 312 (1st Dept. 2004) (Saxe, J., concur.) quoting General Elec. Co. v Joiner, 522 US 136, 146 (1997).

Jeffrey Zabel, Ph.D.

Dr. Zabel is a Professor of Economics at Tufts University. His fields of research focus on urban and real estate economics, environmental economics, and the economics of education.

He states that the standard economic approach to measuring the impact of environmental conditions on property values is the hedonic property value method. This method was first used over 50 years ago to estimate the impact of air quality on house prices. Since then, it has been used extensively to estimate the impacts of a wide variety of environmental and other characteristics. Dr. Zabel has used this approach to estimate the value of school quality, the impacts of Superfund sites and leaking underground storage tanks, the perceived health risks of living near nuclear power plants, discrimination and prejudice in the housing market, air quality, and the impact of minimum lot size regulations on house prices.

He states that the hedonic method involves developing a statistical model that explains variation in house prices as a function of property and structural features and characteristics of the area in which the house is located. He states that when estimating the impact of environmental contamination, data on home sales prices and characteristics from the affected area and a nearby unaffected area (or areas), both before and after the contamination is discovered and becomes public knowledge, are obtained. The hedonic model is used to estimate the impact of the contamination while controlling for all other factors that affect prices. Any difference in prices attributable to the contamination, typically expressed as a percentage, can then be applied to the properties in the affected area.

In this case, Dr. Zabel acquired data on all single-family home transactions from 1998 forward for communities in eastern Rensselaer County from CoreLogic. He states that CoreLogic is a "leading source for real estate data, and a source of data that is regularly relied upon in the profession to perform such analyses." The dataset includes over 6,000 transactions recorded through April 30, 2018.

Dr. Zabel states that he relied on the opinions offered by Dr. Hyeong-Moo Shin and Dr. Donald I. Siegel, that areas to the north, south and east of the Taconic facility are most likely to be contaminated due to prevailing wind direction and local geography- specifically a north-south oriented valley. Therefore, he focused on the area within seven miles of the facility to the east of the ridgeline that runs north from the town of Berlin through Petersburg. He also based his analysis on the fact that information regarding the contamination became public in February of 2016, that the

facility was designated as a State Superfund Site by the New York State Department of Environmental Conservation (NYSDEC) in May of 2016, and that testing of private wells occurred throughout that year. Therefore, he has focused his analysis on property sales occurring within the defined area in 2017 and 2018 as the time-period when prices are likely to be affected by the information about the local contamination from the facility.

As an initial comparison, Dr. Zabel calculated the annual percentage change in mean sales price for the contaminated area versus other towns outside of the seven-mile radius around the facility (for example, Sand Lake, Poestenkill, and Pittstown). He found that the mean sales price in 2017 and the beginning of 2018 in the contaminated area was 33.2% lower than in 2016. This compares to an increase of 6.3% in the other areas for the same time-period. The comparable change in median sales price was a decline of 28.9% for the contaminated area and an increase of 5.5% for the other towns.

For a "more rigorous comparison", he conducted a standard hedonic property value analysis that models sales prices as a function of property characteristics, and controls for differences in communities and market changes over time. He compared percentage price differences in the contaminated area versus the other nearby towns and found that prices in the contaminated area were approximately four percent lower in 2016 relative to the other towns. In 2017 and the beginning of 2018, that difference increased to nearly 24 percent, for a net decrease of 20 percent. He states that the 20 percent estimate has a probability value (p-value) equal to 0.14. This means that for a chosen significance level below 0.14 (e.g., 0.05 or 0.10), he would conclude that the effect is not significantly different from zero, whereas for a chosen significance level equal to or above 0.14 (e.g., 0.15 or 0.20), he would conclude that the effect is significantly different from zero. The selection of a significance level implies a tradeoff between the likelihood of a "false positive" (type I error) versus a "false negative" (type II error) conclusion regarding the effect. He states that it is important to note that the 20 percent estimate is based on a small number of sales within the contaminated area in 2017 and 2018 ($n = 24$) and when data is limited, the chances of a type II error increase. Thus, in this situation it may be appropriate to choose a higher significance level (such as 0.15 or 0.20) than what is conventionally used with larger data sets.

Dr. Zabel provides an exhibit attached to his affidavit, illustrating the results of the hedonic model. It shows the comparison between the sales prices in the affected area with those in the other unaffected areas, controlling for differences in property and community characteristics. As shown, prices within the contaminated area were increasing from 2013 to 2016, and then drop significantly in 2017 and 2018 relative to the other areas.

He states that the 20 percent diminution estimate from the model is used to estimate what prices would otherwise be, but for the contamination. The mean sales price in the contaminated area for 2017 and 2018 (24 sales) was \$100,000. Therefore, he predicts that the mean sales price without the contamination would have been \$125,000. Further, that residential property value diminution of 20% is within the range of studies that have examined the impact of hazardous waste sites, and groundwater contamination specifically.

Heather King

Heather King is a New York State Licensed and Certified Residential Real Estate Appraiser and President and owner of Holden and Associates. Holden and Associates, based out of Rensselaer County with its primary office now located in Troy, New York, has been providing real estate appraisal and consulting services in the New York State greater capital region since 1983.

She has reviewed the Multiple Listing Service (MLS) listings for single family homes from January 1, 2007 to November 27, 2018 for the general market areas of Rensselaer and Washington counties, and more specifically, the towns of Petersburgh, Grafton, Berlin, Hoosick, Pittstown and Poestenkill. Average single sales prices for a single family home in 2018 in Petersburgh was \$138,260. In 2017, it was \$150,316. In 2016, it was \$116,017.

Ms. King states that CoreLogic is an “insufficient data source” because it draws from tax records and lacks MLS data, which provides the information needed to control for property characteristics, which in turn, affects price.

Ms. King also states that CoreLogic is not utilized as the data source for the selection of comparable sales when determining an opinion of market value in this market area. Rather, professionals in this area use MLS, supplemented and verified by property tax records obtained from other pay data sources. She states that CoreLogic promotes its data services to MLS as a supplemental tool but that none of the local MLS services use CoreLogic.

Ms. King states that Sand Lake, Poestenkill and Berlin, all used by Dr. Zabel, are not comparable to Petersburgh. Sand Lake and Poestenkill are considered “suburban in nature,” have a different school district, are more proximate to support services and employment, and offer “superior recreational facilities” compared to Petersburgh. She states that Berlin is more isolated from services as compared to Petersburgh. She states that Stephentown is an “overall competing market area” to Petersburgh because they are located in similar school districts and have similar proximity to services and employment.

Accordingly, defendant’s motion to preclude the testimony of

Ms. King notes that between January 1, 2017 and March 31, 2018, there were 15 sales in the MLS in Petersburgh, only one of which was bank owned. In that same time period, there were 22 sales in Berlin, five of which were bank owned.

William Desvousges, Ph.D.

Defendant provides the affidavit of William Desvousges, Ph.D. in support of the motion to preclude Dr. Zabel’s testimony. Dr. Desvousges specializes in national resource damage assessment and has worked on over 35 assessments since 1987. He has conducted economic valuation research for more than 35 years, especially related to environmental matters. He has worked on more than 35

natural resource damage assessments since 1987, after he wrote the economics handbook for the Department of Interior to accompany 43 CFR Part 11 regulations, which describe the methods for evaluating injuries, services losses and damages for impacted uses of natural resources from hazardous substance release. He has conducted numerous property diminution studies, especially ones involving environmental concerns throughout the United States.

Dr. Desvousges used MLS to obtain property sales information for the properties in the affected area of Petersburg, as well as the comparison areas similar in property type and market but not affected by PFOA. He relied on Heather King to provide comparison areas, which included several towns north and east of Petersburg. Based on Heather King's recommendation, he did not include Sand Lake as a comparable market. He did not include Hoosick Falls, which has also experienced PFOA contamination.

Dr. Desvousges examined 3,101 arms length property sales in Petersburg and nearby comparable towns from 2007-2018. He examined the change in mean and median prices and found that the average property price was higher after the announcement of PFOA than before. He states that the overall trend for sales in Petersburg has been positive over time. The median price in Petersburg has risen above the level of comparable sales areas since 2015, after being consistently below them in previous years. His "likely economic explanation" for these numbers is that buyers compared Petersburg to comparable areas, and were able to find similar homes at a lower price and demand increased in Petersburg as a result. He states this is consistent with the economic theory of "substitution" - people substitute toward a lower price good.

Dr. Desvousges also compared the average and median property sale prices in Petersburg to nearby towns with a comparable market. He notes that the housing market in both have remained much more stable than the US housing market through the housing market crash between 2006 and 2012. Further, that the general trend in average and median prices show no indication of an impact of the discovery of PFOA on the market in Petersburg. If anything, he states prices are higher today than in the past relative to competing areas. He compared the increase in prices before and after the PFOA announcement, and found that Petersburg prices increased more than the national average, Albany metro area and the comparable areas.

Dr. Desvousges also compared the mean sale price between Petersburg and the comparable area before and after the announcement of PFOA, using a "difference in difference" test. This is a tool to estimate treatment effects comparing pre- and post-treatment difference in the outcome of a treatment group (Petersburg before and after the announcement) and a control group (comparable area before and after the announcement). He found the difference in mean was not significantly different than zero.

Based on the dates that PFOA contamination was first made public and subsequent news coverage, including a February 20, 2016 New York Times report on PFOA in Hoosick Falls, which indicated that PFOA had also been found in the water in Petersburg, Dr. Desvousges determined that March 1, 2016 to be the first date property sales could be affected by the news of the discovery

of PFOA.

Dr. Desvousges criticizes Dr. Zabel's conclusions, noting that the literature he relied on is "far less robust and poorly developed" for determining the impact of PFOA on groundwater. He notes that there are no studies in the economic literature on the impact of PFOA in groundwater on property values. Rather, the existing literature focuses on arsenic and benzene, both long studied by the USEPA, with established limits in drinking water. He also states that the studies Dr. Zabel relies upon focus on surface water, not groundwater, which has different impacts on property.

He notes that Dr. Zabel uses 2017 in his analysis, a year "potentially impacted as the baseline", even though he has data going back several years which could not have been impacted by PFOA. Additionally, the 24 sales he analyzed is too small a sample. Finally, that comparing mean values does not account for other factors, such as size of the home, the lot, the age of the house, etc.

Defense counsel argues that Dr. Zabel's contamination area should not have included Berlin because there was no media attention regarding PFOA in that town. Further, that Dr. Zabel should have relied on the MLS data from Petersburg, which indicates a positive trend in home prices as early as 2007. Further, that Berlin is not truly comparable to Petersburg.

Counsel also notes that Dr. Zabel's contamination area ignores the entire western half of the class area. Additionally, that Dr. Zabel's analysis should have concentrated on the time period before February 2016 (when the contamination became public) rather than 2017 and 2018 to formulate an accurate opinion on the affect publicity had on home sales. Counsel argues that Dr. Zabel has admitted that his results are not "statistically significant at conventional levels" and therefore, it is equally possible that his results are based on chance. Finally, that any opinion based on CoreLogic is not generally accepted in the relevant community for drawing opinions on comparable sales within a market.

In response, Dr. Zabel states that Dr. Desvousges' criticism ignores that the estimate of a 20 percent reduction in property values is derived from a statistical model of housing prices that explicitly controls for differences in property and housing characteristics, as well as differences in community attributes and changes in the housing market over time. This is referred to as a hedonic property value model, the standard approach to measuring the impact of environmental disamenities, which is supported by decades of research and applications in the peer-reviewed economics literature. Dr. Zabel notes that average sales prices in a given year reflect, among other things, the types of houses that sell that year. Failure to control for these differences results in what is referred to as "composition bias." By controlling for house characteristics, a hedonic analysis is able to overcome this composition bias. He states that all of the comparisons and opinions Dr. Desvousges provides regarding the impact of the PFOA contamination on property values are based on mean or median sales prices and hence are subject to composition bias.

With respect to Ms. King's criticism regarding MLS versus CoreLogic, Dr. Zabel states that his conclusions are based on statistical analyses of these data, as opposed to opinions that might be

provided by a realtor or appraiser. The CoreLogic data contains many property characteristics (e.g., lot size, square footage, baths, beds, year built), which he used to develop the hedonic property value model. This is a standard source of data for such analysis. Dr. Zabel states that his analysis differs from what an appraiser would do in looking for comparable properties for purposes of estimating the value of a particular property. A hedonic property value model compares housing transactions in different areas and over time, using statistical techniques to isolate and derive estimates of the influence of an event or attribute of interest - in this case, the effect of the PFOA contamination.

Dr. Zabel states that Berlin is included in his analysis because it is within the seven-mile radius of the Taconic facility and within the Little Hoosick Valley, which is what he has defined as the contamination area. Further, he notes that in 2016, at least seven news articles and two television news stories described PFOA contamination in Berlin. Early in 2016, news stories covered New York State Department of Health and Rensselaer County testing of private wells and municipal water in Berlin. In response to testing results, the Berlin community advocated for PFOA filters in the public water supply that serves the Berlin Elementary school. In the beginning of the 2016-2017 school year, NYSDEC supplied Berlin Elementary school with water coolers for drinking. Public pressure from the community also resulted in an agreement with NYSDEC to install a filtration system for Berlin's municipal water supply. Several additional sources reference PFOA contamination at the closed Berlin/Petersburgh landfill, a 22.5-acre site located between the two towns that was declared a potential State Superfund Site.

With respect to the time frame of his analysis, Dr. Zabel notes that if property values were in fact affected in 2016 by public knowledge of the PFOA contamination, then his estimate of a 20 percent reduction in 2017/18 relative to 2016 understates the overall impact. As indicated in his expert disclosure, the results of his hedonic analysis indicate that "prices in the contaminated area were approximately four percent lower in 2016 relative to the other towns. In 2017 and the beginning of 2018 that difference increased to nearly 24 percent, for a net decrease of 20 percent."

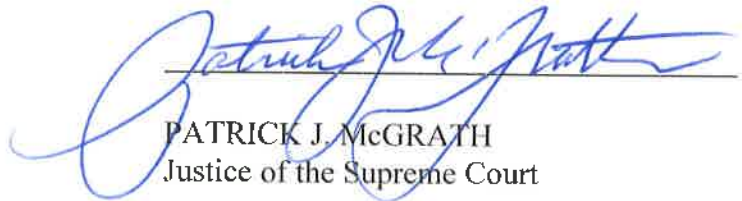
The Court finds that *Frye* issues with respect to methodology and principles are not implicated in the instant motion, as defined by the parties' arguments, because defendant's challenge does not claim that the hedonic property value method of measuring the impact of outside influences, including environmental contamination on the value of property, is "novel" or not "generally accepted" in the field of real estate economics. There is no dispute that this method has been accepted and applied for over 50 years to analyze and estimate the impacts of a wide variety of environmental and other characteristics on property values. Rather, the Court has reviewed the affidavits in detail to illustrate that the parties have adduced foundationally sound but conflicting opinions from qualified experts. The conflicts present questions of the weight to be accorded to the opinions, which requires a credibility assessment that can only be made by the fact-finder. *See Matter of State of New York v. Kenneth BB.*, 93 AD3d 900 (3d Dept. 2012); *Lopez v. Gem Gravure Co., Inc.*, 50 AD3d 1102 (2d Dept. 2008).

In accordance with the foregoing, it is hereby

ORDERED that the defendant's motion to preclude the testimony of Jeffrey Zabel, Ph.D. is **DENIED**.

This shall constitute the Decision and Order of the Court. This original Decision and Order is returned to Weitz & Luxenberg, PC, co-lead class counsel. All other supporting papers are being delivered by the Court to the Rensselaer County Clerk for filing. The signing and delivery of this Decision and Order does not constitute entry or filing under CPLR 2220. Plaintiffs are not relieved from the applicable provisions of that rule respecting filing, entry and notice of entry.

Dated: November 15, 2019
Troy, New York



PATRICK J. McGRATH
Justice of the Supreme Court

Papers Considered:

1. Notice of Motion; Affidavit of Thomas R. Smith, with Exhibits attached; Affidavit, William Desvouses; Affidavit, Heather King; Taconic's Memorandum of Law in Support of Motion to Exclude Expert Testimony of Dr. Jeffrey E. Zabel, Ph.D.
2. Affidavit in Opposition to Motion to Exclude Testimony, Jeffrey E. Zabel, Ph.D.; Plaintiffs' Omnibus Memorandum of Law in Opposition to Defendant's Motion to Exclude Plaintiffs' Experts.
3. Taconic's Omnibus Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Affidavit, Jessica Kaplan, Esq., in Support of Taconic's Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Supplemental Affidavit, Heather King.

At an IAS Term of the Supreme Court of the State of New York, held in and for the County of Rensselaer, in the City of Troy, New York on the 9th day of August 2019

PRESENT: HON. PATRICK J. McGRATH
Justice of the Supreme Court

STATE OF NEW YORK
SUPREME COURT COUNTY OF RENSSELAER

**JAY BURDICK, CONNIE PLOUFFE, EDWARD PLOUFFE,
FRANK SEYMOUR, SUZANNE SEYMOUR, AND EMILY MARPE,
as parent and natural guardian of E.B., an infant, and
G.Y., and infant, JACQUELINE MONETTE, WILLIAM SHARPE,
EDWARD PERROTTI-SOUSIS, MARK DENUÉ, and
MEGAN DUNN, individually, and on behalf of all similarly situated,**

Plaintiffs,

DECISION AND ORDER
Index No. 253835

- against -

TONOGA, INC. (d/b/a TACONIC),

Defendant.

APPEARANCES: FARACI LANGE, LLP
WEITZ & LUXENBERG, PC
Co-Lead Class Counsel

GREENBERG TRAURIG, LLP
HOLLINGSWORTH, LLP
Attorneys for the Defendant

McGRATH, PATRICK J., J.S.C.

This case stems from the contamination of groundwater in the Town of Petersburg, New York with perfluorooctanoic acid (hereinafter "PFOA"). In a decision and order dated July 3, 2018, this Court granted plaintiffs' motion to certify four (4) classes. Three of those classes allege harms related to property damage and nuisance stemming from contamination of class members' property and drinking water with PFOA. The fourth class seeks the establishment of a class-wide medical

monitoring program to provide medical surveillance to class members exposed to PFOA via the municipal water supply or contaminated wells within a seven mile radius of defendant's facility. Plaintiffs assert causes of action that sound in negligence and strict liability claims related to property, negligence and strict liability claims related to PFOA ingestion, private nuisance and trespass.

Defendant brings what it characterizes as a *Frye* motion to preclude plaintiffs' expert epidemiologist Dr. David Savitz from testifying concerning the casual connection between PFOA exposure and certain health conditions. Plaintiffs challenge this characterization, arguing that the motion should not be considered under a *Frye* analysis and at most, constitutes subject matter for cross-examination or a *motion in limine*. Defendant has submitted a Reply.

The Frye Test

In determining the admissibility of expert testimony, New York follows the rule of Frye v United States, 293 F 1013 (1923), specifically, "that expert testimony based on scientific principles or procedures is admissible but only after a principle or procedure has 'gained general acceptance' in its specified field." See also People v Wesley, 83 NY2d 417, 422 (1994); People v Wernick, 89 NY2d 111, 115 (1996). "[G]eneral acceptance does not necessarily mean that a majority of the scientists involved subscribe to the conclusion. Rather it means that those espousing the theory or opinion have followed generally accepted scientific principles and methodology in evaluating clinical data to reach their conclusions." Zito v Zabarsky, 28 AD3d at 44, quoting Beck v Warner-Lambert Co., 2002 NY Slip Op 40431[U], *6-7 (Sup. Ct., New York County, 2002). "The Frye 'general acceptance' test is intended to protect[] juries from being misled by expert opinions that may be couched in formidable scientific terminology but that are based on fanciful theories." Styles v General Motors Corp., 20 AD3d 338 (1st Dept. 2005) (Catterson, J., concur) [internal quotation marks omitted].

A *Frye* inquiry is directed at the basis for the expert's opinion and does not examine whether the expert's conclusion is sound. "*Frye* is not concerned with the reliability of a certain expert's conclusions, but instead with 'whether the experts' deductions are based on principles that are sufficiently established to have gained general acceptance as reliable.'" Nonnon v City of New York, 32 AD3d 91, 103 (1st Dept. 2006), quoting Marsh v Smyth, 12 AD3d 307, 308 [2004]. Put another way, "[t]he court's job is not to decide who is right and who is wrong, but rather to decide whether or not there is sufficient scientific support for the expert's theory." Gallegos v Elite Model Mgmt. Corp., 195 Misc 2d 223, 225[2003]. "The appropriate question for the court at ... a [Frye] hearing is the somewhat limited question of whether the proffered expert opinion properly relates existing data, studies or literature to the plaintiff's situation, or whether, instead, it is 'connected to existing data only by the ipse dixit of the expert.'" Marsh v Smyth, 12 AD3d 307, 312 [1st Dept. 2004] (Saxe, J., concur.) quoting General Elec. Co. v Joiner, 522 US 136, 146 (1997).

Both parties cite two Court of Appeals cases concerning expert testimony in toxic tort cases.

First, in Parker v Mobil Oil Corp., 7 NY3d 434 (2006), the plaintiff alleged that he developed acute myelogenous leukemia (AML) from 17 years of occupational exposure to gasoline containing benzene while he worked as a gas station attendant. The plaintiff intended to call causation experts without presenting evidence of the concentration level of benzene in the gasoline. The experts employed no other methodology to establish the plaintiff's benzene exposure level. The defendants moved to preclude the plaintiff's experts under *Frye* and for summary judgment since the plaintiff's case would be meritless without expert testimony to establish causation. The trial court denied the defendants' motions and the defendants appealed. The Second Department reversed the trial court's decision and granted summary judgment to the defendants. The Court of Appeals ruled that an expert's causation opinion must establish three elements: (1) the plaintiff's level of exposure to the relevant toxin; (2) general causation, such that the toxin could in fact cause the illness and that the level of exposure would engender such illness (dose-response relationship); and (3) specific causation – the likelihood that the specific toxin did cause the plaintiff's injury. Failure to satisfy any of these elements would render an expert opinion inadmissible. However, the Court found that experts could establish chemical exposure causation in many ways, provided that whatever methods an expert uses to establish causation are generally accepted in the scientific community. The Court upheld the use of extrapolation methods such as differential diagnosis, mathematical modeling, and qualitative reasoning for causation opinions.

However, the Court did not decide *Parker* based on a *Frye* analysis; rather the Court framed the issue as one of foundation. The Court distinguished *Frye* challenges of new or novel expert theories from other reliability challenges to the admissibility of expert opinions: "The *Frye* inquiry is separate and distinct from the admissibility question applied to all evidence—whether there is a proper foundation—to determine whether the accepted methods were appropriately employed in a particular case ... The focus moves from the general reliability concerns of *Frye* to the specific reliability of the procedures followed to generate the evidence proffered and whether they establish a foundation for the reception of the evidence at trial." *Id.* at 447; *see also Buchholz v Trump 767 Fifth Ave., LLC*, 5 NY3d 1, 9 (2005) (New York law does not permit the court to accept assertions that are "speculative or unsupported by any evidentiary foundation."). The Court in *Parker* noted that the foundation "should not include a determination of the court that such evidence is true. That function should be left to the jury." *Id.* at 425.

The Court of Appeals found that the Second Department properly excluded the opinion of the plaintiff's first expert, a toxicologist and epidemiologist, because the expert failed to demonstrate that exposure to benzene as a component of gasoline caused the plaintiff's AML. This expert's citation to an epidemiological study of refinery workers was insufficient to establish causation. While claiming that the plaintiff had "far more exposure to benzene" than the refinery workers, the expert did not establish the worker's exposure level or how the plaintiff exceeded it. Likewise, the plaintiff's second expert, a medical doctor specializing in occupational medicine and epidemiology, failed to back up his claims that the plaintiff frequently was exposed to excessive quantities of both liquid and vapor gasoline. Even though "an expert is not required to pinpoint exposure with complete precision," the expert's statement could not "be characterized as a scientific expression of . . . exposure level" at all. Both experts failed to look at the plaintiff's alleged exposure to benzene as

a component of gasoline (as opposed to benzene either by itself or in some other compound). Neither expert cited to studies to establish a relationship between gasoline exposure and AMI.. Thus, their opinions lacked foundation and it was right to exclude them.

In Cornell v. 360 W. 51st St. Realty, LLC, 22 NY3d762 (2014), the Court of Appeals applied the test established in *Parker*, which required an expert's causation opinion to establish both general causation and specific causation in complex product liability and toxic tort matters. In *Cornell*, the plaintiff sued for bodily injury she allegedly suffered from exposure to mold. She claimed the source of the mold was construction work performed in the basement of her apartment building. Her expert offered the opinion that there was an "association" between the mold environment and the plaintiff's symptoms, which included dizziness, headaches, rashes and respiratory problems. The Court rejected plaintiff's expert's opinion, noting that it failed to satisfy the general causation and specific causation requirements set out in *Parker*. The defendant established a prima facie case as to general causation establishing generally accepted standards within the relevant community of scientists and scientific organizations, that exposure to mold caused disease in three ways, none of which were claimed by the plaintiff. Similarly, the Court held that plaintiff did not establish specific causation because Plaintiff's expert had failed to make any effort to quantify plaintiff's exposure to mold, or to refute the opinion of defendants' expert that the mold was present at concentrations and distribution to be expected in a typical home.

Defendant primarily relies on that portion of the *Cornell* decision wherein the Court noted that "*Frye* focuses on principles and methodology, but these are not entirely distinct from one another... Thus, even though the expert is using reliable principles and methods and is extrapolating from reliable data, a court may exclude the expert's opinion if there is simply too great an analytical gap between the data and the opinion proffered." Cornell, supra at 780-81, quoting General Electric Co. v Joiner, 522 US 136, 146 (1997). The Court noted that it had previously "expressed this precept in terms of the general foundation inquiry applicable to all evidence." Cornell, supra at 781 citing People v. Wesley, 83 NY2d 417, 422 (1994) and Parker, supra at 447. I

Dr. David Savitz

David A. Savitz, Ph.D. is a Professor of Epidemiology at the School of Public Health and Professor of Obstetrics and Gynecology and Pediatrics at the Warren Alpert Medical School of Brown University in Providence, Rhode Island. He is one of three epidemiologists chosen to serve on the C8 Science Panel to evaluate the probable causal link between exposure to PFOA and the development of certain diseases. He has published eleven scientific papers in the peer-reviewed literature regarding PFOA health effects, most focused on health effects related to pregnancy and children. He served as a Peer Reviewer of the June 2018 Draft Toxicological Profile for Perfluoroalkyls (a class of chemicals that includes PFOA) by the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry. He chaired a scientific panel to advise the State of Michigan Science Advisory Panel on addressing the health and environmental concerns related to perfluoroalkyl substances (PFAS) exposure and provided a report entitled "Scientific Evidence and Recommendations for Managing PFAS Contamination in

Michigan.”

Dr. Savitz states that epidemiology is the study of the patterns and determinants of disease in human populations, seeking an understanding of the causes of disease in order to determine needed actions to improve the health of the public. Epidemiologists conduct and review studies of populations first to determine whether there is evidence indicative of a statistical association between some potentially causative agent and a human illness or condition. This typically requires comparing the frequency of disease in a group that has relatively elevated exposure to the frequency of disease in a group that is unexposed or has a lower level of exposure. When it is determined that those who are exposed have an elevated risk of disease relative to those who are not, he conducts analyses to make an informed judgment regarding whether it is likely that the exposure has in fact caused an elevated risk of disease. While this cannot be proven with 100% certainty, the field of epidemiology has developed clear principles and methodologic tools to make a reasoned, scientifically grounded judgment. By considering alternative explanations of the association, including biases and random error, and conducting analyses to address those alternative explanations, the case for a causal interpretation can be strengthened or weakened, depending on what is found.

He states that scientific certainty of causality is difficult to establish with any toxicants, epidemiologists are able to make informed use of available data to address questions of causality. By considering the body of scientific evidence and interpreting it with an appreciation of the underlying methodologic strengths and limitations, reliable judgments can be made, including when a causal link is more likely than not to be present.

The C8 Health Project concerned DuPont's West Virginia Washington Works Plant in southwest Parkersburg, which released PFOA into the air and Ohio River from the 1950s until the early 2000s. C8, the name given to perfluorooctanoic acid (PFOA), reached drinking water supplies by entering the groundwater and was detected in six water districts near the DuPont plant in 2002. A class action lawsuit brought by the communities against DuPont resulted in a Settlement Agreement. As part of that settlement, Brookmar Inc., an independent company, was set up and conducted a yearlong survey (August 2005 - July 2006) called the C8 Health Project. The C8 Health Project gathered information through interviews and questionnaires and collected blood samples from about 69,000 people living near the Washington Works plant in West Virginia. The settlement also established that a group of public health scientists would assess whether or not there is a probable link between PFOA exposure and disease in the community. The members of the Science Panel were jointly selected by the lawyers for the community and DuPont. The C8 Science Panel consisted of Dr. Tony Fletcher of the London School of Hygiene and Tropical Medicine, Dr. Kyle Steenland of Emory University in Atlanta and Dr. Savitz. All were chosen because of their long experience in designing and carrying out environmental health studies and the view of the parties in the settlement that they would be able to objectively generate and evaluate the evidence.

Dr. Savitz states that the C8 Health Project was unique in that it enabled the study of nearly 70,000 people whose exposure to PFOA was markedly elevated in some cases and could be reconstructed given the well-defined source of contamination.

As per the settlement, the panel was required to make a judgment regarding the evidence of a causal link between PFOA and the risk of developing a disease based on health research carried out in the Mid-Ohio Valley population, as well as other published scientific research. For each health problem of concern, the panel first generated the research results, and then in a separate activity, evaluated all the evidence to make a judgment regarding whether or not there is a probable link between PFOA exposure and that illness. The panel's interpretation and judgment regarding the concept of "probable link" was based on the potential for a causal influence of PFOA, taking into account whether observed associations were more likely to be due to some bias or artifact versus due to a causal effect of PFOA. When the panel found that a causal effect was more likely to be responsible, even if only slightly more likely, they determined that a probable link was present. As a result of the above analyses, the C8 Science Panel came to the conclusion that there was a probable causal link between PFOA exposure and six human diseases and conditions: kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, hypercholesterolemia and pregnancy induced hypertension (preeclampsia).

Dr. Savitz notes that the C8 Science Panel was instructed to focus only on disease, not on changes in biomarkers that could potentially be used to predict future disease. As a result, the panel analyzed whether PFOA caused the recognized condition of "hypercholesterolemia" but not whether it generally resulted in elevation of cholesterol levels that did not yet rise to the level required to diagnose hypercholesterolemia. Similarly, the C8 Science Panel did not analyze whether elevated liver enzymes levels or uric acid levels were associated with PFOA exposure. However, Dr. Savitz states that many other researchers have addressed these associations and have concluded that there is likely to be a causal link to these elevated biomarkers as well.

With respect to thyroid disease, Dr. Savitz states that he determined that there is support in the scientific literature for a causal link between cumulative PFOA exposure and thyroid disease, specifically hyperthyroidism and hypothyroidism. This link is supported by the C8 Health Project, with some support from the analysis of National Health and Nutrition Examination Survey (NHANES) data. The C8 Health Project found a clear positive association of PFOA with hypothyroidism in men and a somewhat weaker association with hyperthyroidism in men. For hypothyroidism in women, there was a clear dose-response gradient, with the first indication of an increased risk in the third quintile of exposure which became larger in the higher exposure groups. For hyperthyroidism in woman, a dose-response relationship was found with an increase in incidence being found starting in the second quintile and continuing to rise with increasing exposure. For prospective cases (diagnosed after PFOA was measured), hypothyroidism among men increased starting in the third quintile and showed a consistently increasing risk with increasing exposure above that level, rising to a two-fold increased risk in the uppermost quintile.

Dr. Savitz opines that increasing levels of PFOA are associated with increased risk of developing ulcerative colitis based on a series of studies conducted by the C8 Science Panel. The C8 study indicated a "clear dose-response gradient of increasing risk with increasing cumulative exposure. Using a cumulative exposure measure of nanograms per milliliter (ng/mL), quartiles of the distribution were examined and each of the upper three quartiles was compared to the lowest.

Exposures above 158 ng/ml were associated with increasing risk and continued to rise with more elevated exposure.

He opines that there is consistent evidence of a strong association and dose-response relationship between PFOA exposure and kidney cancer. This opinion is based on three different studies all conducted as part of the C8 Science Panel research in the Ohio/West Virginia area. The studies consist of a geographic study by Vieira et al., an occupational study of mortality of DuPont workers by Steenland and Woskie, and a cancer incidence study that combined occupational and community cohorts by Barry, et. al.

He states that the epidemiological literature generated by the C8 Science Panel supports an association between PFOA exposure and an increased risk of developing testicular cancer. He relies on two studies that address PFOA and testicular cancer, one a geographic study in Ohio and West Virginia, and the other the study of the combined community and occupational cohort by the C8 Science Panel. The community and occupational cohort study included 32 reported incident cases of testicular cancer of which 19 were validated. Across the range of exposure, there was an increased risk of testicular cancer per log unit change in cumulative PFOA and across quartiles of exposure. Similar results were found with a 10-year lag.

Dr. Savitz opines that there “is rather clear and convincing evidence” that higher levels of PFOA are associated with higher levels of serum uric acid and that it is probable that exposure to PFOA is capable of causing increased uric acid levels. This is seen in the analyses of the C8 Health Project participants, with notable increases in average serum uric acid levels and the risk of being above the cut point defining hyperuricemia (significantly elevated serum uric acid) across the spectrum of PFOA exposure. The increase in risk was especially strong in the lower range and reflects somewhat of a ceiling effect with less of an increase across the highest levels. Evidence of this association was corroborated in studies in children and adults in other populations.

Dr. Savitz notes that a significant number of studies have found clear associations between PFOA exposure and both total and LDL cholesterol. It is his opinion based on these studies that it is probable that exposure to PFOA causes an increase in both total and LDL cholesterol. Using cross-sectional data from the C8 Health Project, he notes that Steenland et al. found clear evidence that higher levels of PFOA are associated with greater risk of hypercholesterolemia, with odds ratios across exposure quartiles and with a similar pattern for LDL cholesterol. In an analysis of the community and worker cohort developed by the C8 Science Panel, Winquist and Steenland again found increased risk of hypercholesterolemia when compared to the lowest quintile. An association with hypercholesterolemia was also found in National Health and Nutrition Examination Survey (NHNES) data where an increased risk of elevated levels of LDL cholesterol was also found. There is a strong empirical basis for concluding that higher levels of PFOA are associated with higher levels of total and LDL cholesterol, and that PFOA is associated with increased risk of hypercholesterolemia. Dr. Savitz acknowledges this is not universal across studies, some of which show no association with either total or LDL cholesterol or both. Again, generalizing across a large body of studies, he opines that the most consistent and compelling association would be with total

cholesterol in part because more studies have addressed this measure. This association is found in adults, children and adolescents, and pregnant women with some consistency. The dose-response gradient shows a rapid increase in total cholesterol in the lower range of PFOA exposure but appears to plateau, with little increased risk as exposure rises further, which may explain some of the inconsistency across studies.

He states that there is support in the scientific literature for an association between PFOA exposure and elevation of at least some liver enzymes in the blood serum, and opines that it is probable that exposure to PFOA is capable of causing an increase in liver enzyme levels in the blood. A substantial number of studies have examined the correlation between serum levels of PFOA and an array of liver enzymes. Those that are most frequently studied include ALT (alanine transferase), ALP (alkaline phosphatase), AST (aspartate aminotransferase), GGT (gamma glutamyl transferase), bilirubin (total and direct), and CCK (cholecystokinin). Many of the studies examine the entire panel of routinely assayed liver enzymes and others do so selectively. Given the large number of enzymes and large number of studies, there are an array of results which are not entirely consistent but with some patterns present. The most consistent finding is an association of PFOA with increased levels of ALT, observed in the C8 Science Panel research, in the National Health and Nutrition Examination Survey, and in some of the occupational studies.

Finally, Dr. Savitz states that there is “some evidence in the published literature for an association between PFOA exposure and the incidence of preeclampsia or pregnancy induced hypertension.” He states that the study of the C8 community showed an increased risk for preeclampsia. He notes that another study of this population showed a weak association between PFOA exposure and pregnancy induced hypertension. Based upon these studies, it is his opinion and the collective opinion of the C8 Health Panel that exposure to PFOA is capable of causing preeclampsia and pregnancy induced hypertension.

Dr. Savitz states that there are other health conditions which may reach the threshold of “more probably than not are related to PFOA exposure” in the future, including prostate cancer and ovarian cancer, as well as effects on the immune system but concedes that there is only “limited evidence supporting an association between PFOA exposure and risk of prostate and ovarian cancers” at this point. Further, that while it seems “plausible that there is some increase in infections in relation to PFOA serum levels”, “the research does not allow pinpointing of one type or another due to the varying results across studies. It is not even clear at this point whether viral or bacterial infections would be most likely to be affected if there is an effect.”

He opines to a reasonable degree of scientific certainty that elevated PFOA exposure increases the risk of the development of certain diseases and conditions referenced above. He states that the question of a lower limit for this effect is not resolved at present but there is evidence that even in the exposure ranges near the background levels, elevated risks may be present. Because PFOA demonstrates adverse biological effects even near “background” levels, evidence does not exist for establishing a level of PFOA exposure below which no negative effects can be assured. While it is true that evidence of increased incidence of disease for some conditions listed above were

only seen in the highest exposed groups, for other outcomes such as elevated cholesterol and ulcerative colitis, increased risks were present in the near-background exposure range. Since a dose-response relationship has emerged for a number of the associated illnesses, what is clear is that as exposure increases above background so does risk of harm.

Dr. Savitz states that because drinking water has only recently become a focus of attention for PFOA contamination and because a testing of both public and private drinking water sources had detected significant levels of PFOA in many locations across the United States, it is "highly likely" that more research will be done that may add to support for an association between PFOA and other adverse human health effects in the future.

Defendants seek to preclude Dr. Savitz from testifying. Defendant provides the affidavit of Linda Dell, also an epidemiologist. She concludes to a reasonable degree of scientific study that the epidemiologic data does not support a conclusion that PFOA *causes* the diseases and conditions as stated by Dr. Savitz, noting that the C8 studies focused on a "more probable than not" standard. She notes that of the 55 diseases (including 21 cancers) or conditions studied, the C8 panel made a "more probable than not" link between PFOA and six diseases or conditions.

Defense counsel notes that the Cancer Incidence Investigation 1995-2014 conducted by the NYS Department of Health for the Village of Hoosick Falls in May of 2017 found no increased incidence of kidney or testicular cancer in the population, with fewer cases of each cancer found than expected. Dr. Savitz states that such information is routinely collected by the state cancer registry and can be used for general surveillance purposes, but is not designed to be nor is it useful for etiologic studies of the potential effect of an environmental toxicant on diseases in the population because 1) there is no direct information on the levels of PFOA in the water over the period that the person lived there or even a basis for estimating cumulative PFOA exposure; 2) there is no information on other potential causes of these cancers that may need to be taken into account to isolate any effect of PFOA, which might mask true associations or generate spurious associations; 3) the numbers of events for the cancers of particular interest are simply too small to be informative.

Counsel for the defendant claims that Dr. Savitz's techniques lack general acceptance in the scientific community, however, defendant's expert does not offer this opinion in support of the motion to preclude.

In reply, Dr. Savitz notes that his approach with the C8 Panel was based upon generally accepted principles practiced in this field and that his opinions regarding the causal link between PFOA exposure and human health effects is not novel or unique but is within the mainstream of opinions in the field. He notes that his opinions and conclusions are also supported by the over one hundred articles in his bibliography as well as the June 2018 Draft Toxicological Profile for Perfluoroalkyls which states: "The available epidemiology studies suggest links between perfluoroalkyl exposure and several health outcomes..", listing hepatic effects, cardiovascular effects, endocrine effects, immune effects, reproductive effects and developmental effects linking PFOA exposure in each of these adverse health outcomes.

Defense counsel argues that the C8 study concerned much higher levels of exposure than have been observed in Petersburg, and that it is “plainly contrary to generally accepted scientific principles to opine that because high levels of PFOA exposure are allegedly associated with certain adverse health outcomes, those same outcomes will occur at lower levels of exposure.” Again, defendant’s expert does not offer this opinion in support of the motion to preclude. Additionally, Dr. Savitz replies that the data from the NYSDOH indicates that there were 478 people tested for PFOA in their blood serum. Of those tested, 398 tested above 1.86 ug/L and 80 tested at or below that level with 8 testing non-detect. He notes that this is not surprising since the NYSDOH testing was made available to anyone that wanted to be tested and was not limited to those whose drinking water source was known to be contaminated with PFOA as was the case in the mid-Ohio Valley. Since these 80 people fall outside the proposed class definition, Dr. Savitz states that they should not be included in the calculation of an average level to compare to the C8 Health Project communities. When only considering the 398 people who meet the class definition, the mean PFOA serum level is actually 41.98 ug/L, which is lower than Little Hocking, OH and Lubbeck, WV, very similar to Belpre and Tupper’s Plain, OH, and higher than Mason County, WV that were part of the C8 Health Project.

Finally, defense counsel argues that Dr. Savitz should not be permitted to testify concerning the results of future research, specifically, that certain health conditions may be linked to PFOA in the future.

As recognized by the Third Department, epidemiology is not novel. Jackson v. Nutmeg Tech., Inc., 43 AD3d 599, 601 (3d Dept. 2007). “[N]umerous courts have held that this field of science is the primary generally accepted methodology for demonstrating a causal relation between a chemical compound and a set of symptoms or a disease.” Nonnon v. City of New York, 32 AD3d 91, 104 (1st Dept. 2006) *citing* Soldo v Sandoz Pharmaceuticals Corp., 244 F Supp 2d 434, 532 (WD Pa 2003), Castillo v E.I. Du Pont De Nemours & Co., Inc., 854 So 2d 1264, 1270 [Fla Sup Ct 2003]; Arnold v Dow Chem. Co., 32 F Supp 2d 584 (EDNY 1999) and Conde v Velsicol Chem. Corp., 804 F Supp 972, 1025-26 [SD Ohio 1992] *affd* 24 F3d 809 (1994). The evidence offered by plaintiffs is comprised of epidemiological data, an established and reliable scientific field based on the gathering of data and the statistical analysis of the information. Ms. Dell’s affidavit does not state that Dr. Savitz’s conclusions and the conclusions of the C8 Science Panel are not generally accepted in the field of epidemiology or that his methodology in analyzing the various studies was novel or different from the approach epidemiologists are trained to follow in reaching such conclusions. While she addresses general concepts of epidemiology, she does not provide any specific application of these concepts in reaching her contrary conclusions regarding PFOA general causation or assert that Dr. Savitz’s opinions are in any way inconsistent with these general concepts. As noted in Parker, where “[t]here is no particular novel methodology at issue for which the Court needs to determine whether there is general acceptance. Thus, the inquiry here is more akin to whether there is an appropriate foundation for the experts’ opinions, rather than whether the opinions are admissible under Frye.” Parker, supra at 447. The issue before this court, therefore, is not the general acceptance of epidemiology by the relevant scientific community, but rather the application of these accepted scientific principles.

As the epidemiological testimony does not concern "novel science," *Frye's* concerns are not implicated and no pretrial *Frye* hearing is required.

Relying on specific/general causation test set forth in *Parker*, defense counsel argues that Dr. Savitz should still be precluded from testifying as his opinions only establish association rather than causation. Unlike the plaintiffs in *Parker* and *Cornell*, the present plaintiffs do not allege that PFOA has caused any illness, so the general/specific causation test set forth in *Parker* is simply not applicable.

Rather than seeking direct damages from manifest illness, plaintiffs are seeking medical monitoring as consequential damages to their ordinary negligence and property damage claims. Therefore, this Court's analysis shifts from *Parker* and *Cornell* to *Caronia v Philip Morris USA, Inc.*, 22 NY3d 439, 446 (2013), *Abusio v Consolidated Edison Co. of N.Y.*, 238 AD2d 454, 454-55 (2d Dept 1997) and *Askey v Occidental Chem. Corp.*, 102 AD2d 130, 135 (4th Dept. 1984), all of which concerned consequential rather than direct damages. In *Caronia*, the Court of Appeals determined that New York does not recognize an independent cause of action for medical monitoring and reaffirmed well established law that "[a] threat of future harm is insufficient to impose liability against a defendant in a tort context" and that "the requirement that a plaintiff sustain physical harm before being able to recover in tort is a fundamental principle of our state's tort system." *Caronia v Philip Morris USA, Inc.*, *surpa* at 446. This Court has previously determined that the plaintiffs here have alleged the requisite injury via the accumulation of PFOA in their blood.¹ However, the *Caronia* Court also recognized that there "is a basis in law to sustain a claim for medical monitoring as an element of consequential damage." *Caronia v Philip Morris USA, Inc.*, *surpa* at 447, quoting *Askey v Occidental Chem. Corp.*, 102 AD2d 130, 135 (4th Dept. 1984). The *Askey* court concluded that the plaintiffs could recover "reasonably anticipated consequential damages," including medical monitoring, so long as the plaintiffs could "establish with a reasonable degree of medical certainty that such expenditures [were] 'reasonably anticipated to be incurred by reason of their exposure'." *Caronia v Philip Morris USA, Inc.*, *surpa*, citing *Askey*, *surpa* at 137. On the other hand, "[c]onsequences which are contingent, speculative, or merely possible are not properly considered in ascertaining damages." *Askey*, *surpa* at 136-37.

In this case, Dr. Savitz's affirmation indicates a clear dose response gradient that increases with PFOA exposure with respect to thyroid disease, ulcerative colitis, and kidney cancer. He found an increase in the risk of testicular cancer and high levels of uric acid and ALT across the quartiles of exposure. With respect to hypercholesterolemia, Dr. Savitz finds a dose-response gradient with a rapid increase in total cholesterol in the lower range of PFOA exposure. With respect to these specific diseases and conditions, the Court finds that Dr. Savitz has established that damages are

¹ The Court in *Baker v. St.-Gobain Performance Plastics Corp.*, 232 F. Supp. 3d 233 (NDNY 2017), addressing very similar issues concerning injury and medical monitoring in a PFOA accumulation/property damage case has certified its order for interlocutory appeal, noted the Second Circuit's power to certify questions of state law to the New York Court of Appeals. Further, this Court's order denying the bulk of defendant's motion to dismiss on this basis is pending appeal in the Third Department, Appellate Division.

reasonably anticipated to flow from the invasion of the body by PFOA at or above background.

Citing the C8's own study, Dr. Savitz also concludes that exposure to PFOA is capable of causing preeclampsia and pregnancy induced hypertension. He acknowledges that a study of this same population² showed a weak association between PFOA exposure and pregnancy induced hypertension. Defendant attacks the weight and the strength of the plaintiff's contention here, which would certainly constitute a proper avenue of cross examination. However, this court cannot make a determination as to whether "such evidence is true. That function should be left to the jury." *Parker, supra* at 425. Plaintiffs' expert is properly subject to cross-examination, and the substance of his opinions is a subject for questioning. However, these issues go to credibility and to the weight to be given to the evidence.

Additionally, according to Dr. Savitz's own affidavit, there is only limited evidence supporting an association between PFOA exposure and risk of prostate, ovarian cancers and effects on the immune system at this point. Therefore, plaintiff has not established that monitoring expenditures are reasonably anticipated to be incurred based on plaintiffs' exposure at this time, and as such, this testimony is precluded.

Finally, whether expert testimony is novel or not, a trial court always has the duty to rule on the admissibility of evidence to determine its relevance. In this case, Dr. Savitz opines that other health conditions may in the future be established as probably causally linked to PFOA exposure. As noted above, a defendant may be liable for "reasonably anticipated" consequential damages. Consequences which are contingent, speculative, or merely possible are not properly considered in ascertaining damages. The Court agrees with defendant that speculation regarding the future of PFOA research is not relevant to any present cause of action at this time, and as such, this testimony is precluded.

In accordance with the foregoing, it is hereby

ORDERED that the defendant's motion to preclude Dr. David Savitz from testifying concerning an association between PFOA exposure and the risk of prostate cancer, ovarian cancer and effects on the immune system is **GRANTED**; and it is further

ORDERED that the defendant's motion to preclude Dr. David Savitz from testifying as to health conditions that may in the future be established as probably causally linked to PFOA exposure is **GRANTED**; and it is further

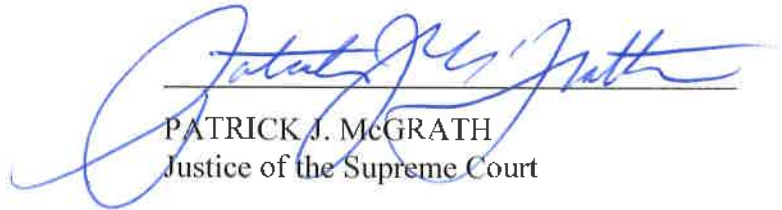
ORDERED that the balance of defendant's motion to preclude the testimony of Dr. David Savitz is **DENIED**.

This shall constitute the Decision and Order of the Court. This original Decision and Order

² See #16 in the bibliography attached to Dr. Savitz's affidavit.

is returned to Weitz & Luxenberg, PC, co-lead class counsel. All other supporting papers are being delivered by the Court to the Rensselaer County Clerk for filing. The signing and delivery of this Decision and Order does not constitute entry or filing under CPLR 2220. Plaintiffs are not relieved from the applicable provisions of that rule respecting filing, entry and notice of entry.

Dated: November 15, 2019
Troy, New York



PATRICK J. McGRATH
Justice of the Supreme Court

Papers Considered:

1. Notice of Motion; Affidavit of Thomas R. Smith, with Exhibits attached; Affidavit, Linda Dell; Taconic's Memorandum of Law in Support of Motion to Exclude Expert Testimony of Drs. Alan Ducatman, Donald Sloane Shepard and Donald R. Brandt.
2. Affidavit, David A. Savitz, Ph.D., Plaintiffs' Omnibus Memorandum of Law in Opposition to Defendant's Motion to Exclude Plaintiffs' Experts.
3. Taconic's Omnibus Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts; Affidavit, Jessica Kaplan, Esq., in Support of Taconic's Reply in Support of Its Motions to Exclude Testimony of Plaintiffs' Experts.