

July 8, 2022

Attorney General John Formella  
Attorney K. Allen Brooks  
New Hampshire Department of Justice  
33 Capitol Street  
Concord, NH 03301

Re: Historical Use of Pure PFOA Products before 2001, Saint Gobain Performance  
Plastics, Merrimack, NH

Dear Attorney General Formella and Attorney Brooks,

We are writing today to express concerns relating to Saint Gobain Performance Plastics (SGPP) in Merrimack, NH. We agree with assertions made by the New Hampshire Department of Environmental Services (NHDES) that SGPP's impacts "extends miles beyond the pre-GMZ boundary."<sup>1</sup> Facts presented during litigation in New Hampshire, Vermont, and New York, regarding the historical use of pure-perfluorooctanoic acid (PFOA) 3M products, suggest that SGPP may have misled the NHDES either intentional or not, regarding the historical quantities of ammonium perfluorooctanoate (AFPO) or PFOA consumed at the Merrimack, NH facility. These omissions are likely to have led to modeling efforts that substantially underestimated the extent of SGPP's pollution.

As you know, in 2018 the state of New Hampshire entered into a Consent Decree with SGPP which established a preliminary zone of pollution (pre-GMZ) and an "Outer Boundary" to which the parties agreed the PFOA pollution in several southern NH towns is presumptively attributable to SGPP's industrial emissions (Attachment A, Exhibit C). As you are aware, plans are underway for Saint Gobain to submit a final groundwater management plan by August 26, 2022.

The NHDES has publicly stated that the limit of the Outer Boundary in Exhibit C (Attachment A) does not fully describe the extent of impacts presumptively attributable to SGPP's emissions which polluted the subsurface, drinking water, and groundwater with per- and polyfluoroalkyl substances (PFAS) chemicals. "To date, NHDES has identified approximately 650 properties outside of the CD boundary that is over the standard and is located within inferred areas of impact from Saint-Gobain's releases" (Attachment B).

According to NHDES comments made to the statutory HB 737 Commission on June 10, 2022 (Mike Wimsatt, [https://youtu.be/Ef88\\_y1t50A](https://youtu.be/Ef88_y1t50A)), the Department plans to use funds allocated by the Drinking Water and Groundwater Trust Fund to provide reparation for

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<sup>1</sup> New Hampshire DES letter to Christopher S. Angier, Saint-Gobain Performance Plastics. April 28, 2022. Supplemental Site Investigation Report, prepared by Golder Associates, Inc. (Golder) dated October 14, 2020.

homeowners located outside the Outer Boundary whose wells were contaminated by SGPP.

In this letter, we provide a summary of new information uncovered in connection with litigation against Saint Gobain in other states, previously unknown, which may explain the inconsistency between the extent of the modeled Outer Boundary, pre-GMZ, and the known expanded extent of impacts.

### Summary of New Information

1. In correspondence dated May 6, 2016 (Attachment C), SGPP claimed that AFPO “was not a raw material used by SGPP at the Merrimack facility at any point in time.” However, comments in the public record suggest the existence of documents in SGPP’s possession reflecting considerable use of pure PFOA 3M surfactants before 2001 (Attachment D). These 3M products include, but may not be limited to, FC143 (or Fluorad 100% PFOA), FC118 (20% PFOA), and FC1015 (30% PFOA) on top of the PTFE dispersion (2% PFOA).
2. It was customary to include the aforementioned surfactants in dispersion mixes to aid in the manufacturing process before 2001. Omitting from consideration the FC-143 (Fluorad) and other high PFOA-content 3M products from formulations underestimates PFOA consumption by more than 100% in at least one mixture (page 11 of Attachment E).
3. According to court documents, since at least March of 2020, the quantities of Fluorad used historically at the Merrimack facility [has been] known to [SGPP] in “granular detail” (Attachment D, Brown v. Saint Gobain, Case 1:16-cv-00242-JI, Document 287, filed 9/19/2021). The information was gained through an “examination of historical documents of 3M sales” to Merrimack and other SGPP facilities. Internal company research “uncovered the fact that Saint Gobain historically purchased and used “hundreds if not thousands of pounds of 3M Fluorad” across Merrimack and two other facilities (Attachment D, Brown v. Saint Gobain, Case 1:16-cv-00242-JI, Document 287, filed 9/19/2021).
4. The *Preliminary Air, Soil, and Water Modeling Technical Memorandum: Merrimack, New Hampshire* (Barr Engineering, June 2017 [the Barr Report]) which served as the basis for locating the pre-GMZ and Outer Boundary, did not include the historical use of pure PFOA and high-content PFOA in 3M products consumed as surfactant additives in addition to the PTFE dispersions before 2001. For example, the Barr report stated, “Emission estimates for 1986 – 2003 were assumed to be equal to their respective 2004 emission rates starting in the year that the tower was installed.<sup>1</sup> The methodology is fundamentally flawed because it does not account for “hundreds if not thousands of pounds of Fluorad” consumed by SGPP at the Merrimack facility (Attachment D) on top of the assumed dispersion usage (only 2% PFOA) thereby significantly underestimating the PFOA deposition at the ground surface.
5. The Material Safety Data Sheet for FC-143 (Attachment F) indicates it sublimates, or changes directly from a solid phase to a gas phase, at 178 degrees Celsius or 352 degrees Fahrenheit. Based on this, it is likely that a

significant portion of the PFOA left the plant, untreated, through exhaust systems. This new information may significantly impact the site conceptual model and the extent of contamination of air, wastewater, or groundwater emissions.

6. The higher content of PFOA used as additives to dispersions in formulations is likely to have had a significant impact on the mobility of the contaminants in vapor and the subsurface. PFOA has a very low soil adsorption coefficient ( $K_{oc} = 0.17$ ) which could have significant impact on groundwater flow migration simulations and impact the site conceptual model.
7. Although SGPP and 3M have “phased out” PFOA and perfluorooctanesulfonic acid (PFOS), both were detected in April 2022 rainwater samples. PFOA and PFOS were also detected in RTO effluent stack samples, along with 17 other PFAS chemicals, collected in September 2021. PFOA was detected in the formulation (raw material) samples collected from QX1 and the 20” coater (see Attachment G).<sup>2</sup>

## **Request for State**

The information herein provides the State with a roadmap and sound legal basis to hold SGPP fully accountable for their pollution, including beyond the current Outer Boundary. Significant additional historic use of high-PFOA content products prior to 2001 would considerably expand the modeled extent of SGPP’s emissions. We believe that these omissions constitute grounds for re-drawing the “Outer Boundary” and the preliminary groundwater management zone (pre-GMZ) designated in Exhibit C of the 2018 Consent Decree (Attachment A) between the State and SGPP. This information was unknown to the State when the Consent Decree was signed in 2018 either through intentional or unintentional acts on behalf of SGPP.

Paragraph 27 of the Consent Decree (Attachment A) states that the final GMZ “may be revised as additional information becomes available...” and in [paragraph 32(f), Attachment A)] the State reserved “criminal liability arising...[from] information unknown to the State on the effective date” or “civil penalty liability arising....that were unknown to the state on the effective date of the Consent Decree” [paragraph 32(g), Attachment A].

We respectfully request that the Attorney General’s office investigate whether SGPP has, and continues to, mislead the State regarding the full extent of historic usage of PFOA at its Merrimack NH facility and specifically request the following:

1. Investigate whether SGPP has and/or continues to withhold any relevant documents regarding 3M surfactants, including FC-143, FC-1015, and FC-118 including documents obtained from 3M in class action litigation as well as “granular” internal data compilations calculating 3M-related PFOA product usage prior to 2001 (Attachment D).

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<sup>2</sup> Barr Engineering, 2022. Results of the September 7-10, 2021, Regenerative Thermal Oxidizer Compliance Tests at Saint-Gobain Performance Plastics in Merrimack, New Hampshire. Prepared for Saint-Gobain Performance Plastics, Merrimack New Hampshire. March 2022.

2. Utilize documented expanded historical use of high-PFOA content materials prior to revising the Outer Boundary and defining the final groundwater management zone (GMZ).
3. Investigate SGPP's current use of "phased out" legacy PFAS compounds.
4. Hold SGPP accountable for the full extent of their pollution and recover public funds used temporarily to address pollution caused by SGPP. We assert that the State has an obligation to protect taxpayer funds by holding SGPP accountable for the full extent of their pollution. While we understand the need to provide an expedient temporary remedy, we assert that it is inappropriate to use public funds to address SGPP's pollution which is tantamount to corporate welfare. The public funds should be reserved for issues where there is no malfeasance responsible for the source of the pollution such as addressing uranium and arsenic in drinking water.
5. Investigate whether PFAS currently in use is sublimating and escaping the thermal oxidizer (RTO) through ventilation systems or some other pathway.

We hope that you will investigate these issues prior to defining the scope of the final GMZ or other activities that limit SGPP's responsibility.

We would be happy to discuss these issues further with you at your convenience.

Thank you for your consideration,

Hon. Mindi Messmer, PG  
Rep. David Meuse  
Rep. Rosemarie Rung  
Rep. Jeff Salloway  
Rep. Gary Woods  
Dr. Linda Birnbaum

Cc: Robert Scott, NHDES  
Mike Wimsatt, NHDES  
Cathy Beahm, NHDES  
Senator Chuck Morse, NHDWG Trust Fund  
Senator Tom Sherman, NHDWG Trust Fund  
NH DWG Trust Fund  
HB 737 Statutory Commission  
Merrimack Town Council  
Merrimack Valley District Water Commission  
Town of Bedford Selectboard  
Town of Londonderry Selectboard  
Town of Hudson Selectboard  
Town of Litchfield Selectboard



**Attachment A.**  
Relevant Portions of 2018 Consent Decree

26. Point-of-Entry Treatment Systems: In lieu of paying for water lines to be extended to certain properties, the Respondent may request to pay for and install point-of-entry treatment ("POET") systems at certain properties within the pre-GMZ or final GMZ where the use of a POET would be reasonable and cost effective subject to the State's approval in writing of the use of POET systems at those properties. Approval shall be at the sole discretion of the State, but such approval shall not be unreasonably withheld. As of the Effective Date, the Respondent has proposed to provide POET systems to the properties listed in Exhibit H, and the State has approved POET systems at such properties. The State shall not demand or require the Respondent to pay for municipal water lines to be extended to any of the properties listed in Exhibit H or any other properties within the GMZ on which the Respondent installs a POET system provided the State agrees to the installation of such POET system. Respondent shall pay the costs of required operation and maintenance of such POETs for at least seven years and subsequently thereafter until: (a) sampling demonstrates that the groundwater is below the State's AGQS as defined in Env-Or 602.02; and (b) three consecutive rounds of annual sampling do not show an upward trend in PFC concentration, unless the Parties otherwise agree to a shorter period of time.

27. Establishment of Groundwater Management Zone: Working with the Department, the Respondent shall propose a finalized GMZ in accordance with the requirements of Env-Or 600 et seq. following completion of a Site Investigation. Respondent shall comply with all regulations related to a GMZ, as applicable, and the Department shall not unreasonably condition its issuance and reissuances of the related Groundwater Management Permit. Based upon the investigation completed to date, the Parties have established the pre-GMZ, as depicted in Exhibit C. However, the GMZ may be revised as additional information becomes available

and will be finalized in accordance with the requirements of Env-Or 600 et seq. In connection with the establishment of the GMZ, the State shall use its best efforts, including but not limited to hosting public information sessions and meeting with Town officials in coordination with and including active participation from the Respondent,<sup>4</sup> to work with the Towns to facilitate the adoption of any ordinances or other actions by the Towns that may be necessary to implement the GMZ or any other remedial measures required by this Consent Decree.

28. Conduct of Site Investigation and Proposal of Remedial Action Plan: The Respondent shall conduct all required site investigation activities required by Env-Or 600 et seq., and shall submit same to the Department for review. The Respondent, thereafter, shall submit a proposed remedial action plan to the Department for review and approval and, thereafter, implement the remedial action plan as approved by the Department to address groundwater within the GMZ pursuant to Env-Or 600 et seq.

The Parties anticipate that, given the current concentrations of PFCs, their distribution, and their potential source, MNA, along with monitoring and other similar ancillary measures as well as providing safe drinking water, will be an appropriate remedial action for the Respondent to propose in its remedial action plan to address groundwater in the GMZ for all areas other than source areas, i.e., areas of high concentration of PFCs attributable to the Respondent that require treatment to prevent the further spread of PFCs, to the extent any such source areas may be found to exist. Were the Department to approve MNA and associated measures as the remedial action, and if monitoring of groundwater within the GMZ were to indicate that MNA was not sufficiently protective of human health and the environment, the Department may request that the Respondent perform additional remedial activities. Such a request shall be consistent with the Department's relevant regulations and shall not be unreasonable. If the Respondent were to

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<sup>4</sup> The costs for State personnel to plan, host, and attend such meetings shall be cost recoverable.

employees, representatives, directors, partners, principals, general partners, limited partners, agents, stockholders, shareholders, or owners) under any federal, state, or common law or other legal theory of liability in relation to the presence of PFOA or PFOS in groundwater or water supply wells for the area outside of the line labeled "Outer Boundary" as shown on Exhibit C but only to the extent that such claims or causes of action relate solely to a lowering of the currently existing AGQS.<sup>5</sup>

Nothing herein shall be interpreted to place a requirement on the Respondent to perform any remediation in the area located between the pre-GMZ and the "Outer Boundary" line or area outside of the line labeled "Outer Boundary" in the future, nor shall anything herein be deemed an admission that Respondent is liable for any remediation in such area. The State acknowledges that there are other sources of PFCs in these areas, and the Parties reserve their respective rights and defenses in the event that the State requires additional remedial activities in these areas in the future. The State further acknowledges that should it require additional remedial activities in these areas in the future, the remedial alternative shall be selected and implemented in accordance with the Department's relevant regulations and municipal water line extension shall not be the presumptive remedy.

32. The State reserves, and this Consent Decree, including the release provided for in Paragraph 31 above, is without prejudice to, all rights and claims the State may have against the Respondent related to the following:

- a. Respondent's failure to satisfy any term or provision of this Consent Decree;
- b. Respondent's liability for any contamination other than what has been specifically released in Paragraph 31 above;

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<sup>5</sup> Currently, the AGQS for PFOA and PFOS is 70 parts per trillion.

- c. Respondent's liability for any contamination arising from unlawful discharges from the Property that occur after the Effective Date of this Consent Decree;
- d. Respondent's liability for any additional remediation required by the Department for contamination within the GMZ pursuant to Paragraphs 27 through 29 above;
- e. Respondent's liability for any remediation of soil, sediments, surface water, or other media within the GMZ;
- f. Criminal liability arising from future activities or information unknown to the State on the Effective Date;
- g. Civil penalty liability arising from future activities or information unknown to the State on the Effective Date;
- h. Cost recovery; and
- i. Respondent's responsibility under other regulatory programs such as those related to air emissions.

**G. EFFECT OF SETTLEMENT**

33. Nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a party to this Consent Decree.

34. The Respondent expressly reserves all rights, including, but not limited to, any right to indemnification or contribution, defenses, claims, demands, and causes of action it may have concerning any matter, transaction, or occurrence, whether or not arising out of the subject matter of this Consent Decree, against any person not a party to this Consent Decree. In addition, Respondent expressly reserves all rights, including, but not limited to, any right to indemnification or contribution, defenses, claims, demands, and causes of action it may have concerning any action brought by the State pursuant to one of the reservations set forth in Paragraph 32 above.

# Exhibit C



# EXHIBIT C

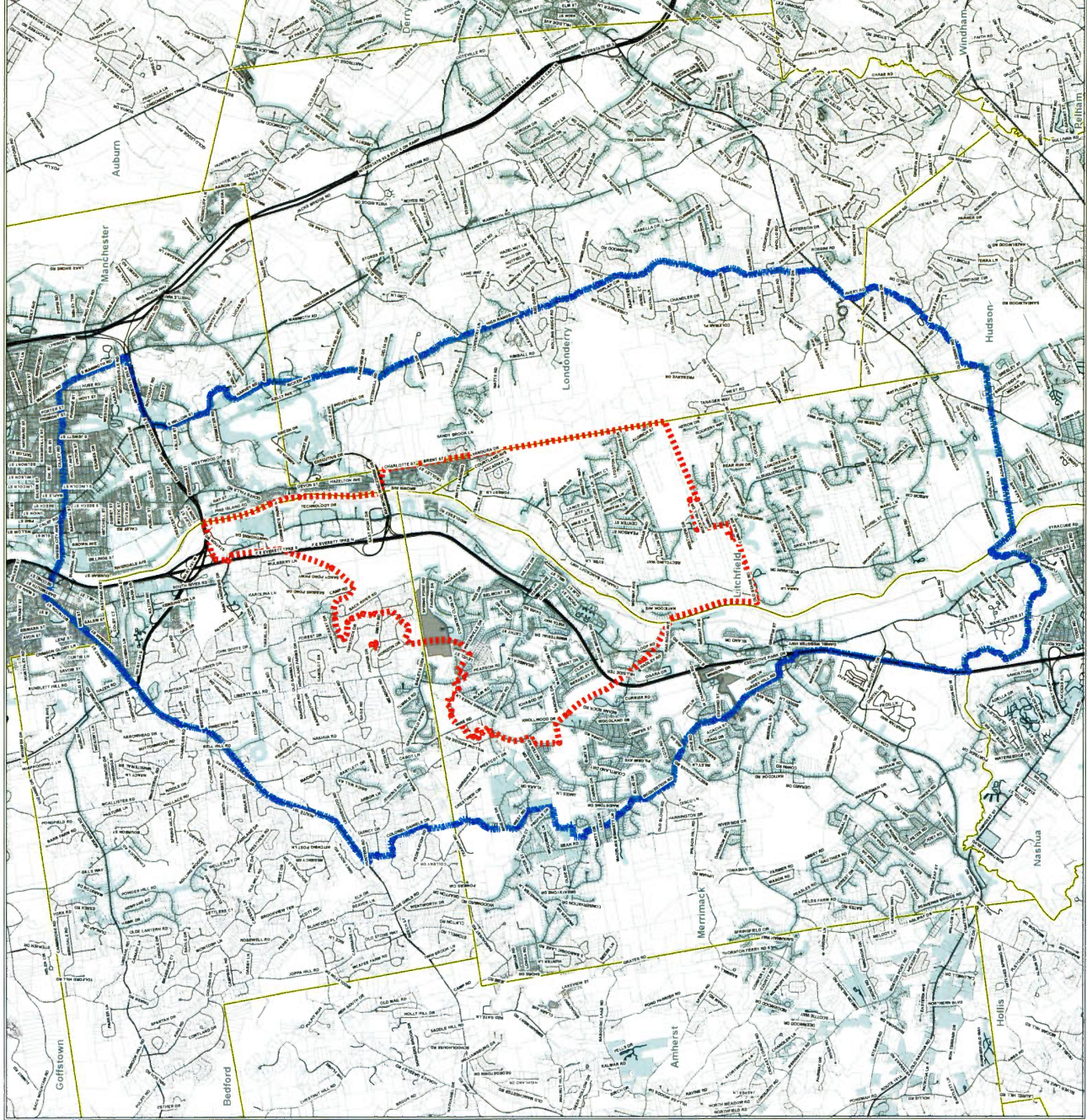
## Preliminary GMZ and Outer Boundary

- Political Boundary
- Approximate Extent of  
Future GMZ Boundary
- Approximate Extent of  
Outer Boundary

0 2,500 5,000 10,000 Feet  
1 inch = 2,500 feet



Map By: Derek Bennett 603-271-8520



**Attachment B.**

May 13, 2022, HB737 Commission NHDES Update



## 5-13-2022 HB 737 Commission Meeting

### NHDES Update

#### **NHDES Activity**

- On April 18, NHDES announced that an agreement was reached with SG for the provision of alternate water for homes located within the 2018 Consent Decree. Remedies for 353 properties were listed in the agreement that included:
  - *Bedford, south of County Road and east of Liberty Hill Road:*
    - *Water line connections to 15 properties*
    - *Point-of-entry treatment (POET) systems for 181 properties*
  - *Litchfield, Hillcrest Road Area:*
    - *Water line connections to 77 properties*
  - *Merrimack, Wildcat Falls Area and Brenda Lane:*
    - *Water line connections to 32 properties*
  - *Other Areas in Bedford, Merrimack, Litchfield, and Londonderry:*
    - *Water line connections to 48 properties*
- On April 28, NHDES issued a comment [letter](#) on the Supplemental Site Investigation Report. This letter requested that SG submit an application in 120 days for a Groundwater Management Permit that establishes a Groundwater Management Zone that contains contaminated groundwater within the CD Outer Boundary and requests submittal of a Remedial Action Plan for the facility and adjacent properties within 120 days of receipt of analytical data from upcoming stormwater sampling.
- On April 29, NHDES received a proposal from SG to remedy 600+/- properties that were not specifically listed in the Agreement; this is currently under review.
- On May 4, NHDES issued a comment [letter](#) pertaining to Addendum 14 that required SG to include all properties within the 'buffered areas' around other potential contamination sources for sampling, as well as all remaining properties within the CD Outer Boundary, in the next Addendum due by June 3<sup>rd</sup>.
- On the evening of Wednesday, May 4, NHDES held a virtual public meeting to discuss the agreement. The meeting included a brief review of site history, a summary of the provisions of the agreement, and an approx. 2.5 hour Q & A period. There were approximately 200 participants.

#### **Water Supply Well Sampling**

- SGPP presented a Work Plan for Residential Well Sampling and **Fourteen** Addenda to the sampling Plan relative to the 2019 AGQS.

Currently, Golder is retesting wells with PFOA results between 10 and 12 ng/L.

- As of 4/19/22:
  - 3,691 properties identified for sampling (same as April report)
  - 3,591 access agreements sent (*Return Rate ~ 68%*) (*same as April report*)
  - 2,221 samples collected from water supply wells (29 more than April report)

- 975 properties offered bottled water (11 more than April report)

### **Site Investigation**

- Saint-Gobain's consultant will be conducting post-RTO stormwater sampling, timing dependent on rain events and safety concerns working around Merrimack River.
- Remedial Action Plan due to NHDES 120 days after SG's consultant receives analytical results from the stormwater sampling

### **Air Division Update**

To be presented by Cathy Beahm, Administrator in Air Resources Division (written notes to be provided separately by Ms. Beahm)

### **Question during the meeting:**

During the meeting, Commission member Mindi Messmer asked how many wells located outside of the CD area have been tested and found to have PFAS above standards. M. Wimsatt indicated that he would check and provide this number in his written update. To date, NHDES has identified approximately 650 properties outside of the CD boundary that are over the standard and are located within inferred areas of impact from Saint-Gobain's releases.

During the meeting, Commission member Chris Bandazian inquired about the availability of slide presentations from the April 5-6, 2022 NEWMOA PFAS Science Conference on NEWMOA's website. M. Wimsatt indicated that most of the presentations are available on the website, but that it takes a few clicks to get to them. M. Wimsatt stated that he would provide instructions for finding the presentations in his written update. Here they are:

- 1) Go to [newmoa.org](https://newmoa.org)
- 2) Under "What's New?" click on "Science of PFAS Conference"
- 3) In the yellow banner, click on "Agenda"
- 4) This displays the agenda for the conference. Scroll down to find the session/topic that you are interested in, and click on the session title, e.g. "Air Emission Impacts to Soil, Surface Water, & Groundwater"
- 5) This displays that session's agenda with the headings "Description," "Speakers," and "Documents"
- 6) Under "Documents," click on the presentation of interest, e.g., "Evaluating Sources, Fate, and Transport in an Area of Regional PFAS Contamination in Southern New Hampshire"
- 7) The slide presentation will be displayed. To view a new presentation, close the current one, and use the back arrow to back out to the conference agenda, repeat.

**Attachment C.**

May 6, 2016, Letter from Archer & Greinier to John M. Regan, NHDES

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**Archer&Greiner P.C.**  
ATTORNEYS AT LAW

**Christopher R. Gibson, Esq.**  
*Also Member of Pennsylvania Bar*  
cgibson@archerlaw.com  
856-354-3077 Direct  
856-673-7077 Direct Fax

One Centennial Square  
Haddonfield, NJ 08033  
856-795-2121 Main  
856-795-0574 Fax  
[www.archerlaw.com](http://www.archerlaw.com)

May 6, 2016

**EMAIL AND REGULAR MAIL**

John M. Regan  
NH Department of Environmental Services  
Hazardous Waste Remediation Bureau  
29 Hazen Drive  
P.O. Box 95  
Concord, NH 03302-0095  
[john.regan@des.nh.gov](mailto:john.regan@des.nh.gov)

**Re: Request for Information  
701 Daniel Webster Highway, Merrimack, NH**

Dear Mr. Regan:

Please accept this letter on behalf of Saint-Gobain Performance Plastics Corporation ("SGPP") in response to your March 18, 2016 letter requesting that SGPP provide certain information regarding SGPP's facility located at 701 Daniel Webster Highway, Merrimack, NH (the "Merrimack facility").

SGPP objects to the New Hampshire Department of Environmental Services' ("NHDES") Request for Information (the "Request") to the extent the Request can be construed as asking for disclosure of privileged information or as requesting information of a kind and/or in a form not authorized by applicable law. Privileged documents are not being produced with this response, and any inadvertent production of privileged material is not intended as a waiver of the applicable privilege. SGPP further objects to the extent the Request seeks information concerning operations and events taking place at the Merrimack facility by the prior owners/operators of the facility or information that may be located in documents beyond SGPP's custody or control.

Please note that submission of this response and accompanying documents is not intended, and should not be construed, as an acknowledgment or admission of any responsibility, or liability of SGPP, its officers, directors, employees, agents or representatives, or as a waiver of any rights, privileges or defenses with respect thereto. SGPP reserves the right to object to the

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John E. Regan  
May 6, 2016  
Page 2

use, in whole or in part, of any document or information submitted herewith in any proceeding for any purpose. SGPP also reserves the right to supplement and amend these responses.

SGPP generally objects to the Request to the extent that it seeks information which may be derived or ascertained from documents already within the knowledge, possession or control of NHDES. SGPP generally objects to the Request to the extent that it is overbroad or unduly burdensome and for the portions of the Request that are vague and undefined.

Subject to the preceding general objections and reservation of rights, SGPP responds to the Request as follows:

**Responses to the Request**

1. A general description and dates of current and historical facility operations since the time of site development.

**RESPONSE:** SGPP objects to the Request as overbroad and burdensome to the extent the request calls for a general description of the entire lifetime of the facility's operation. Subject to and without waiving the foregoing general and specific objections, the Merrimack facility was built by General Electric in 1974. General Electric operated at the Merrimack facility from 1974 until 1984 when the facility was purchased by ChemFab. ChemFab operated at the Merrimack facility from 1984 until 2000 when SGPP purchased ChemFab. In 2000, SGPP began operating at the Merrimack facility. SGPP manufactures coated fabrics and cast extruded plastic film at the Merrimack facility. The products manufactured at the Merrimack facility are used for a variety of commercial applications, including: industrial belting; architectural membranes; and hazardous material suits and shelters. The number of SGPP employees at the Merrimack facility has shifted over time, but there are currently 230 employees working at the facility.

2. A description of the types and quantities of APFO and other related PFCs currently and historically used at the facility, including all historical data and records in the company's possession regarding quantities of APFO and related PFCs used and emitted to air, discharged in wastewater, discharged to surface water, disposed of as waste or otherwise released to the environment.

**RESPONSE:** SGPP objects to the Request as vague, ambiguous and overbroad because the Merrimack facility's volumetric usage of a particular chemical in manufacturing operations does not correlate to a specific number of discharges of a particular chemical from the facility. The request for "all historical data and records ... regarding quantities of APFO and related PFCs" is also overbroad, vague and undefined. Subject to and without waiving the foregoing general and specific objections, SGPP has already produced to the NHDES some historical data and records in the company's possession related to the requested topics, and SGPP continues to review additional materials that may be responsive which it will continue to produce on a rolling basis. SGPP has not located, from a reasonably diligent search, purchasing records for the Merrimack facility from 2000

through 2003, but will produce those records or other responsive materials in the future if those materials are located.

SGPP used a variety of chemicals containing perfluorinated compounds in manufacturing operations at the Merrimack facility from approximately 2004 through the present. The majority of these perfluorinated compounds are reasonably expected, based on SGPP's present knowledge, to be Polytetrafluoroethylene ("PTFE"), Fluorinated ethylene propylene ("FEP") and Perfluoroalkoxy alkane ("PFA"), which are non-volatile and convert to solids in the manufacturing process and leave the facility as finished products (e.g., the coating on the fabric). These perfluorinated compounds are chemically inert and are not part of the waste stream at the Merrimack facility.

SGPP further states that APFO was not a raw material used by SGPP at the Merrimack facility at any point in time. APFO may have been contained in some of the PFCs that were used by SGPP in manufacturing at the facility, but SGPP is unable to determine this with certainty based upon reasonably diligent inquiries. The amount of APFO that may have been contained in materials used in manufacturing at the facility declined over the period from 2004 until 2015 when APFO was completely eliminated from materials used at the Merrimack facility. This decline and ultimate discontinuation occurred in steps as SGPP's raw material suppliers systematically removed APFO from the materials SGPP received at the Merrimack facility.

From approximately January 2015 to the present, the chemicals used by SGPP at the Merrimack facility have contained no APFO.

3. A description of the storage, handling, and disposal practices for these chemicals, including a description of storage areas, subgrade structures, piping, or conveyances inside the facility, current and historical wastewater disposal practices, and off-site disposal practices (and the ultimate disposition of such wastes).

**RESPONSE:** SGPP objects that the phrase "these chemicals" is vague and ambiguous. In responding to the Request, SGPP shall assume that the phrase refers to PFCs. SGPP further objects to the Request as overbroad and unduly burdensome because the Merrimack facility's structures, piping and conveyances have no connection to the facility's disposal practices, as well as to the extent the request calls for information for the entire lifespan of the facility's operations. Subject to and without waiving the foregoing general and specific objections, raw materials are received at the loading docks in shipping containers, totes and drums. Formulations containing PFCs (PTFE/FEP/PFA) are mixed and stored in totes and vats. Formulations may be used immediately in production or stored until required for production. Raw materials and formulations containers are moved by forklift or by hand.

The main building at the Merrimack facility consists of a concrete slab foundation with block wall or sheetrock interior wall structures. Movable berms are staged along exterior walls in the Wide Tower area along the North and East walls of the building.

Within the main building, wastes are accumulated in ten satellite storage areas at or near the point of generation. This waste is moved by a forklift or cart from the satellite areas to the 90-day waste storage building to await pickup by Clean Harbors for disposal. The 90-day waste storage building is a block wall structure with a concrete floor. Movable berms are placed at the doorways. In the 90-day waste storage building, liquid waste containers are stored on secondary containment structures, and solid wastes are stored on pallets.

Wastewater disposal practices involve liquids from the rinsing of equipment being sent to settling tanks where solids are removed and disposed of and the excess water in the settling tanks flows to the municipal sewer. In the past, certain sinks in the facility were plumbed directly to the municipal sewer. In 2015, these sink lines were rerouted to the settling tanks. In the past, when the settling tanks, overhead lines and drains were cleaned, the facility would first call the POTW and receive permission to release the solid waste out of the lines to the sewer. However, this process was changed in December 2015. Waste water from the cleaning is now collected by vacuum truck and removed by Clean Harbors.

4. A detailed description of all processes and uses of APFO and other related PFCs, including process parameters (e.g., temperature, air flow, water discharges and other relevant parameters) that would aid NHDES in estimating volumes of APFO and related PFCs potentially emitted to air, including a site plan showing building dimensions, elevations, and stack locations.

**RESPONSE:** SGPP objects that the Request is duplicative because it seeks information that was already requested by the NHDES in other portions of the Request. Subject to and without waiving the foregoing general and specific objections, please see SGPP's response to #2 (above). By way of further response, PFCs are raw materials that are made by suppliers and then provided to SPGG for use in the production of coated fabrics and cast extruded plastic film at the Merrimack facility. APFO was a surfactant used not by SGPP but by the raw material manufacturers in the polymerization process for manufacturing PTFE, PFA and FEP. Either a woven fabric (in the case of the coated fabrics) or a belt (in the case of a cast film) is immersed in a formulation containing PFCs. The coated material is then dried.

Please see "Document A", attached hereto, for building dimensions and the exhaust stack arrangement.

5. Any information as to temporal patterns of usage and discharges of PFCs, including APFO (e.g., daily, weekly, monthly, or seasonal variation records).

**RESPONSE:** SGPP objects to the Request as vague, ambiguous and overbroad because the Merrimack facility's volumetric usage of a particular chemical in manufacturing operations does not correlate to a certain number of discharges of that chemical from the facility. SGPP further objects that the Request is duplicative because it seeks information that was already sought in other portions of the Request. Subject to and without waiving

the foregoing general and specific objections, please see SGPP's responses to #2 and #3 (above).

6. Any historical information as to changes in these processes and usage patterns.

**RESPONSE:** SGPP objects that the phrase "these processes and usage patterns" is vague and ambiguous. In responding to the Request, SGPP interprets "these processes and usage patterns" to relate to PFCs. SGPP further objects that the Request is duplicative because it seeks information that was already requested by the NHDES in other portions of the Request. Subject to and without waiving the foregoing general and specific objections, much of the manufacturing process used by SGPP has not changed substantially since SGPP started operating the Merrimack facility in 2000. However, as discussed, usage of materials containing APFO at the Merrimack facility declined over the period from 2004 to 2016. This took place in several steps as the amount of APFO in the raw materials received by the facility decreased and then were completely eliminated.

7. Any information regarding accidental spills or releases of these compounds.

**RESPONSE:** SGPP objects that the Request is overbroad and unduly burdensome as it seeks "any information" which could encompass an unduly burdensome amount of irrelevant, tangential information that would be unreasonably onerous for SGPP to obtain, review and provide to the NHDES. SGPP further objects in that the term "these compounds" is vague, ambiguous and undefined. In responding to the Request, SGPP assumes the term refers to PFCs. Subject to and without waiving the foregoing general and specific objections, SGPP responds as follows:

- On December 11, 2003, approximately 25 gallons of latex dispersion was spilled when a fiber drum failed. Facility employees responded diligently to remedy the spill. The material was absorbed and containerized for disposal. Some portion of the material entered a nearby storm drain. However, the drain and select down-gradient drains showed no visible indications of any impact.
- On April 1, 2004, approximately 10-20 gallons of dispersion spilled from a punctured tote. Facility employees responded diligently to remedy the spill. The storm drain was covered, and sensitive areas were diked. The material was absorbed and containerized for disposal. No remaining material was observed in the storm drain or at the outfall.
- On August 23, 2011, less than approximately 1 gallon of undiluted PTFE formulation was put into a production sink in the main building of the Merrimack facility. The material flowed from the sump tank to the settling tanks and ultimately into sanitary sewer.
- On September 23, 2012, approximately 200 gallons of formulation containing APFO spilled when transferring the formulation from a tote located on the 2nd floor to the 1st floor. Facility employees responded diligently to remedy the spill. The material was absorbed and containerized for disposal.



John E. Regan  
May 6, 2016  
Page 6

- On June 9, 2015, approximately 99 lbs of dry weight non-hazardous formulation was spilled during manufacturing. It migrated to the outside of the building and pavement through the North and East walls at slab level where the slab and the wall meet. The material did not migrate to the storm drain. Facility employees responded diligently to remedy the spill. The material was absorbed and containerized for disposal.
8. Any additional information in the company's possession that may be relevant to this investigation or that could assist in the analysis of potential sources of environmental contamination originating from the facility.


**RESPONSE:** None identified at this time.

9. A summary of the scope of work currently being conducted by Saint-Gobain's consultants to assess soil and groundwater quality conditions at the facility.

**RESPONSE:** SGPP's consultants have completed soil, groundwater and drinking water sampling from the town of Merrimack Village District. SGPP's consultants have installed twelve monitoring wells around the Merrimack facility. Sampling results have been provided to the NHDES, and SGPP will continue to provide the results as they are obtained. SGPP's consultants are conducting air deposition modeling and SGPP will provide the sampling results to NHDES when complete.

Please feel free to call me if you have any questions.

Very truly yours,



CHRISTOPHER R. GIBSON

Cc: Mike Fitzgerald, NHDES (via email / michael.fitzgerald@des.nh.gov)  
Enclosure  
114223539v1

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# DOCUMENT A



**Attachment D.**

Brown v. Saint Gobain Pleadings

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW HAMPSHIRE

KEVIN BROWN; CHRISTOPHER BLUNDON; and	)	Civil Action No.
ADAM W. DYER, individually and on behalf of others	)	1:16-cv-00242-JL
similarly situated,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	
	)	
SAINT-GOBAIN PERFORMANCE PLASTICS	)	
CORPORATION; and GWENAEL BUSNEL,	)	
	)	
Defendants	)	
	)	

**PLAINTIFFS' MEMORANDUM OF LAW IN SUPPORT OF PLAINTIFFS'  
MOTION TO COMPEL WITNESS STATEMENTS AND DOCUMENTS  
CONCERNING 3M PRODUCT USAGE AT MERRIMACK**

NOW COME the Plaintiffs, by and through their attorneys, Gottesman & Hollis, P.A., The Hannon Law Firm, LLC and Morgan & Morgan Complex Litigation Group, and respectfully submit their Memorandum of Law in Support of Motion to Produce Witness Statements and Documents:

**INTRODUCTION**

Plaintiffs seek an order pursuant to Fed. R. Civ. P. 37(a) compelling Defendants to produce certain documents including witness statements and facts included in memorandums that are directly relevant and material to a fact issue at the heart of this case—how much PFOA Saint-Gobain Performance Plastics emitted from its Merrimack facility. Plaintiffs' Motion is based on facts disclosed in a recent whistleblower complaint by Amiel Gross, former in-house counsel for Defendant Saint-Gobain Performance Plastics, Inc.'s parent companies. Mr. Gross disclosed that Defendants are in possession, custody, and control of internal employee witness

statements, memorandums, and other “granular” information that Defendants used “orders of magnitude” more PFOA at its Merrimack facility than previously disclosed to Defendants’ own consultants, government officials, and Plaintiffs.

Defendants have not produced any witness statements or memorandums that are described by Mr. Gross. Defendants have produced a privilege log in which 315 entries list Mr. Gross as a recipient or author of a document or reference him in the record’s description. Each of these records is listed as being subject to a claim of attorney client privilege, work product, or both. There are an additional 1,890 entries in the privilege log that contain no descriptions whatsoever or claim of privilege. Plaintiffs cannot determine whether the records identified in Mr. Gross’s complaint are among these 2,205 records and Defendants are unwilling to identify the privilege log entries or Bates numbers of records that relate to Mr. Gross’s complaint.

Unless this Court issues an Order compelling Defendants to produce information referenced in Mr. Gross’s complaint, Plaintiffs cannot determine the veracity of data Defendants provided to its own consultants, government officials, and to Plaintiffs in this litigation. Importantly, Plaintiffs’ experts relied on this information in forming their opinions. If Mr. Gross’s statements are true, their work would have significantly underestimated the character and extent of contamination from Defendants’ Merrimack facility.

Plaintiffs therefore seek an order from this Court compelling Defendants to produce the following:

1. Copies of all witness statements which describe the historical quantitative and qualitative usage of PFAS at the Merrimack, New Hampshire plant; and
2. All documents showing usage of 3M dispersions or products containing PFAS.

3. All communications from or between 3M or its predecessors or subsidiaries and ChemFab or Saint-Gobain concerning Fluorad, FC-143, PFOA or any PFAS containing product.

## **BACKGROUND**

### **I. PLAINTIFFS' WRITTEN DISCOVERY AND DEFENDANTS' RESPONSES**

On May 9, 2018, Plaintiffs submitted a written request for production of documents to Defendant Saint-Gobain Performance Plastics Corporation. Ex. A. These requests sought information relating to Defendants' use of PFOA at the Merrimack facility. As an example, Request for Production No. 4 sought, "All documents about the manufacturing, and amount of, materials containing APFO, PTFE, PFOA, PFOS, GenX, PFAS or fluorocarbon polymers used in manufacture or production at the Merrimack Site."<sup>1</sup> Ex. A at 8. On June 22, 2018, Defendants responded indicating that they would produce, subject to various objections, records responsive to Request No. 4 and others. Ex. A. at 8–9. Defendants thereafter produced records to Plaintiffs, including some that are responsive to Request No. 4, though not the records referenced by Mr. Gross.

### **II. MR. GROSS'S WHISTLEBLOWER COMPLAINT**

#### **A. Mr. Gross discovered that Defendants used "orders of magnitude" more PFOA at the Merrimack facility than previously known**

On April 6, 2021, Amiel Gross filed a whistleblower complaint with United States Occupational Safety & Health Administration. Ex. B (hereinafter, the "Complaint"). Mr. Gross is a former in-house lawyer for Defendant Saint-Gobain. Ex. B. ¶ 3. Mr. Gross managed litigation involving PFOA contamination at the Merrimack and other Saint-Gobain facilities, including this *Brown* case for over four years. See, e.g., Ex. B ¶¶ 64, 69, 70. His day-to-day

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<sup>1</sup> Request for Production Nos. 2, 5, 14, 16, 8, 24, and 26–28 are also relevant to this Motion.



work managing the class actions included all aspects of the defense including fact development, e-discovery, document discovery, fact witnesses, current and former employees, pleadings, depositions, and experts, *inter alia*. Ex. B ¶ 70.

As part of his duties, Mr. Gross requested outside counsel search the “millions of documents” collected in the class action litigation for historical evidence of 3M sales of PFOA products to Saint-Gobain facilities, including Merrimack. Ex. B ¶ 99. In early 2020, Mr. Gross interviewed Saint-Gobain fact witnesses with first-hand knowledge of 3M product usage. Ex. B ¶ 99 (“Witness Statements”). Mr. Gross’s investigation revealed that Defendants purchased a 3M product that contains 100 percent PFOA in quantities “substantially greater” than previously known. Ex. B ¶ 100. This product, known either as F-143, FC-143, or Fluorad, contains “orders of magnitude” more PFOA by volume than other dispersions used at Saint-Gobain’s operations. Ex. B ¶ 101. Saint-Gobain purchased and used “hundreds if not thousands of pounds” of Fluorad, including at Merrimack. Ex. B ¶ 100.

**B. Emissions Modeling May Significantly Understate PFOA Impacts Because They Do Not Account for Defendants’ Use of 3M Products at the Merrimack Facility**

Mr. Goss documents that he discovered that Saint-Gobain plants, including Merrimack, used 3M dispersions, which had higher PFOA content than Saint-Gobain reported in modeling to the state. Based on his discovery of Defendants’ use of Fluorad at Merrimack, Mr. Gross states that “emissions output calculations and data previously disclosed to and relied upon by environmental regulators could be materially inaccurate and significantly understated.” Ex. B ¶ 102. The quantities of Fluorad used historically at the Merrimack facility are known to Defendants in “granular detail.” Ex. B ¶ 103. This new information on Fluorad “could substantially enlarge the size, characterization, intensity and scope of the known groundwater contamination plumes, as well as render existing air dispersion and hydrogeological models



invalid. Ex. B ¶ 102. Multiple government agencies, including the New Hampshire Department of Environmental Services (NHDES) relied on PFOA usage data provided by Saint-Gobain and supporting expert reports derived therefrom. Ex. B ¶ 104. The concentration of PFOA in the materials used determines the emissions from the facility, particularly in Merrimack where to this day Saint-Gobain operates without pollution controls.

In the interest of transparency to regulators, Mr. Gross suggested that Saint-Gobain update agencies regarding the recently discovered potency and large quantities of 3M product usage. Ex. B ¶ 103. His supervisors opposed proactively self-reporting the issue with any governmental agency or otherwise amending prior disclosures or expert reports. Ex. B ¶ 105.

In summary, Amiel Gross was employed as in-house attorney for Saint-Gobain for six years, four of which he managed the PFOA litigation including this case. He interviewed fact witnesses, he caused a detailed complaint to be filed on his behalf which describes the specific chemicals at issue, he provided the timeframe dates of and locations of conversations of the relevant issues and identifies the personnel involved. He raised the issue of underreporting with other in-house counsel yet they failed to disclose the underreporting.

### **III. DEFENDANTS HAVE NOT PRODUCED THE WITNESS STATEMENTS OR RELATED FACTUAL INFORMATION RELATED TO THEIR USAGE OF 3M PRODUCT**

To date, Defendants have electronically produced 163,063 documents. Defendants have also produced a privilege log containing 8,495 entries. *See* Ex. C (final page of Defendants' privilege log). Plaintiffs have conducted targeted searches for records described by Mr. Gross, but the witness statements have not been produced.

Plaintiffs cannot determine whether the Complaint-related records are included in the privilege log to challenge the privilege. Defendants' privilege log contains 315 entries that list Mr. Gross as a recipient or author of a document or reference him in the record's description.

See Ex. D (examples of privilege log entries).<sup>2</sup> Each of these records is listed as being subject to a claim of attorney client privilege, work product, or both. There are an additional 1,890 entries in the privilege log that contain no descriptions whatsoever or claim of privilege. See Ex. E (examples of blank privilege log entries). Plaintiffs cannot determine whether the information identified in Mr. Gross's Complaint are among these 2,205 records. Before filing their Motion to Compel, Plaintiffs asked Defendants to identify by privilege log reference or Bates numbers the documents or witness statements described by Mr. Gross. Ex. F. Defendants have not complied with this request.

#### **ARGUMENT**

#### **IV. THIS COURT SHOULD GRANT PLAINTIFFS' MOTION TO COMPEL BECAUSE THE DOCUMENTS SOUGHT ARE DIRECTLY RELEVANT AND ARE NOT PRIVILEGED**

Parties are entitled to discover any nonprivileged matter that is relevant to a party's claim or defense and is proportional needs of the case. Fed. R. Civ. P. 26(b)(1). Information need not be admissible in evidence to be discoverable. *Id.* "Evidence is relevant if: (a) it has any tendency to make a fact more or less probable than it would be without the evidence; and (b) the fact is of consequence in determining the action." Fed. R. Evid. 401. Parties must supplement or correct its disclosures or responses in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect, and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing. Fed. R. Civ. P. 26(e)(1). The moving party's burden to compel production "should not be overstated." *West v. Bell Helicopter Textron, Inc.*, No. 10-CV-214-JL, 2011 WL 6371791 (D.N.H. Dec. 20, 2011). District courts are to "interpret liberally the discovery

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<sup>2</sup> Plaintiffs will provide a complete copy of the privilege log upon request.

provisions of the Federal Rules of Civil Procedure to encourage the free flow of information among litigants.” *Id.* at \*2 (quoting *Heidelberg Ams., Inc. v. Tokyo Kikai Seisakusho, Ltd.*, 333 F.3d 38, 41 (1st Cir. 2003) (internal quotations omitted). This standard extends to the relevance standard of Rule 26(b)(1), which most courts to have addressed the issue find is extremely broad. *Id.* at \*2 (quoting 8 Charles Alan Wright *et al.*, *Federal Practice and Procedure* § 2008, at 133 (3d ed. 2010)).

The party objecting to a discovery request based on privilege bears the burden of showing the privilege applies and that it has not been waived. *In re Keeper of Records (Grand Jury Subpoena Addressed to XYZ Corp.)*, 348 F.3d 16, 22 (1st Cir. 2003). Here, Plaintiffs seek information that is clearly relevant and non-privileged. Plaintiffs do not seek the mental processes, notes or opinions of counsel. Rather, the relief sought herein is limited to specific matters: the names of the witnesses described in Paragraph 99 of the Complaint and the content of those witnesses’ statement.

**A. Information described by Mr. Gross is highly relevant to the claims and defenses raised in this case**

Plaintiffs seek to compel documents that are clearly relevant to the claims and defenses in this case. Plaintiffs’ liability and damages case depends on the extent of, and Defendants’ contribution to, PFOA contamination to air, soil, and groundwater in Merrimack. Plaintiffs’ expert opinions rely on information on PFOA usage at the Merrimack facility obtained from Defendants through discovery. Relevant here, Barr Engineering and two of Plaintiffs’ experts directly relied on Defendants’ PFOA usage data for the Merrimack facility. Defendants provided PFOA usage data to its consultant, Barr Engineering, and NHDES. Barr Engineering, in turn, relied on this information to model PFOA emissions from the Merrimack facility in its evaluation of PFOA contamination in Merrimack. *See* ECF No. 246-5 at p. 62 (Barr Engineering

developed annual PFOA emissions estimates from data supplied by Defendants on the content of APFO in dispersions at the Merrimack facility).

Plaintiffs' experts also relied on the assumptions of the amount of PFOA used by Saint-Gobain to model PFOA emissions and impacts from the Merrimack facility. For example, Plaintiffs submitted the expert reports of David Sullivan's Reports (ECF No. 246-17) and Dr. Russ Detwiler's (ECF No. 247-2) in support of their Motion for Class Certification. *See* ECF No. 246-1 at 5 (referencing Barr Engineering's PFOA emissions estimates, and various exhibits from Mr. Sullivan's and Dr. Detwiler's expert reports). Both Mr. Sullivan and Dr. Detwiler relied on Barr modelling inputs that in turn relied on Defendants' PFOA usage data, *i.e.*, the data at issue in Mr. Gross's Complaint. *See, e.g.*, ECF No. 246-17 at p. 6 (air modelling) and ECF No. 247-2 (groundwater modelling). This modelling demonstrates the properties impacted by Saint-Gobain contamination, and the groundwater PFOA contamination, which in turn affects who would receive medical monitoring in this case.

Finally, whether Defendants withheld information from government agencies is highly relevant to this case. If Mr. Gross's statements are true, Defendants actively withheld important information from government agencies intended to protect human health and the environment, including Plaintiffs. Any lack of transparency by Defendants is relevant to their credibility at trial.

Mr. Gross's statements are also highly relevant to the defense in this case. Defendants maintain a general denial of liability and affirmatively allege that 45 third parties are potential DeBenedetto Defendants. *See* Ex. G, Defendants DeBenedetto Disclosures with revision. Accurate records of the quantitative and qualitative volume and usage of PFAS used at the Defendants' facility is necessary to compare said usage to the named entities, many of which are

small business entities. Even if the Defendants do not pursue any claim that the contamination was caused by others, the evidence of the volume and usage relates to whether the answer and DeBenedetto designations were made in good faith.

As noted by Mr. Gross, accurate reporting could materially impact the size, characterization, intensity, and scope of the groundwater plume and ultimately the class area. According to Amiel Gross, Saint-Gobain had information that the class area, intensity and characterization was potentially changing and did not alert the State of New Hampshire, Plaintiffs or the Court with this knowledge.

**B. The Documents Are Not Protected by The Work Product Doctrine**

The work product doctrine provides only a qualified protection for documents prepared in anticipation of litigation. Fed. R. Civ. P. 26(b)(3). A party may obtain ordinary work product, as opposed to opinion work product, upon a showing of “substantial need of the materials in the preparation of the party’s case” and that the party cannot obtain the information elsewhere without “undue hardship.” *Id.* The mental impressions of counsel remain protected, though, “not every item which may reveal some inkling of a lawyer’s mental impressions, conclusions, opinions, or legal theories is protected as opinion work product.” *In re San Juan Dupont Plaza Hotel Fire Litig.*, 859 F.2d 1007, 1015 (1st Cir. 1988).

The party invoking work product to avoid discovery bears the burden of demonstrating it applies. *Micronics Filtration Holdings, Inc. v. Miller*, No. 18-CV-303-JL, 2019 WL 9104172 (D.N.H. Nov. 5, 2019) (citing *In re Grand Jury Subpoena*, 273 F. Supp. 3d 296, 304 (D. Mass. 2017)) and that the privilege was not waived. *Cavallaro v. United States*, 153 F. Supp. 2d 52, 56 (D. Mass. 2001), *aff’d* 284 F.3d 236 (1st Cir. 2002).

Witness statements that contain purely factual information, including witness opinions, are not protected work product. *Klonoski v. Mahlah*, 953 F. Supp. 425, 427 (D.N.H. 1996); *State*

*v. Chagnon*, 662 A.2d 944, 948 (N.H. 1995). Even if these statements were work product, Plaintiffs have a substantial need for the information to verify the veracity of Defendants' PFOA usage data. Plaintiffs cannot obtain the same statements from witnesses who may not remember these facts as when they were interviewed. Plaintiffs would also incur the tremendous cost and disadvantage of in deposing these witnesses without the benefit of their prior statements to refresh the witnesses' recollection or impeach their testimony. But again, these factual statements do not fall under the work product doctrine and, moreover, should have been produced in response to Plaintiffs' document requests.

Plaintiffs are also unable to verify whether Defendants have produced all records—particularly considering Mr. Gross's statements—without access to the information sought in this Motion to Compel. Conversely, the limited documents requested herein can be produced with little expense to the Defendants. Plaintiffs note at the May 13, 2021 hearing held in the Federal District Court for the District Vermont in matter of *Sullivan v Saint-Gobain* 5:16-cv-124, the Defendant argued that with respect to the Vermont plant only 61 pounds of undisclosed 3M FC143 (Fluorad) was found. FC143 is not the only chemical at issue. Plaintiff also seeks information as to other 3M PFAS-containing chemicals used at Merrimack including but not limited to FC105 and FC108, *inter alia*. The Merrimack plant involved substantially higher volumes of usage of chemicals than the other plants. See Plaintiffs' Memorandum in Support of Their Motion for Class Certification, ECF No. 246-1 at 4.

**C. The Documents Are Not Covered by The Attorney-Client Privilege**

The party invoke a privilege “bears the burden of establishing that it applies to the communications at issue and that it has not been waived. *In re Keeper of Recs. (Grand Jury Subpoena Addressed to XYZ Corp.)*, 348 F.3d 16, 22 (1st Cir. 2003). In order to meet this burden, the person asserting the privilege is required to make four showings: (1) that he has or

sought to be a client of the attorney [the attorney]; (2) that [the attorney] in connection with the [document] acted as a lawyer; (3) that the [document] relates to facts communicated for the purpose of securing a legal opinion, legal services or assistance in a legal proceeding; and (4) that the privilege has not been waived. *Pacamor Bearings v. Minebea Company*, 918 F. Supp. 491, 510 (D.N.H. 1996).

The inadequacies of Defendants' privilege log prevent identifying the documents Plaintiffs seek to compel. Even if it were to apply, the attorney-client privilege does "not extend to communications made for the purpose of getting advice for the commission of a fraud or crime." *In re Grand Jury Proceedings (Violette)*, 183 F.3d 71, 75 (1st Cir. 1999). Rather, the "privilege takes flight" if the attorney client relationship is abused and a client "who consults an attorney for advice that will serve him in the commission of a fraud will have no help from the law. He must let the truth be told." *Clark v. United States*, 289 U.S. 1, 15 (1933).

"[C]ontinuing fraudulent misrepresentation and cover-up vitiates not only any attorney-client privilege but also any work product immunity." *Craig v. A.H. Robins Co., Inc.*, 790 F.2d 1, 4 (1st Cir. 1986). The party invoking the crime-fraud exception bears the burden of "present[ing] evidence: '(1) that the client was engag[ed] in (or was planning) criminal or fraudulent activity when the attorney-client communications took place; and (2) that the communications were intended by the client to facilitate or conceal the criminal or fraudulent activity.'" *In re Grand Jury Proceedings*, 417 F.3d 18, 22 (1st Cir. 2005). To carry this burden, that party must demonstrate that "there is a reasonable basis to believe that the lawyer's services were used by the client to foster a crime or fraud." *Id.* at 23. A "reasonable basis" is "something less than a mathematical (more likely than not) probability that the client intended to use the attorney in furtherance of a crime or fraud."

Mr. Gross's Complaint meets this "reasonable basis" test to invoke the crime-fraud exception to claims of attorney-client privilege and work product doctrine, including opinion work product. Every circuit court considering the issue has held or assumed that the crime-fraud exception applies to work product immunity. *See* Jeff A. Anderson et. al., *The Work Product Doctrine*, 68 Cornell L. Rev. 760, 833 (1983).

Thus far, two Federal Courts have ruled that Amiel Gross may be deposed considering the statements in his Complaint. The Gross Complaint includes statements relating to the bankruptcy filing DBMP LLC, a related entity of Saint-Gobain. Ex. B at 17. A motion to authorize the deposition of Amiel Gross regarding his Complaint was filed in the Bankruptcy Court for the Western District of North Carolina in the matter of *In Re DBMP, LLC*, Case No. 20-30080. The motion was heard on May 5, 2021 at which time the court stated that the deposition may go forward and referred to the crime-fraud exception. A copy of the Motion is attached hereto as Ex. H. A hearing was also held on May 13, 2021 in the Federal District Court for the District Vermont in matter of *Sullivan v Saint-Gobain* 5:16-cv-124 on Plaintiffs' Motion to Reopen Discovery and Modify the Scheduling Order which was submitted following the filing of the Gross complaint. The court ordered that the deposition of Amiel Gross may proceed. *See* Ex. I, USDC of Vermont Docket Order. At this hearing, counsel for the Defendant admitted that after Mr. Gross filed his Complaint, the Defendants determined that 53 pounds of just one of the chemicals containing PFAS (FC 143) that was used at the Vermont plant were not disclosed. Plaintiffs believe that given the size of the Merrimack plant compared to the Vermont plant and that other PFAS chemicals were used, there is a good faith basis for the court to order the relief sought herein by way of production of the Witness Statements and all documents describing the usage of PFAS.



**D. The Court may also consider an in-camera review of the witness statements to determine if the privilege applies**

Where it is difficult to determine the facts of the crime-fraud exception, courts have been willing to review ostensibly privileged materials by themselves *in camera* and then decide whether the privilege applies. *In re Grand Jury Proceedings*, 417 F.3d 18, 22, (1st Cir. 2005). Plaintiff need only show “a factual basis to support a good-faith belief by a reasonable person that in camera review of the material may reveal evidence to establish” that the attorney’s services were so used. *Id.* “May is a very relaxed test.” *Id.*

“*In camera* review for purposes of determining the merits of a claim of privilege does not destroy any privilege the documents may enjoy.” See *United States v. Zolin*, 491 U.S. 554, 568–69 (1989). It is particularly appropriate when, as here, it is “hard to determine whether the attorney-client relationship has been misused by the client for crime or fraud without seeing the document . . . as to which the privilege is claimed.” *Rockwood Select Asset Fund XI, (6)-I, LLC v. Devine, Millimet & Branch, PA*, 113 F. Supp. 3d 471, 478 (D.N.H. 2015); see also *In re Grand Jury*, 106 F.R.D. 255, 257 (D.N.H. 1985) (court conducted an *in camera* hearing to determine if the files of an attorney were protected by the work product doctrine).

Given the importance of the facts stated by Mr. Gross to Plaintiffs’ claims in this case, the impact on pending Motion for Class Certification, and the opinions of Plaintiffs’ experts as to liability and damages, Plaintiffs’ respectfully request that the court order the Defendants to produce: (1) Copies of all witness statements which describe the historical quantitative and qualitative usage of PFAS at the Merrimack, New Hampshire plant; (2) all documents showing usage of 3M dispersions or products containing PFAS; and (3) all communications from or between 3M or its predecessors or subsidiaries and ChemFab or Saint-Gobain concerning Fluorad, FC-143, PFOA or any PFAS containing product. .

Respectfully submitted,

Dated: July 13, 2021

/s/ Paul DeCarolis  
Paul M. DeCarolis, Esq. (NH Bar #596)  
GOTTESMAN AND HOLLIS, PA  
39 East Pearl Street  
Nashua, NH 03060  
(603) 889-5959  
[pdecarolis@nh-lawyers.com](mailto:pdecarolis@nh-lawyers.com)

Kevin S. Hannon, Esq. (NH Bar #269896)  
The Hannon Law Firm, LLC  
1641 Downing Street  
Denver, CO 80218  
(303) 861-8800  
[khannon@hannonlaw.com](mailto:khannon@hannonlaw.com)

John A. Yanchunis (Pro Hac Vice)  
MORGAN & MORGAN COMPLEX  
LITIGATION GROUP  
201 N. Franklin Street, 7<sup>th</sup> Floor  
Tampa, FL 33602  
(813) 223-5505  
[jyanchunis@forthepeople.com](mailto:jyanchunis@forthepeople.com)

#### **CERTIFICATE OF SERVICE**

I hereby certify that a copy of Plaintiffs' Memorandum of Law in Support of Plaintiffs' Motion to Compel Witness Statements and Documents Concerning 3M Product Usage at Merrimack was filed through the ECF System and will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF).

/s/Paul DeCarolis  
Paul M. DeCarolis, Esq.

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW HAMPSHIRE

KEVIN BROWN, et al.,	)	Civil Action No.
	)	1:16-cv-00242-JL
Plaintiffs,	)	
	)	
v.	)	
	)	
SAINT-GOBAIN PERFORMANCE PLASTICS	)	
CORPORATION, et al.,	)	
	)	
Defendants.	)	

**PLAINTIFFS' MEMORANDUM OF LAW IN OPPOSITION TO  
DEFENDANTS' MOTION FOR A PROTECTIVE ORDER**

Plaintiffs seek to depose Amiel Gross, not opposing counsel but the former in-house counsel for Saint-Gobain, whose statements made in an ongoing whistleblower complaint with the Occupational Safety and Health Administration (OSHA) allege serious misconduct by Saint-Gobain in connection with this case and state-led efforts to address PFOA-related contamination in the class area. Ex. A (Complaint, *Amiel Gross v. Compagnie de Saint-Gobain et al.* (Apr. 6, 2021 U.S. DOL)).<sup>1</sup> Mr. Gross stated that Saint-Gobain may have significantly underreported to State Regulators the extent of historic PFOA usage at its facilities, which in turn undermines expert opinions in this case and Defendants' *DeBenedetto* defendant claims; chose not to correct its underreporting; and adopted a policy of willful blindness for PFOA contamination at its facilities. *Id.* at ¶¶ 98–105. Mr. Gross's statements indicate that he gathered and has knowledge of these relevant facts and has gathered documents related to these facts.

Plaintiffs must be able to depose Mr. Gross on the facts of issues raised in his complaint.

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<sup>1</sup> Defendants misrepresent that the complaint was dismissed and is not on appeal. *See* Ex. B (Christensen Ltr. (Aug. 25, 2021)) at 3; Ex. C (OSHA Docket Sheet).

These include: (1) the extent of Saint-Gobain's historical use of PFOA at its facilities, including Merrimack; (2) whether and when Saint-Gobain knew it used and emitted more PFOA than it represented to NHDES; (3) what actions Saint-Gobain did or did not take in response to this knowledge; (4) the substance of and records of Mr. Gross's interviews with Saint-Gobain fact witnesses; (5) the identification of these fact-witnesses; (6) the involvement of Saint-Gobain's parent companies regarding PFOA-related liability; and (7) the identification and existence of records that have not been produced. None of these issues require inquiry into protected communications between Saint-Gobain and Mr. Gross rendering or seeking legal advice because they seek information on underlying facts, implicate the crime fraud exception, or both. There is no "good cause" for issuing a protective order.

Defendants, moreover, have not met their burden to demonstrate that the attorney-client privilege or work product doctrine apply here and that they have not been waived. This Court, like its sister courts in Vermont and North Carolina, should allow Mr. Gross's deposition.

### **BACKGROUND**

A fundamental issue in this case is whether Saint-Gobain's PFOA emissions contaminated groundwater in the Class Geographic Area, leading to exposure to class members, requiring medical monitoring. Defendants dispute this, naming dozens of *DeBenedetto* defendants. Ex. D. At issue is not simply those drinking the water since 2016, but also historically before groundwater PFOA measurements were being taken. Trespass requires proof of Saint-Gobain PFOA on each class property. Participation in Plaintiffs' medical monitoring program is determined by PFOA part per trillion (ppt) levels in water. Dkt. 236-4 (2020 Bartell Report). If the PFOA concentration is too low, the class members do not receive monitoring.

As part of the response to the contamination, NHDES required information from Saint-

Gobain, including “a description of the types and quantities of APFO and related PFCs used and emitted to air...” Ex. E (NHDES Information Request Ltr. to Saint-Gobain (Mar. 18, 2016)). Defendants were also required to “retain the service of a qualified environmental consultant to develop a workplan for a full site investigation of the Saint-Gobain facility and impacted off-site locations.” Ex. F at ¶ 2c (NHDES Ltr. to Saint-Gobain regarding PFOA in Southern New Hampshire (Apr. 1, 2016)). Defendants hired consultant Barr Engineering to do that. Since Saint-Gobain did not measure emissions at the time they were occurring, Barr on behalf of Saint-Gobain estimated both historic deposition of PFOA on the ground, and then groundwater concentrations in and beyond the Class Geographic Area and presented those results in a 2017 report to NHDES.<sup>2</sup> Saint-Gobain provided the emissions estimates both to Barr and NHDES. *Id.* at 59, Section 1.3.1, n. 5.; *see also* Ex. G (Barr email (Mar. 30, 2017)).

Based on the information provided by Saint-Gobain, Barr represented to the state: “The dispersions in use up until March of 2006 were high-PFOA content dispersions and these dispersions were typical of dispersions used prior to 2004. Emission estimates for 1986 – 2003 were assumed to be equal to their respective 2004 emission rates starting in the year that the tower was installed.” 2017 Barr Report at 59–60; Dkt. 201-5 (2018 Barr Report) at 62 n.5. This is likely the same information that Gross alerted superiors at Saint-Gobain “could be materially inaccurate and significantly understated.” Ex. A (Gross Compl.) ¶ 102. Of note, Saint-Gobain told the state that the monthly maximum amount of APFO usage was overstated, and to use substitute figures. Ex. H (Saint-Gobain Ltr. to Clark Freise (Oct. 17, 2016)). The modelling was used to determine who would receive bottled water. Ex. I (Clark Freise Ltr. to Edward Canning

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<sup>2</sup> <https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4660822>, last accessed Sept. 17, 2021 (hereinafter “2017 Barr Report”).

(Feb. 17, 2017)). *See also* Defs.' Ex. 14 (Catherine Beahm email to Eric Edwalds (Apr. 10, 2017)).

As Gross notes, the 3M FC-143 dispersion product was virtually 100% PFOA. Ex. A (Gross Compl.) ¶ 100. The 2004 to 2006 dispersions were 1% PFOA or lower. Ex. J (2004 MSDS). Modelling based on 2004 emissions of PFOA, determined by the concentration of PFOA in the dispersion used, would materially and significantly understate emissions from the Facility, and as a result, underestimate PFOA groundwater concentrations delivered to class members' household water. The Gross investigation revealed use of FC-143 in quantities substantially greater than formally known and contained orders of magnitude more PFOA by volume than even the highest content PTFE dispersions typically used by Saint-Gobain. *Id.* ¶¶ 100, 101. He told these facts to Carol Gray, General Counsel and Head of Environmental Health & Safety. *Id.* ¶ 102. Gross states that the unreported use of FC-143 "could substantially enlarge the size, characterization, intensity and scope of the known groundwater contamination plumes, as well as render existing air dispersion and hydrogeological models invalid." *Id.* ¶ 102 (emphasis added). Regulators, including NHDES, may be relying on flawed data. *Id.* ¶¶ 103, 104. Thus the issue was not defense of this case, but duties of honesty to regulators.

To evaluate the historic groundwater PFOA concentrations in household water delivered to MVDWW customers, Plaintiffs used well-accepted methodology to predict those concentration levels, which were in turn used to determine who receives monitoring. Expert Dr. Detwiler relied on the Barr modeling presented to the NHDES by Defendants as representative to determine historic PFOA concentrations. Dkt. 247-2 (Dr. Detwiler Rpt.). Dr. Detwiler calibrated his model results to account for an "underestimation of PFOA deposition at the ground surface." *Id.* at 5. Detwiler has been attacked by multiple defense experts that this adjustment

was unreliable and unfounded. *See, e.g.*, Defs.' Class Cert. Opp. Ex. 10 ("Connor Rpt.") at 53 and Ex. 9 ("Chinkin Rpt.") at 21.<sup>3</sup> Plaintiffs' air modeling expert Sullivan explained that if the historic APFO concentrations in the dispersions were in fact higher than reported to NHDES, "the emissions rates prior to 2005 would be understated." Dkt. 236-6 (Sullivan Rpt.) at 20 n.10.

Defendants admit that "the nature and quantity of the products [they used] are relevant to determining the total amount of the facility's emissions." Defs.' Memo. at 10. Higher PFOA emissions rates are therefore probative of the PFOA concentrations in groundwater which determine who receives medical monitoring under Plaintiffs' proposed plan. Moreover, they are relevant to Defendants' claim that the 45 potential *DeBenedetto* Defendants are more or solely responsible for the contamination instead of Saint-Gobain. Ex. D. Defendants' experts repeatedly fault Plaintiffs experts for concluding that Saint-Gobain is the predominant source of contamination and failing to consider these *DeBenedetto* parties. *See, e.g.*, Connor Rpt. at 7.

Moreover, the conduct of failing to disclose to regulators the true extent of emissions is relevant to Defendants' duties to the communities they have contaminated as even now, five years later, household well testing and replacement bottled water programs are being initiated by Saint-Gobain. Gross stated that Saint-Gobain knew the information it provided was (after his 2020 investigation) known in "granular detail" and "could substantially enlarge the size, characterization, intensity and scope of the known groundwater contamination plumes, as well as render the existing air dispersion and hydrogeological models invalid." Ex. A (Gross Compl.) ¶¶ 102, 103. Mr. Gross states that Saint-Gobain kept this information from regulators and Plaintiffs by not amending prior disclosures or proactively notifying regulators. *Id.* ¶ 105.

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<sup>3</sup> Defendants filed these Exhibits under seal on July 12, 2021 with their Memorandum of Law in Support of Saint-Gobain's Objection to Plaintiffs' Revised Motion for Class Certification.



Without regard to other witnesses' testimony, Plaintiffs have the right to discovery what facts Mr. Gross knew. Mr. Gross knows of Saint-Gobain's decision not to inform NHDES that its modelling was wrong, and that now-known failure is key conduct in this case. Barr has not yet responded to Plaintiffs' subpoena, as Defendants full well know.

Plaintiffs are not seeking to depose litigation counsel Dechert, but former in-house counsel. They do not seek the legal advice Mr. Gross gave to Saint-Gobain about trial strategy or mental impressions or opinions. Plaintiffs seek the facts that his investigation produced, the identification of documents created that reflect these facts, and to whom within Saint-Gobain he reported these facts. Plaintiffs need to explore the true facts of what Saint-Gobain represented to the state about emissions, and the true facts of the emissions that determine the extent of property damage through the class and medical monitoring.

### **ARGUMENT**

#### **I. This Court Should Deny Defendants' Motion for a Protective Order for Failure to Show Good Cause**

The First Circuit requires "balanc[ing] the particular interests in the case in determining whether good cause exists to support a protective order." *Gill v. Gulfstream Park Racing Ass'n, Inc.*, 2005 WL 1711119 \*1 (D.N.H. 2005) (citing *Public Citizen v. Liggett Group, Inc.*, 858 F.2d 775, 780 (1st Cir. 1988)). The party opposing a protective order carries the burden that the information sought is in fact entitled to confidentiality. *West v. Bell Helicopter Textron, Inc.*, 2013 U.S. Dist. Lexis 26899 (D.N.H. Feb. 27, 2013). The interests in this case are against issuing a protective order.

There is no rule prohibiting the deposition of an opposing party's counsel. *See Bogosian v. Woloohojian Realty Corp.*, 323 F.3d 55, 66 (1st Cir. 2003). Trial courts weigh various factors to determine whether a party can depose counsel, including "whether (i) the subpoena was issued

primarily for the purposes of harassment, (ii) there are other viable means to obtain the same evidence, and (iii) to what extent the information sought is relevant, nonprivileged, and crucial to the moving party's case." *Id.*; *see also Carey v. Textron Inc.*, 224 F.R.D. 530, 532 (D. Mass. 2004) (subpoenaed attorney's status as former counsel weighed in favor of allowing deposition). None of the cases Defendants cite address the instance where their own counsel has come forward to raise facts that support fraud on the State and the parties.

Defendants' carefully worded motion never states that all that Gross would say is protected communication. It is clearly not. Defendants allege that there is "scarcely any" relevant testimony he could provide, Defs.' Memo. at 1, "nearly each" question would provoke an objection, *id.*, the information obtained would be "minimal," *id.* at 2, the "vast majority" of any relevant information would be privileged, *id.* at 5, "nearly every" question would require Saint-Gobain to assert the privilege. *Id.* at 6. There is no good cause to prevent the deposition.

**A. Plaintiffs Subpoenaed Mr. Gross to Inquire the Facts Raised In His Complaint That Are Probative of Issues Central to This Case**

Under Federal Rule of Civil Procedure 26, parties may obtain discovery regarding any non-privileged matter that is relevant to any party's claim or defense. Fed. R. Civ. P. 26(b)(1). Evidence is relevant if it has any tendency to make a fact more or less probable than it would be without the evidence and the fact is of consequence in determining the action. Fed. R. Evid. 401. Mr. Gross's statements document an investigation into the true level of emissions of toxic PFOA from the Merrimack facility and whether the representations of the emissions made to NHDES to rely on were accurate. Mr. Gross possesses relevant information on Saint-Gobain emissions, and the representation of those emissions to NHDES. *See also* Ex. B (Christensen Ltr.) at 2-3.

Two courts have ruled that Mr. Gross can be deposed. Dkt. 282-10 (D. Vt. minute order); Ex. B at 1. Judge Crawford ruled that Mr. Gross's deposition could go forward in the

Vermont class action case over Saint-Gobain's objections. The District of Vermont in the matter of *Sullivan v Saint-Gobain* 5:16-cv-124 ordered that the deposition may proceed. *See* Dkt. 282-10 (minute order). At this hearing, counsel for the Defendant admitted it failed to disclose 61 pounds of just one of the high-PFOA content chemicals (FC 143) it used at the Vermont plant. Ex. K (D. Vt. Hearing Tr.) at 10. At this hearing, counsel for the Defendant admitted it failed to disclose 61 pounds of just one of the high-PFOA content chemicals (FC 143) it used at the Vermont plant. *Id.* The court did not bar or limit the scope of the deposition. Mr. Gross was also deposed in a bankruptcy proceeding in North Carolina.<sup>4</sup> Plaintiffs, like the parties in those cases, subpoenaed Mr. Gross to address crucial factual issues. Plaintiffs' motive to depose Mr. Gross is not for harassment, but to prepare their case.

**B. Plaintiffs Have No Other Means to Verify Mr. Gross's Statements**

Mr. Gross's statements call into question the accuracy of information Saint-Gobain provided to NHDES and Plaintiffs on PFOA emissions from its facility. Defendants contend that Mr. Gross's statement that Saint-Gobain used "APFO in 'quantities substantially greater than previously known'" is "incorrect" and that all relevant records have been produced. Defs.' Memo. at 2 (quoting Ex. A (Gross Compl.) ¶ 100). But counsel's representations are not evidence and do not disprove Mr. Gross's statements. There are no viable means to verify the accuracy of Gross's statements without deposing him, and his testimony is a check on others.

There are also significant inconsistencies between Mr. Gross's statements, counsel's representations, and Defendants' discovery practices that can only be resolved by deposing Mr.

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<sup>4</sup> Gross includes statements relating to the bankruptcy filing DBMP LLC, a related entity of Saint-Gobain. Ex. A (Gross Compl.) ¶ 17. That court granted the deposition and referred to the crime-fraud exception. *See* Ex. L (Motion to Compel, In *Re DBMP, LLC*, Case No. 20-30080) (quoting Gross deposition); One of Defendants' experts in this case, Dr. Charles Mullin, confirmed certain details Mr. Gross raised in his deposition. Ex. M (Mullin Tr.) at 102-148.

Gross. For example, Defendants' Motion does not indicate, nor do the supporting exhibits show, that any of the records Mr. Gross identified in the 2020 review were searched or produced in this litigation. Mr. Gross states that he identified records concerning historic PFOA usage at the Merrimack facility in records Defendants received from 3M in a sister case involving Saint-Gobain's New York facility. See Ex. A (Gross Compl.) ¶ 99; Ex. B (Christensen Ltr.) at 2–3. In Defendants' Motion, however, Counsel do not represent they produced this trove of records. Counsel simply assert Saint-Gobain “has already produced its responsive documents.” Defs.' Memo. at 9. But the records Defendants already produced were from “the Merrimack facility and archive storage facilities, as well as various electronic depositories . . . .” Defs.' Memo. at 10 n.3; see also Defs.' Ex. 6 (describing the document production as a “[s]upplement to Chemfab and Saint-Gobain archives.”). The two additional records Defendants produced after the 2020 review (*i.e.*, the one Mr. Gross describes took place after receiving the 3M trove) were from “document repositories, *all of which Saint-Gobain had searched* for responsive documents.” Defs.' Memo. at 13 (emphasis added). Thus, the “two pages of inventory records from 1992” that had not been produced previously were found in the archives, not the 3M trove. Defs.' Memo. at 13.<sup>5</sup> Mr. Gross describes reviewing not just Saint-Gobain and its predecessor's *archives*, but the “voluminous production of documents from 3M in the New York class action litigation.” Defs.' Ex. 11 at 3; Ex. B (Christensen Ltr.) at 2. Saint-Gobain has control of Gross's Outlook file, which may contain relevant information. Ex. A (Gross Compl.) ¶ 136–37.

Mr. Gross knows whether the production of documents on PFOA emissions to the State was complete. Defendants cite four letters from Defense counsel indicating a bates range of

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<sup>5</sup> Documents SGNH170001215 and SGNH170001133 were produced on February 4, 2021. Defs.' Memo. at 13–14. The letter transmitting those records states they were found in the *archives*. Defs.' Ex. 6, Dkt. 280-7.

documents produced to the state. Defs. Memo. Ex. 1–4. As indicated by their lack of a SGNH bates number, these cover letters have not been produced to Plaintiffs in discovery, and should have been. Moreover, they reveal a different bates numbering scheme, SGPPL, for documents given to the State. *Id.* These new documents show that not only has Defendant not produced relevant documents, but also that there are facts to be gained from Mr. Gross about what documents were not produced to NHDES. Nor should the Court force Plaintiffs to accept defense counsels’ version of production to the state, when they were involved in that production.

Defendants have not produced all records from the New York litigation. Defendants did not produce any records in 2020, the year it received the 3M records and the year of the Gross investigation. Records produced from 3M would include a different bates numbering prefix on the records themselves (*e.g.*, other than SGNH), or a transmittal letter indicating production of records from a document repository other than Defendants’ archives. *See* Defs.’ Ex. 6.

Counsels’ statements and Defendants’ document productions represent that 3M failed to turn over a single document reflecting sales to Merrimack, which belies reality and contradicts Mr. Gross’s statements. As Judge Crawford noted, “I don’t think I would be doing my job if we didn’t give both sides a chance to go to him and say, ‘What’s the information that you have? Tell us the specifics.’” Ex. K, Hearing Tr., *Sullivan, et al. v. Saint-Gobain Performance Plastics Corp.* No. 5:16-cv-000125 (filed D. Vt. May 25, 2021), ECF No. 452. Plaintiffs have no viable means of learning the truth other than deposing Mr. Gross.

**C. Mr. Gross’s Testimony Will Adduce Relevant, Non-privileged, And Crucial Information**

Defendants do not claim that the facts Mr. Gross alleged are not relevant or likely to lead to admissible evidence. The information about the investigation he performed, Ex. A (Gross Compl.) ¶¶ 99–100, is probative of several issues in this case and may lead to further

discoverable information including: (1) the true facts about the levels of PFOA emissions from the Merrimack facility; (2) the geographic extent and concentration of PFOA impacts; (3) *DeBenedetto* defendants; (4) whether Defendants knowingly provided inaccurate information to NHDES; (5) whether Defendants withheld this information from NHDES and in this litigation; (6) whether Defendants are liable for PFOA contamination in Merrimack; (7) whether Defendants adopted a policy of willful blindness relating to its PFOA contamination; and (8) what potential witnesses can provide further information based on their first-hand knowledge. Too, Plaintiffs need to confirm Saint-Gobain's "If you look you will find it. If you don't you can say you didn't know" attitude toward contamination in Merrimack, and affecting the disclosure of PFOA to NHDES and the resulting delays in providing tests and alternative sources of household water, particularly in Bedford. *See* Ex. A (Gross Compl.) ¶ 77. These issues implicate Defendants' liability, damages, and enhanced compensatory damages.

Mr. Gross's statements are critically relevant because they support the fact that modeling performed by Barr Engineering and presented to the state substantially underpredicted PFOA impacts. Saint-Gobain generated the data on historical APFO usage that Barr modeled for NHDES, and which formed a basis of several opinions offered by Plaintiffs' experts. *See* Defs.' Memo. at 12–13. Several defense experts testified that when they read the Barr Engineering report that they had no reason to believe the Saint-Gobain's APFO usage data was materially inaccurate. Ex. N (Panday Tr.) at 75–79; *see also* Ex. O (Connor Tr.) at 140–50; 181–82. Plaintiffs' experts likewise reasonably relied on Saint-Gobain's representations on historical APFO usage to NHDES when they submitted their trial expert reports in June and August 2020—months before Mr. Gross filed his April 2021 compliant with OSHA and more than a year after Saint-Gobain received the 3M records.

Defense experts criticize Dr. Detwiler's groundwater modeling of PFOA impacts because in their view the amount of PFOA he modeled would mean "60% of the APFO used in the plant was lost through the stack," a rate of loss they assert is too high. Defs.' Class Cert. Opp. Ex. 10 Connor Rpt. at 53. But their opinion obscures the impact of underreporting APFO usage on Mr. Detwiler's modeling. Mr. Detwiler scaled his model results to measured PFOA groundwater concentrations to account for "[a]n underestimation of PFOA deposition at the ground surface" using peer reviewed methodology. Dkt. 247-2 (Dr. Detwiler Rpt.) at 5. As Mr. Connor testified, PFOA emissions increase with greater APFO usage. Ex. O (Connor Tr.) at 164. If Mr. Gross's statements are true then those facts would strongly support Dr. Detwiler's opinions and undermine those of the defense experts.

At the May 13, 2021 hearing held in the Federal District Court for the District Vermont in matter of *Sullivan v Saint-Gobain* 5:16-cv-124, the Defendants argued that only 61 pounds of undisclosed 3M FC-143 (Fluorad) was found. FC143 is not the only chemical at issue. Plaintiffs also seek information as to other 3M PFAS-containing chemicals used at Merrimack including but not limited to FC-105 and FC-108. *See also* Ex. B (Christensen Ltr.) at 2. Also, the Merrimack plant involved substantially higher volumes of usage than the other plants. *See* Dkt. No. 246-1 (Pltfs.' Mem. In Supp. of Their Mot. For Class Cert.) at 4.

Mr. Gross states that he "interviewed several Saint-Gobain fact witnesses with first-hand knowledge of 3M product usage." Ex. A (Gross Compl.) ¶ 26. Who these fact witnesses are, what information they have, what documents reflect their knowledge, what notes he took, and who he told about the results of the interviews other than current litigation counsel, is directly relevant and discoverable information impacting Plaintiffs' claims. There is sufficient time to depose Gross before the close of discovery in December.



**D. The Information Sought Is Not Subject To the Attorney Client Privilege**

The information Plaintiffs seek from Mr. Gross is discoverable without analysis of waivers to privileges because the information is not privileged. The party that invokes a privilege bears the burden of establishing that it applies to the communications at issue and that it has not been waived. *In re Keeper of Recs. (Grand Jury Subpoena Addressed to XYZ Corp.)*, 348 F.3d 16, 22 (1st Cir. 2003). New Hampshire law provides the relevant standard in this case. Defs.' Memo. at 5. The rule on attorney-client privilege defines a "client" as a person or entity "who is rendered professional legal services by a lawyer, or who consults a lawyer with a view to obtaining professional legal services from him." N.H. R. Evid. 502(a)(1). A "representative of a client" is "one having authority to obtain professional legal services, or to act on advice rendered pursuant thereto, on behalf of the client." N.H. R. Evid. 502(a)(2). Clearly, the facts witnesses from whom Gross obtained information are not "clients" under this standard. New Hampshire follows a more narrow construction of the privilege where statements made by any employee of a corporate defendant to the corporation's legal counsel or its agent are not necessarily privileged. *Klonoski v. Mahlab*, 1996 U.S. Dist. LEXIS 20360 at \*7 (D.N.H. July 17, 1996), *aff'd on reh'g*, 953 F. Supp. 425, 430-31 (D.N.H. 1996).

Saint-Gobain cannot insulate its normal fact gathering by using communication with counsel. *Id.* at \*8 (citing N.H. Evid. R. 502, Reporter's Notes); *see also Anderson v. Trs. Of Dartmouth College*, 2020 U.S. Dist. LEXIS 153785 at \*9-10 (N.H. Dist. Ct. Aug. 25, 2020) (employee emails copying in-house counsel are not protected; in-house counsel communications not automatically privileged, "particularly if the communication could equally well have been made to or by an individual without a law degree"); *City of Springfield v. Rexnord Corp.*, 196 F.R.D. 7, 8-9 (D. Mass. 2000) (in-house counsel responsible for managing a state Department of Environmental Quality Engineering investigation cannot claim privilege for all communications

made by or copied to him, as in-house counsel often wear “other hats” transacting the business of the company); *Hebert v. Vantage Travel Serv.*, No. 17-10922, 2019 U.S. Dist. LEXIS 101270, at \*4 (D. Mass. June 18, 2019) (defendant could not claim that meeting notes were privileged merely because in-house counsel was present at the meeting; the notes contained facts relevant to the case, and there was no indication that in-house counsel rendered legal advice on the incident). Where a communication neither invited nor expressed any legal opinion whatsoever, but involved the mere soliciting or giving of business advice, it is not privileged. *United States v. United Shoe Mach. Corp.*, 89 F. Supp. 357, 359 (D. Mass. 1950).

Defendants’ argument assumes that all Saint-Gobain employees, including the fact witnesses Gross references, are “clients.” A party cannot shield relevant information under the attorney-client privilege simply because it was communicated to or relayed through an attorney. Blanket statements about Mr. Gross’s role as in-house counsel do not protect information communicated to him from non-clients. *Klonoski*, 953 F. Supp. at 430–33 (hospital staff’s statements to agent of hospital’s in-house lawyer were not privileged because staff were not clients). Mr. Gross’s interviews with fact witnesses did not involve communications between an attorney and a *client*; nor did these witnesses come seeking legal advice. Thus, any facts Mr. Gross learned from “fact witnesses” or others who are not clients are discoverable.

Mr. Gross’s internal reporting of the company’s knowledge of high PFOA content dispersion usage at the Merrimack facility is not privileged. Ex. A (Gross Compl.) ¶¶ 26–7; Ex. B (Christensen Ltr.) at 2. Those communications could have equally been made by a nonlawyer and describe facts clearly related to Plaintiffs’ discovery requests and claims. Defendants have failed to prove their burden to show that Mr. Gross should not testify.

**E. The Facts of Conduct Described By Mr. Gross Are Covered by the Crime-Fraud Exception to the Privilege**

Even if any of the communications Gross describes were between an attorney and a client, the privilege does “not extend to communications made for the purpose of getting advice for the commission of a fraud or crime.” *In re Grand Jury Proceedings (Violette)*, 183 F.3d 71, 75 (1st Cir. 1999); *Clark v. United States*, 289 U.S. 1, 15 (1933). Important as the attorney-client and work product protections are, they are not inviolate. *Rockwood Select Asset Fund XI, (6)-1, LLC v. Devine, Millimet & Branch, PA*, 113 F. Supp. 3d 471, 477 (D.N.H. 2015). The crime-fraud exception to privilege ensures that the attorney-client privilege will not extend to communications made for the purpose of getting advice for the commission of a fraud or crime. *Id.* Thus, the attorney-client privilege is forfeited *inter alia* where the client sought the services of the lawyer to enable or aid the client to commit what the client knew or reasonably should have known to be a crime or fraud. *Id.* (citing *In re Grand Jury proceedings (Violette)*, 183 F.3d 71, 75 (1<sup>st</sup> Cir. 1995)). Continuing fraudulent misrepresentation and cover-up vitiates not only any attorney-client privilege but also any work product immunity. *Rockwood*, 113 F. Supp. 3d 471, 477 (D.N.H. 2015), citing *Craig v. A.H. Robins Co.*, 790 F.2d 1, 4 (1st Cir. 1986). The fraud invoked to overcome the crime-fraud exception need not be the same as the fraud at issue in the litigation. *Rockwood*, 113 F. Supp. 3d at 482.

Here, NHDES required information from Saint-Gobain, including “a description of the types and quantities of APFO and related PFCs used and emitted to air...” Ex. H. Based on the information provided by Saint-Gobain, Barr represented to the state: “The dispersions in use up until March of 2006 were high-PFOA content dispersions and these dispersions were typical of dispersions used prior to 2004.” 2017 Barr Report at 59–60; Ex. G (Barr email (Mar. 30, 2017)).

If this was not true, it is fraud on the State, in settlement negotiations with the State, and

later Plaintiffs, when Saint-Gobain presented emissions data and Barr's modelling to the state in the 2017 Barr report to NHDES. Moreover, it harmed class members by delaying the response to the contamination. When Ms. Gray and Saint-Gobain chose not to report or amend its prior disclosures to NHDES as Mr. Gross reports, even assuming these communications were attorney-client privileged (they were between in-house staff of Saint-Gobain), the communications with Mr. Gross would have been made in furtherance of the fraud on the State. *See e.g. Rockwood*, 113 F. Supp. 3d at 482.

Mr. Gross's statements regarding Saint-Gobain's concealment of actual emissions involve the "type of misconduct frequently invoked to support application of the crime-fraud exception to the attorney-client privilege." *See, e.g., Plaza Ins. Co. v. Lester*, No. 14-cv-01162-LTB-CBS, 2015 U.S. Dist. LEXIS 72438, 2015 WL 3528336, at \*16 (D. Colo. June 4, 2015) (finding fraudulent concealment and nondisclosure vitiates attorney-client privilege pursuant to the crime-fraud exception); *Rambus, Inc. v. Infineon Techs. AG*, 222 F.R.D. 280, 290 (E.D. Va. 2004) ("[T]he crime/fraud exception extends to materials or communications created in planning, or in furtherance of, spoliation of evidence."); *Gates Corp. v. CRP Indus.*, No. 16-cv-01145, 2019 U.S. Dist. LEXIS 85378, at \*10–14 (D. Colo. May 21, 2019) (defendant's fraudulent concealment of the fact that it received stolen proprietary information justified the disclosure of privileged information under the crime-fraud exception); *Burton v. R.J. Reynolds Tobacco Co.*, 167 F.R.D. 134, 142–43 (D. Kan. 1996) (tobacco companies deliberately misled the public when it chose not to disclose the effects of tobacco use on people's health, constituting fraud and justifying *in camera* review of privileged documents).

The facts reported in the Gross Complaint meet the "reasonable basis" test to invoke the crime-fraud exception to claims of attorney-client privilege and work product doctrine, including

opinion work product. *Rockwood*, 113 F. Supp. 3d 471 at 477. Saint-Gobain underreported emissions to NHDES, later to be relied on by the State and Plaintiffs, knew emissions were underreported and so misrepresented the state of contamination in the community, and even when this was confirmed, Defendants still failed to notify NHDES of the truth about their emissions. This constitutes fraud on the State of New Hampshire and the Plaintiffs here.

**F. The Information Plaintiffs Seek from Gross Is Not Protected By the Work-Product Doctrine**

The work product doctrine provides only a qualified protection for documents prepared in anticipation of litigation. Fed. R. Civ. P. 26(b)(3). A party may obtain ordinary work product upon a showing of “substantial need of the materials in the preparation of the party’s case” and that the party cannot obtain the information elsewhere without “undue hardship.” *Id.*; *City of Springfield*, 196 F.R.D. at 10. Moreover, not everything that could reveal some inkling of a lawyer’s mental impressions, conclusions, opinions, or legal theories is protected as opinion work product. *In re San Juan Dupont Plaza Hotel Fire Litig.*, 859 F.2d 1007, 1015 (1st Cir. 1988). Work product protections are only triggered if disclosure creates a “real, nonspeculative danger of revealing the lawyer’s thoughts.” *Id.* Work product protection also may not apply where “the lawyer has no justifiable expectation” that mental impressions will remain private. *Id.* at 1016. This concept applies to discovery responses. *See id.* In addition, “fraudulent misrepresentation and cover-up vitiates not only any attorney-client privilege but also any work product immunity.” *Craig v. A.H. Robins Co.*, 7980 F.2d 1, 4 (1st Cir. 1986).

The communications Plaintiffs seek are not for trial preparation. Rather, they concern transparency with governmental entities. *See e.g. United States v. Textron Inc.*, 577 F.3d 21, 31 (1st Cir. 2009) (the work product privilege is aimed at protecting work done for litigation, not in preparing financial statements). Mr. Gross’s investigation was performed in 2020, long after a

settlement had been reached with the State and four years after litigation started in this case. At issue was the environmental response to widespread contamination in the community. “In the interest of transparency with regulators, Mr. Gross suggested an update be provided to them. Ex. A (Gross Compl.) at ¶ 103. Ms. Gray at Saint-Gobain opposed proactively raising or self-reporting with any governmental agency....” *Id.* ¶ 105. As with *Textron*, the information at issue related not with litigation, but the duty to report to regulators. Thus, Plaintiffs do not seek Mr. Gross’s mental impressions, conclusions, opinions, legal theories, or trial theories about this litigation. Plaintiffs only seek facts. Plaintiffs have a “substantial need” for this information because Mr. Gross’s statements cast a dark shadow on the accuracy of key facts, Defendants’ discovery responses, and Saint-Gobain’s honesty regarding PFOA. Plaintiffs cannot obtain the equivalent information without “undue hardship.” Plaintiffs should not be forced to go on what Defendants suggest will be a wild goose chase when they can depose the very persons whose statements came to light after Plaintiffs’ expert reports.

Mr. Gross interviewed witnesses about Saint-Gobain’s PFOA usage. Ex. A (Gross Compl.) ¶ 99. Witness statements that contain purely factual information are not protected work product. *Klonoski*, 953 F. Supp. at 427; *State v. Chagnon*, 662 A.2d 944, 948 (N.H. 1995). Even if these statements were work product, Plaintiffs have a substantial need for the information to verify the veracity of Defendants’ PFOA usage data. *See Felisberto v. Dumdey*, \_\_\_ F. Supp. 3d \_\_\_, 2021 U.S. Dist. LEXIS 100705, at \*15–16 (D. Mass. 2021) (witness statements not work product; notes were prepared to determine facts and to assess what steps should be taken).

Defendants deny the existence of physical witness statements. Plaintiffs must be able to examine who Gross interviewed, if the statements exist, and if not, what Mr. Gross’s recollection of the facts he was told. Without this testimony, Plaintiffs cannot either challenge the accuracy

of these unknown witnesses or obtain the same statements from witnesses who may not remember these facts as when they were interviewed. *See City of Springfield*, 196 F.R.D. at 10 (finding that the plaintiff had a substantial need for statements taken from witnesses or parties, because the statements provided a contemporaneous impression of the facts and because a lapse of time could make it impossible to obtain the equivalent of the material sought). But again, these factual statements do not fall under the work product doctrine and, moreover, these witness statements should have been produced in response to Plaintiffs' document requests.

**G. Defendants' Case Law Does Not Support the Protection They Seek**

*Hickman v. Taylor*, 329 U.S. 495 (1947) denial of discovery not apply in this situation. The Court's refusal to permit discovery in that case was prompted by and large on plaintiffs' outright admission that he wanted the oral statements only to help prepare himself to examine witnesses and to make sure that he had not overlooked anything. *Puerto Rico v. SS Zoe Colocotroni*, 61 F.R.D. 653, 659 (D.P.R. 1974), *citing Hickman*, 329 U.S. at 513, 67 S. Ct. 385, 91 L. Ed. 451. Yet, where relevant and non-privileged facts remain hidden in an attorney's file and where production of those facts is essential to the preparation of one's case, discovery may properly be had. *Hickman v. Taylor*, 329 U.S. 495, 511, 67 S. Ct. 385, 394 (1947). The protective cloak of this privilege does not extend to information which an attorney secures from a witness while acting for his client. *Hickman v. Taylor*, 329 U.S. 495, 508, 67 S. Ct. 385, 392 (1947). Such written statements and documents might, under certain circumstances, be admissible in evidence or give clues as to the existence or location of relevant facts, or they might be useful for purposes of impeachment or corroboration. *Hickman v. Taylor*, 329 U.S. 495, 511, 67 S. Ct. 385, 394 (1947). *Rakes* does not apply because the court found the communications at issue were between victims of a crime, not in participation of a crime. *United*



*States v. Rakes*, 136 F.3d 1, 4 (1st Cir. 1998).

**H. The Burden on the Court Can Be Managed**

Defendants' attempt to create a parade of horrors of the burden on the Court fails. The Court could attend the deposition, and there is another clear option. Plaintiffs' counsel, mindful of the law, ask the questions that they should ask without the Court needed to be present. Saint-Gobain instructs the witness not to answer as they see a need for their claimed privilege. The Court then has a specific record to evaluate what questions can be asked without needing to attend the deposition. If any of the objections are incorrect, the Court allows a second deposition. It is a simple matter. Given that the trial is not until late 2022, there are no "pretrial delays and costs" and limited burdens on the Court compared to the substantial importance of the relevant information at stake.

Defendants claim that issue before the court is class certification and *Daubert* motions. The case is now in preparation of the evidence for trial, and that trial will occur. Mr. Gross will provide relevant testimony that is crucial for that trial.

WHEREFORE, Plaintiffs respectfully request this Court to deny Defendants' Motion for Protective Order.

Respectfully submitted,

Dated: September 19, 2021

/s/Kevin S. Hannon

Kevin S. Hannon, Esq. (NH Bar #269896)  
THE HANNON LAW FIRM, LLC  
1641 North Downing Street  
Denver, CO 80218  
(303) 861-8800  
[khannon@hannonlaw.com](mailto:khannon@hannonlaw.com)

Paul M. DeCarolus, Esq. (NH Bar #596)  
GOTTESMAN AND HOLLIS, PA  
39 East Pearl Street  
Nashua, NH 03060  
(603) 889-5959  
[pdecarolis@nh-lawyers.com](mailto:pdecarolis@nh-lawyers.com)

John A. Yanchunis (Pro Hac Vice)  
MORGAN & MORGAN COMPLEX  
LITIGATION GROUP  
201 N. Franklin Street, 7<sup>th</sup> Floor  
Tampa, FL 33602  
(813) 223-5505  
[jyanchunis@forthepeople.com](mailto:jyanchunis@forthepeople.com)

Kenneth J. Rumelt (Pro Hac Vice)  
MORGAN & MORGAN COMPLEX  
LITIGATION GROUP  
1641 North Downing Street  
Denver, CO 80218  
(303) 264-1766  
[krumelt@forthepeople.com](mailto:krumelt@forthepeople.com)

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of Plaintiffs' Memorandum in Opposition to Defendants' Motion for a Protective Order was filed through the ECF System and will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF).

/s/Kevin S. Hannon  
Kevin S. Hannon

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW HAMPSHIRE

KEVIN BROWN, et al.,	)	Civil Action No.
	)	1:16-cv-00242-JL
Plaintiffs,	)	
	)	
v.	)	
	)	
SAINT-GOBAIN PERFORMANCE PLASTICS	)	
CORPORATION, et al.,	)	
	)	
Defendants.	)	

**PLAINTIFFS' SURREPLY IN OPPOSITION TO DEFENDANTS'**  
**MOTION FOR PROTECTIVE ORDER**

## **ARGUMENT**

### **I. Defendants Have Not Demonstrated the Attorney Client Privilege Applies**

Defendants bear the burden of meeting each element of the attorney client privilege. Defendants have not shown each of those elements apply here. New Hampshire law on the attorney-client privilege is controlling and yet Defendants conspicuously avoid it. Their reliance on *United States v. Rakes*, 136 F.3d 1 (1st Cir. 1998), which did not apply New Hampshire law, is therefore misplaced. Defs.' Reply, Dkt. 289 at 1–2.<sup>1</sup> The leading case on New Hampshire's attorney-client privilege provides employees are not automatically clients of their employer's in-house counsel. Dkt. 287, Plfs.' Mem. at 13–14 (citing *Klonoski v. Mahlab*, 1996 U.S. Dist. LEXIS 20360 at \*7 (D.N.H. July 17, 1996), *aff'd on reh'g*, 953 F. Supp. 425, 430–31 (D.N.H. 1996) (hospital employees interviewed by inhouse counsel were not clients)). Defendants have not shown (or argued) the fact witnesses Mr. Gross interviewed were his clients. They were not. Nor have Defendants shown each element of the attorney client privilege has been met with respect to statements Mr. Gross made in his complaint.

### **II. Work Product Protections Do Not Apply**

*Klonoski v. Mahlab* (a post-*Hickman v. Taylor* decision) ruled on work product as well as attorney client privilege. 953 F. Supp. at 427 (citing *In re San Juan Dupont Plaza Hotel Fire Litigation*, 859 F.2d 1007, 1015 (1st Cir. 1998)). Again, under circumstances that Defendants never attempt to distinguish, the information obtained by a corporation's in-house counsel during an investigation does not automatically trigger work product protections. “[I]t is reasonable to conclude [the attorney's] notes of the witnesses' statements could lead to discoverable evidence.” *Id.* The notes were therefore “not shielded from discovery by the work-product

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<sup>1</sup> *Rakes*, moreover, does not implicate work product protections.

doctrine.” *Id.* Defendants have not met their burden to demonstrate work product protections apply here.

### **III. Defendants Cannot Shield the Trove of 3M Information from Discovery**

Defendants now argue in their reply that the trove of information they received from 3M is subject to a protective order and cannot be produced (even though the parties in this case are subject to a similar protective order). Defs.’ Reply at 8. This represents a shift in Defendants’ tactics from their opening memorandum to prevent discovery of the 3M information, which is obviously in their possession, custody, or control. Defendants originally offered half-truths about producing “every one of its [i.e., Saint-Gobain’s] documents identified in the 2020 review” and distractions about producing “the last two documents” from their files to convince this Court and Plaintiffs they already produced everything. Defs.’ Mem., Dkt. 280-1 at 2 (emphasis added). Defendants nevertheless continue along similar lines in their reply, stating Plaintiffs “had access to documents about the use of this 3M product and others.” Defs.’ Reply at 6. They do not state, because it is not true, that they produced the documents 3M produced in the New York litigation to Plaintiffs here. Plaintiffs did not have access to all the documents because Defendants never produced the 3M trove.

Defendants long ago should have identified responsive 3M-produced records in this litigation. “[A] party is obligated to timely supplement or correct its . . . responses to interrogatories and document demands, if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing.” *Lujan v. Cabana Mgmt., Inc.*, 284 F.R.D. 50, 67 (E.D.N.Y. 2012). Rather than making the documents known to Plaintiffs when they obtained possession of them, Defendants continued to claim they produced everything. “The duty to supplement applies whether the corrective information is learned by the client or by the attorney.” *Id.* at 67–68 (internal quotations

omitted). Defendants should have identified the responsive records and asserted whatever objection they had to producing them. Fed. R. Civ. P. 34(b)(2)(C). It is too late to raise those objections in their reply and proceed as if the information in the 3M trove just materialized.

#### **IV. Saint-Gobain's Claims About Plaintiffs' Document Review Are Wrong**

Defendants claim Plaintiffs' counsel informed the Defendants that the November 28, 2018 document production was neither downloaded or reviewed by counsel. Reply at 1, 6. Defendants cite an email from an assistant who was not familiar with the November 2018 document production. Dkt. 289-3. Ms. Genest was not aware that the documents were downloaded, reviewed, and shared with Plaintiffs' experts.

Plaintiffs propounded the Request for Production of Documents on May 9, 2018. Defendants knew the Plaintiffs were eagerly awaiting the production as a reminder letter inquiring as to the status of production was sent on November 21, 2018. Ex. A. Shortly thereafter, on November 26, 2018 the production was provided. Immediately upon receipt, both Gottesman & Hollis, PA and The Hannon Law Firm began the process of downloading the documents, albeit not without difficulty. Hailey Bowermaster of The Hannon Law Firm sought the technical assistance of Camille Mangiaratti of Dechert, LLP for assistance to access the documents. She also forwarded screenshots depicting the particular error messages. Ex. B.

The download of the production was complete within a few days of receipt. Review of the documents began as early as November 30, 2018. Defendants correctly pointed out that David Sullivan, one of Plaintiffs' experts referenced the documents in his 2020 report. Dkt. 289 at 7 n.2. As further evidence that the documents were downloaded, some of the documents contained within the November 2018 production were cited as Reliance Materials by Plaintiffs' expert, Calvin Brunner on October 11, 2020. Ex. C. Plaintiffs' experts obtained the documents



from counsel. Defendants' argument that Plaintiffs did not download or review the documents produced on November 26, 2018 is therefore both internally inconsistent and flat wrong.

**V. Defendants Cannot Escape the Crime-Fraud Exception by Trying To Distinguish Dispersions From Surfactants**

Defendants wrongly suggest that Mr. Gross's testimony is somehow not relevant by claiming dispersions and surfactants are a "different product." Defs.' Rep. at 4. Defendants fail to explain to the Court that surfactants (like the FC-143 Mr. Gross referenced) are an essential ingredient in Saint-Gobain's PTFE dispersions. Ex. D (filed conventionally), Saint-Gobain Response to NHDES Request (Apr. 12, 2016) at PDF 7–12. In other words, the dispersion contains the surfactant and the surfactant contains the APFO, which is the source of the PFOA contamination in the Class Geographic Area. It is therefore highly relevant to understand the APFO content of the surfactant/dispersion to understand whether modeling underpredicts the magnitude of contamination in the class area attributable to Saint-Gobain, and equally important to know who within Saint-Gobain knew this information, when.

Defendants trip over their own argument. Right after claiming (erroneously) there is a material difference between dispersions and surfactants, Defendants acknowledge "Barr did not include this product or other surfactants manufactured by 3M in its modeling" not because surfactants are not the primary source of PFOA in emissions but "because 3M phased [the products] out." Defs.' Rep. at 4. The purpose of Barr's work was "to compare the results of simulations to measured PFOA concentrations in soil and groundwater within the study area to identify where exceedance of regulatory standards may be associated with historical air emissions from the Saint-Gobain facility." Dkt. 201-5, 2018 Barr Rpt. at 1.

Defendants have had more than a year to supplement discovery or clarify whether the information about historical APFO content in their dispersions is reflected accurately in the

records it gave NHDES to rely on to make decisions about the extent of investigation and mitigation it would require. Defendants knew this was an issue that Plaintiffs' experts raised in this litigation. *See* Dkt. 236-6 (June 6, 2020 Sullivan Rpt.) at 20 n.10. Defendants seek to this day use the attorney-client privilege and work-product as a shield to hide highly relevant evidence that they did not accurately report to the State or produce to Plaintiffs about PFOA emissions. During the time he was employed, they used Mr. Gross's services to hide information from NHDES because he was told by his superiors not to disclose to the state the reporting of PFOA emissions. Continuing fraudulent misrepresentation and cover-up vitiates not only any attorney-client privilege but also any work product immunity. *Rockwood Select Asset Fund XI, (6)-I, LLC v. Devine, Millimet & Branch, PA.*, 113 F.Supp. 3d 471, 477 (D.N.H. 2015), citing *Craig v. A.H. Robins Co.*, 790 F.2d 1, 4 (1st Cir. 1986).

#### **CONCLUSION**

For the forgoing reasons, this Court should deny Defendants' Motion for a Protective Order and allow Mr. Gross's deposition to proceed.

Respectfully submitted,

Dated: October 13, 2021

/s/Paul M. DeCarolis

Paul M. DeCarolis, Esq. (NH Bar #596)  
GOTTESMAN AND HOLLIS, PA  
39 East Pearl Street  
Nashua, NH 03060  
(603) 889-5959  
pdecarolis@nh-lawyers.com

Kevin S. Hannon, Esq. (NH Bar #269896)  
THE HANNON LAW FIRM, LLC  
1641 North Downing Street  
Denver, CO 80218  
(303) 861-8800  
khannon@hannonlaw.com

John A. Yanchunis (Pro Hac Vice)  
MORGAN & MORGAN COMPLEX  
LITIGATION GROUP  
201 N. Franklin Street, 7<sup>th</sup> Floor  
Tampa, FL 33602  
(813) 223-5505  
[jyanchunis@forthepeople.com](mailto:jyanchunis@forthepeople.com)

Kenneth J. Rumelt (Pro Hac Vice)  
MORGAN & MORGAN COMPLEX  
LITIGATION GROUP  
1641 North Downing Street  
Denver, CO 80218  
(303) 264-1766  
[krumelt@forthepeople.com](mailto:krumelt@forthepeople.com)

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of Plaintiffs' Surreply in Opposition to Defendants' Motion for Protective Order was filed through the ECF System and will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF).

/s/Paul M. DeCarolis

**Attachment E.**

3M Facsimile with Mixing Instructions

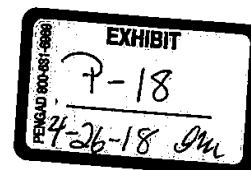
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## Facsimile Cover Sheet

To: Carol  
Company:  
Phone:  
Fax: 518-658-3204

From: Jean Ackerman  
Company: 3M Company  
Phone: 612-733-1711 (800-810-8496)  
Fax: 800-810-8514 (737-1529)

Date: 1-3-97  
Pages Including this  
cover page: 8



01/03/97

12:17

SPEC CHEM 223-6S-04 + 518 658 3204

NO. 842

002

MATERIAL SAFETY  
DATA SHEET3M  
3M Center  
St. Paul, Minnesota  
55144-1000  
(612) 733-1110

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DIVISION: SPECIALTY CHEMICALS DIVISION

TRADE NAME:

FC-118 FLUORAD Brand Fluorochemical Surfactant

ID NUMBER/U.P.C.:

98-0211-4832-9	00-51135-02697-7	98-0211-4885-7	00-51135-02745-5
98-0211-8012-4	00-51135-10863-5	98-0211-8083-5	00-51135-10918-2
98-0211-8858-0	00-51135-10971-7		

ISSUED: August 23, 1996

SUPERSEDES: May 20, 1996

DOCUMENT: 10-4221-7

## 1. INGREDIENT

	C.A.S. NO.	PERCENT
WATER.....		
AMMONIUM PERFLUOROOCTANOATE.....	7732-18-5	80
AMMONIUM PERFLUOROHEPTANOATE.....	3825-26-1	18
AMMONIUM PERFLUOROHEXANOATE.....	6130-43-4	0.1
AMMONIUM PERFLUOROPENTANOATE.....	21615-47-4	0
	68259-11-0	0.1

## 2. PHYSICAL DATA

BOILING POINT:..... 100 C  
(Typical)  
VAPOR PRESSURE:..... 18 mmHg  
Calc @ 20C  
VAPOR DENSITY:..... 0.62 Air=1  
Calc @ 20C  
EVAPORATION RATE:..... < 1.0 BuOAc=1  
SOLUBILITY IN WATER:..... complete  
SPECIFIC GRAVITY:..... 1.12 Water=1  
PERCENT VOLATILE:..... 80 %  
pH:..... ca. 5  
VISCOSITY:..... N/D  
MELTING POINT:..... N/A

Abbreviations: N/D - Not Determined N/A - Not Applicable

MSDS: FC-118 FLUORAD Brand Fluorochemical Surfactant  
August 23, 1996

PAGE 2

## 2. PHYSICAL DATA (continued)

### APPEARANCE AND ODOR:

Light colored liquid; slight odor.

## 3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... > 100 C Setaflash

FLAMMABLE LIMITS - LEL:..... N/A

FLAMMABLE LIMITS - UEL:..... N/A

AUTOIGNITION TEMPERATURE:..... N/A

### EXTINGUISHING MEDIA:

Water, Carbon dioxide, Dry chemical, Foam

### SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

### UNUSUAL FIRE AND EXPLOSION HAZARDS:

See Hazardous Decomposition section for products of combustion.

## 4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:  
Not Applicable

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

### HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide and Carbon Dioxide, Oxides of Nitrogen, Hydrogen Fluoride, Ammonia.

## 5. ENVIRONMENTAL INFORMATION

### SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. In the U.S.A., call (612) 733-1110 or (612) 733-6100 for 24-hour spill assistance. Contain spill. Cover with absorbent material. Collect spilled material.

Abbreviations: N/D - Not Determined N/A - Not Applicable



MSDS: FC-118 FLUORAD Brand Fluorochemical Surfactant  
August 23, 1996

PAGE 3

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#### 5. ENVIRONMENTAL INFORMATION (continued)

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For spills to ground: Collect contaminated soil. Pump contaminated water from puddles or stagnant storm sewers. Place collected waste in approved containers, and seal. For spills to ground or surface water: Notify appropriate authorities. Contact 3M to evaluate further needs.

#### RECOMMENDED DISPOSAL:

Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF.

Pass contaminated water through anion exchange resin. If necessary, contact 3M for assistance.

#### ENVIRONMENTAL DATA:

Data for product solids: Chemical Oxygen Demand (COD): Nil (.000700g/g). Biochemical Oxygen Demand (BOD20): Nil; 96-Hr. LC50, Bluegill Sunfish (*Lepomis macrochirus*): 569 mg/L; 96-Hr. LC50, Fathead Minnow (*Pimephales promelas*): 766 mg/L; 48-Hr EC50, *Daphnia magna*: 632 mg/L; 14-Day EC50 (cell dry weight), Green Algae (*Selenastrum capricornutum*) 73 mg/L. Soil Adsorption Coefficient (Koc): 17, indicates very high mobility. (Study used a sandy loam soil).

#### REGULATORY INFORMATION:

Volatile Organic Compounds: N/A.  
VOC Less H2O & Exempt Solvents: N/A.

Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous).

The components of this product are in compliance with the chemical registration requirements of TSCA, EINECS, CDSL and AICS.

#### EPCRA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: Yes CHRONIC: Yes

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#### 6. SUGGESTED FIRST AID

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#### EYE CONTACT:

Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

#### SKIN CONTACT:

Immediately wash skin with soap and large amounts of water. Remove contaminated clothing. If signs/symptoms occur, call a physician. Wash contaminated clothing before reuse and dispose of contaminated shoes.

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Abbreviations: N/D - Not Determined N/A - Not Applicable

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MSDS: FC-118 FLUORAD Brand Fluorochemical Surfactant  
August 23, 1996

PAGE 4

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#### 6. SUGGESTED FIRST AID (continued)

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**INHALATION:**

If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

**IF SWALLOWED:**

Do not induce vomiting. Drink two glasses of water. Call a physician.

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#### 7. PRECAUTIONARY INFORMATION

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**EYE PROTECTION:**

Avoid eye contact. Wear vented goggles.

**SKIN PROTECTION:**

Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: butyl rubber. Use one or more of the following personal protection items as necessary to prevent skin contact: head covering, coveralls. Protective garments (other than gloves) should be made of either of the following materials: polyethylene/polyvinylidene chloride (Saranex)

Coverall made of Tyvek(r). Wear rubber boots when cleaning up spills.

**RECOMMENDED VENTILATION:**

Use with appropriate local exhaust ventilation. Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

**RESPIRATORY PROTECTION:**

Avoid breathing of vapors, mists or spray. Avoid breathing of airborne material. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: full-face high-efficiency filter respirator, full-face supplied air respirator.

**PREVENTION OF ACCIDENTAL INGESTION:**

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Wash hands after handling and before eating.

**RECOMMENDED STORAGE:**

Do not store containers on their sides. Store at room temperature. Keep container closed when not in use.

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Abbreviations: N/D - Not Determined N/A - Not Applicable

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MSDS: FC-118 FLUORAD Brand Fluorochemical Surfactant  
August 23, 1996

PAGE 5

## 7. PRECAUTIONARY INFORMATION (continued)

### FIRE AND EXPLOSION AVOIDANCE:

Keep container tightly closed. No smoking while handling this material.

HMS HAZARD RATINGS: HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 0  
PERSONAL PROTECTION: X (See precautions, section 7.)

### EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
WATER.....	NONE	NONE	NONE	NONE	
AMMONIUM PERFLUOROOCTANOATE.....	0.01	MG/M3	TWA	ACGIH	Y
AMMONIUM PERFLUOROHEPTANOATE.....	0.1	MG/M3	TWA	3M	Y
AMMONIUM PERFLUOROHXANOATE.....	0.1	MG/M3	TWA	3M	Y
AMMONIUM PERFLUOROPENTANOATE.....	0.1	MG/M3	TWA	3M	Y

\* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

### SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- 3M: 3M Recommended Exposure Guidelines
- NONE: None Established

## 8. HEALTH HAZARD DATA

### EYE CONTACT:

No toxicity data for the solution. Ammonium perfluoroalkyl carboxylate can be irritating to the eye and may cause eye injury from airborne exposure.

### SKIN CONTACT:

May be absorbed through the skin and persist in the body for an extended time.

No toxicity data for the solution. Ammonium perfluoroalkyl carboxylate is slightly toxic when absorbed through the skin; it is non-irritating to the skin.

### INHALATION:

May be absorbed by inhalation and persist in the body for an extended time.

No toxicity data for the solution. Ammonium perfluoroalkyl carboxylate may cause respiratory system irritation from inhalation;

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MSDS: FC-118 FLUORAD Brand Fluorochemical Surfactant  
August 23, 1996

PAGE 6

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8. HEALTH HAZARD DATA (continued)

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can be considered moderately toxic by inhalation on a single exposure; a median lethal concentration for a 4-hour exposure in the albino rat is 980 milligrams per cubic meter. Repeated inhalation exposure produced liver changes and elevated blood organofluoride levels in rats.

IF SWALLOWED:

Ingestion is not a likely route of exposure to this product.

No toxicity data for the solution Ammonium perfluoroalkyl carboxylate is considered moderately toxic from a single oral exposure; acute oral LD50 (rat) is 540 mg. per kg. of body weight.

CANCER:

A mixture of ammonium perfluorooctanoate, ammonium perfluoroheptanoate, ammonium perfluoropentanoate and ammonium perfluorohexanoate, that was 93 to 97% AMMONIUM PERFLUOROOCTANOATE (3825-26-1) was fed to albino rats for 2 years, no compound induced carcinogenicity was found in the study. There were statistically significant compound related benign testicular tumors. In a second two-year study there were statistically significant compound related benign tumors in the liver, pancreas, and testis when compared to ad libitum and pair-fed controls. Based on the current knowledge, these findings have no human health implications. (1983 and 1993 studies conducted jointly by 3M and DuPont).

MUTAGENICITY:

Ammonium perfluoroalkyl carboxylate was not mutagenic in invitro mutagenicity assays. Did not cause cell transformation in a mammalian cell transformation assay.

REPRODUCTIVE/DEVELOPMENTAL TOXINS:

Ammonium perfluoroalkyl carboxylate was not teratogenic in rabbits by oral administration and was not teratogenic to rats by gavage and inhalation exposures.

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SECTION CHANGE DATES

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HEADING

SECTION CHANGED SINCE May 20, 1996

ISSUE

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Abbreviations: N/D - Not Determined N/A - Not Applicable

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MSDS: FC-118 FLUORAD Brand Fluorochemical Surfactant  
August 23, 1996

PAGE 7

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CONFIDENTIAL MATERIAL

A924 RA RB-RC

Lot Number 287897

Customer

Retain Value

Product Code A924

Fiberglass Vendor CR/ RGF / JPS

Roll Number 8-28740106-285461

Start Yards 721

Finish Yards

Roll Width 51

Glass Style 7620-508-517 or 215 or treat cleaned

Bare Glass Weight

Finished Weight 0.88 - 1.02 Lbs / Sq Yd

Finished Thickness 0.0098 - 0.00102 inches

Wipe Bars SBS - Smooth Bars Slaggered

Wipe Bars SBS

4) Passes Wrinkle Bars - Over, Over, Over

4) Passes Covered and turning

012 - 012" Wire Wrapped

40-50 PSI Take Up - 50 - 60 PSI

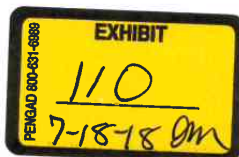
Fans Set at 100 %

Pass #	Rear typogravity	Zone 1 Temp	Zone 2 Temp	Zone 3 Temp	Zone 4 Temp	Temp	Date	Time Start	Time Finish	Day	Roll Pos	Yardage per Shift
Projected	13379 / 1350	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	13379 / 1350	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	2 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	2 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	3 Inspect / Calendar 1X	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	3 Inspect / Calendar 1X	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	4 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	4 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	5 Inspect / Calendar 2X	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	5 Inspect / Calendar 2X	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	6 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	6 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	7 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	7 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	8 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	8 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	9 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	9 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	10 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	10 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	11 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	11 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	12 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	12 AD 1030 / 1450	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	13	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	13	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Projected	14	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720
Actual	14	OFF	200	200	200	670 +/-	9/26/01	AM 7:30	PM 4:45	9/26/01	C	3720

Engineering Timothy Hylton Date 11/5/01 Rev E  
 (2) 30pts stand to 6k due to SAE from Zone 3 off. 60pts stand to 4k for sand (P)  
 (3) Stand back at 590 for 518 in back Right side 12" dia. roll starting to look noisy (P)  
 (10) 10/- due to back off of Baker All, rest

FORM A924 RA RB-RC

TACONIC\_Paper-0032553



## Mixing Procedures

Mix Number 1030

1.0 Title: Dispersion Mix 1030 (1.200 SG PFA Ludox)

2.0 Ingredients:

	Ingredient	Full Mix
2.1	HS – 30 Ludox	700 ml
2.2	1.200 PFA Dispersion	1732 ml
2.3	FC-143 mix (or FC – 118)	100 ml
2.4	Distilled Water	832 ml

3.0 Mixing Procedure

3.1 In 1000 ml graduated cylinder measure out [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK18 \a \h ] of [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK3 \a \h ] (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK4 \a \h ]) and pour into a clean container

3.2 In 1000 ml graduated cylinder measure out [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK5 \a \h ] of [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK7 \a \h ] (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK6 \a \h ]).

3.3 With mixing, add to the [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK3 \a \h ] (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK19 \a \h ]

3.4 In 1000 ml graduated cylinder measure out [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK20 \a \h ] of [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK21 \a \h ] (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK22 \a \h ]).

3.5 With mixing, add to the [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK3 \a \h ] and [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK7 \a \h ] mix (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK23 \a \h ]).

3.6 In 1000 ml graduated cylinder measure out [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK24 \a \h ] of [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK25 \a \h ] (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK26 \a \h ]).

With mixing, add to the [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK3 \a \h ], [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK7 \a \h ], and [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK21 \a \h ] mix (from [ LINK Word.Document.8 "TPNT1\USERS\eng\tom\IPD coating stuff\Cop of IPD mixes\MIX1030C.doc" OLE\_LINK27 \a \h ]) and let mix for 15 – 30 minutes.

4.0 Labeling the Mix

Ex. 107

- 4.1 Example LX – A01 – 1
  - 4.1.1 LX = Ludox
  - 4.1.2 A = Month (A = January, B = February, C = March. ...)
  - 4.1.3 1 = Sequential Mix Number within each month

5.0 Adjustments

- 5.1 If any questions arise at all, contact Engineering.
- 5.2 Shelf Life of the mix is 3 days.

6.0 Acceptance of this Procedure

Engineering : \_\_\_\_\_ Date \_\_\_\_\_ Production : \_\_\_\_\_ Date: \_\_\_\_\_

Rev C  
11/30/01

Rev. B – Reviewing Constructions – 9/24/01  
Rev. C - Second review of Mix procedure – 11/30/01



**Attachment F.**

1981 FC-143 Material Safety Data Sheet

INDUSTRIAL CHEMICAL PRODUCTS DIVISION  
FLUORAD BRAND FLUORO-CHEMICAL SURFACTANT  
FC-143

TYPE SURFACTANT: Anionic fluorochemical

APPEARANCE: Light-colored powder

COMPOSITION: 100% Ammonium perfluoroalkyl carboxylates

SOLUBILITY AT 25 C: >100 g in 100 g water.

TOTAL ORGANIC CARBON: 212,000 mg/kg

BIODEGRADATION:

STANDARD METHODS Biochemical Oxygen Demand Test

Chemical Oxygen Demand	700 mg/kg
Biochemical Oxygen Demand (BOD)	
5-Day	Nil
20-Day	Nil
Theoretical Oxygen Demand (ThOD)*	320,000 mg/kg

\*Assumes C is mineralized to CO<sub>2</sub>, and H to H<sub>2</sub>O, and that halogen is eliminated as hydrogen halide and N as NH<sub>3</sub>.

Shake-Culture Study

Carbon-14 labeled FC-143 showed complete resistance to microbial modification in a 2 1/2-month shake culture study. Starting with a mixed microbial inocula, the procedure involved making "adaptive" transfers at 4-5 day intervals to media containing fresh FC-143, dilute yeast extract, basal salt media. The temperature was 25 C. Reference components (phenol and LAS) were completely degraded in parallel studies. Addition of hydrogen analogs of FC-143 to the FC-143 cultures did not facilitate the degradation of the fluorochemical.

10/2/86 (Supersedes 12/4/81)

Page 1 of 3

Exhibit  
1334

State of Minnesota v. 3M Co.,  
Court File No. 27-CV-10-28862

3M\_MN01059198

1334.0001

INDUSTRIAL CHEMICAL PRODUCTS DIVISION  
FLUORAD BRAND FLUOROCHEMICAL SURFACTANT  
FC-143 (con't)

PHOTODEGRADATION:

Irradiation of a 50 ppm aqueous solution of FC-143 for 30 days resulted in no detected photoproducts on analysis by thin-layer-chromatography/radioautography, and by gas chromatography of derivatized samples. The irradiation source produced 300 nm and longer wavelength ultraviolet light to simulate natural sunlight.

AQUATIC TOXICITY:

<u>Fish</u>	<u>96-Hr LC<sub>50</sub></u>	<u>95% C.L.</u>
Fathead minnow ( <u>Pimephales promelas</u> )	766 mg/l	(743-787 mg/l)
Bluegill sunfish ( <u>Lepomis macrochirus</u> )	569 mg/l	(500-646 mg/l)
<u>Invertebrate</u>	<u>48-Hr EC<sub>50</sub></u> (mobility)	<u>95% C.L.</u>
Water flea ( <u>Daphnia magna</u> )	632 mg/l	(570-699 mg/l)
<u>Green Algae</u>	<u>14-Day EC<sub>50</sub></u> (cell dry weight)	<u>14-Day EC<sub>50</sub></u> (cell count)
<u>Selenastrum capricornutum</u>	73 mg/l	43 mg/l

INDUSTRIAL CHEMICAL PRODUCTS DIVISION  
FLUORAD BRAND FLUOROCHEMICAL SURFACTANT  
FC-143 (con't)

Thirty-Day Egg Fry Study

FC-143 concentrations as high as 100 mg/l had no adverse effects upon the hatchability of eggs or upon the survival and growth of fathead minnow (Pimephales promelas) fry through 30 days of post hatch exposure.

ADSORPTION TO SOIL:

Soil Adsorption Coefficient (K)	0.38
Organic Carbon Adsorption Coefficient $K_{oc}$	17

These adsorption coefficients, based on studies utilizing a Brill sandy loam soil and  $^{14}C$  labeled FC-143, indicate that FC-143 would move readily with groundwater through soil.  $K$  is the ratio of the FC-143 concentration adsorbed to soil ( $\mu g$   $^{14}C$  FC-143/g soil) to the concentration dissolved in water (mg/l) at equilibrium with the soil.  $K_{oc}$  is the adsorption coefficient corrected to reflect the organic content of the soil.

SUBLIMATION:

FC-143 can be sublimed completely and recovered unchanged (as determined by IR Spectrophotometry) at 178 C and atmospheric pressure.

DISPOSAL:

Mix with flammable material and incinerate in an industrial or commercial facility. Combustion products will include HF. Disposal alternative: Dispose of waste product in a facility permitted to accept chemical wastes. Discharge spent solutions to a wastewater treatment system. Reduce discharge rate if foaming occurs. Since regulations vary, consult applicable regulations or authorities before disposal.

U.S. EPA Hazardous Waste No.: None

10/2/86 (Supersees 12/4/81)

Page 3 of 3

3M\_MN01059200

1334.0003

**Attachment G.**

Table 6. Formulation Analytical Results

TABLE 6

Tower ID	OX Stage ID	Lab Sample ID	Compound	OX Run 1		OX Run 2		OX Run 3		
				OX 1	OX 2-5	OX 1	OX 2-5	OX 1	OX 2	OX 3-5
				140-24634-3	140-24634-9	140-24634-19	140-24634-20	140-24634-29	140-24634-30	140-24634-31
				ng/g		ng/g			ng/g	
Perfluorobutanesulfonic acid (PFBS)		CAS #	375-73-5	ND	H ND	H ND	H ND	ND	H ND	ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)		13252-13-6	13252-13-6	ND	H ND	H ND	H ND	47.4	H 0.964	H 245
Perfluorodecanoic acid (PFDA)		335-76-2	0.126 JHB 0.131 JHB	0.126	JHB 0.131	0.101 JHB 0.114 JHB	2.77 JHB	H 0.116	JHB	ND
N-ethylperfluorooctanesulfonamidoacetic acid (NEFOSAA)		2991-80-6	ND	ND	H ND	ND	ND	ND	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid (NMFOSAA)		2355-31-9	ND	ND	H ND	H ND	H ND	H ND	H ND	H ND
Perfluoroheptanoic acid (PFHPA)		375-85-9	ND	ND	H ND	H ND	H ND	6.26	H ND	H ND
Perfluorohexanesulfonic acid (PFHXS)		355-46-4	ND	ND	H ND	H ND	H ND	H ND	H ND	H ND
Perfluorooctanoic acid (PFNOA)		375-95-1	ND	ND	H ND	H ND	H ND	25.4	H ND	H ND
Perfluorohexanoic acid (PFHXA)		307-24-4	ND	ND	H ND	H ND	H ND	1.58 JH1	ND	ND
Perfluoroheptanesulfonic Acid (PFHPS)		375-92-8	ND	ND	H ND	H ND	H ND	H ND	H ND	H ND
Perfluorooctanesulfonic acid (PFOS)		1763-23-1	ND	ND	H ND	H ND	H ND	ND	H ND	H ND
Perfluorodecansulfonic acid (PFDS)		335-77-3	ND	ND	H ND	H ND	H ND	ND	H ND	H ND
Perfluorooctanoic acid (PFOA)		335-67-1	ND	ND	H ND	H ND	H ND	2.38	H ND	H ND
Perfluorooctanesulfonamide (FOSA)		754-91-6	ND	ND	H ND	H ND	H ND	6.08	H ND	H ND
Perfluorobutanoic acid (PFBA)		375-22-4	ND	ND	H ND	H ND	H ND	8.14	H ND	H ND
Perfluoropentanoic acid (PFPA)		2706-90-3	ND	ND	H ND	H ND	H ND	ND	H ND	H ND
Perfluorotetradecanoic acid (PFTEA)		376-06-7	ND	ND	H ND	H ND	H ND	ND	H ND	H ND
Perfluorooctadecanoic acid (PFTrA)		72629-94-8	0.132 H * *1	0.241 JH * *1	0.154 JH * *	0.114 JH * *	10.2 HCl * *	0.154 JH * *	ND	H * *
Perfluoroundecanoic acid (PFUnA)		2058-94-8	ND	ND	H ND	H ND	H ND	32.9	H ND	H ND
Perfluorododecanoic acid (PFDoA)		307-55-1	ND	ND	H ND	H ND	H ND	0.962 JH	ND	H ND
Perfluoropentanesulfonic acid (PFPeS)		2706-91-4	ND	ND	H ND	H ND	H ND	ND	H ND	H ND
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)		27619-97-2	0.273 JH	ND	H ND	0.387 JHB *1	0.328 JHB *1	ND	H *1	ND
1H,1H,2H,2H-Perfluorooctane sulfonic acid (8:2 FTS)		39108-94-4	ND	ND	H ND	ND	ND	ND	H ND	H ND
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)		757124-72-4	ND	ND	H ND	ND	ND	ND	H ND	H ND

**TABLE 6 (Continued)**  
Formulation Analysis Results

Tower ID Run ID Lab Sample ID	Compound	CAS #	20" Coater			20" Caster		
			Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
			140-24634-1 ng/g			140-24634-5 140-24634-23 ng/g		
	Perfluorobutanesulfonic acid (PFBS)	375-73-5	ND	H		ND	H	H
	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	ND	H		ND	H	H
	Perfluorodecanoic acid (PFDA)	335-76-2	0.140	J H B		0.139	J H B	0.0838
	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2991-50-6	ND	H		ND	H	H
	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2355-31-9	ND	H		ND	H	H
	Perfluoroheptanoic acid (PFHpA)	375-85-9	ND	H		0.760	H	ND
	Perfluorohexanoic acid (PFHxA)	355-46-4	ND	H		ND	H	H
	Perfluorononanoic acid (PFNA)	375-95-1	ND	H		ND	H	H
	Perfluorohexanoic acid (PFHxA)	307-24-4	0.233	J H		2.69	H	ND
	Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ND	H		ND	H	H
	Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ND	H		ND	H	ND
	Perfluorodecanesulfonic acid (PFDS)	335-77-3	ND	H		ND	H	H *1
	Perfluorooctanoic acid (PFOA)	335-67-1	0.969	H		ND	H	ND
	Perfluorooctanesulfonamide (FOSA)	754-91-6	ND	H		ND	H	H
	Perfluorobutanoic acid (PFBA)	375-22-4	0.851	H		2.54	H	ND
	Perfluoropentanoic acid (PFPeA)	2706-90-3	0.169	J H		1.22	H	ND
	Perfluorotetradecanoic acid (PFTeA)	376-06-7	ND	H		ND	H	H
	Perfluoroundecanoic acid (PFTrIA)	72629-94-8	0.126	J H *1		ND	H *1	0.168
	Perfluoroundecanoic acid (PFUnA)	2058-94-8	ND	H		ND	H	ND
	Perfluorododecanoic acid (PFDoA)	307-55-1	ND	H		ND	H	H
	Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	ND	H		ND	H	ND
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	ND	H		3.84	H	5.86
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	ND	H		ND	H	ND
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	ND	H		ND	H	H

**TABLE 6 (Continued)**  
Formulation Analysis Results

Tower ID		MA			MB		
Run ID		Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
Lab Sample ID		140-24634-6	140-24634-22	140-24634-24		140-24634-21	
Compound	CAS #	ng/g			ng/g		
Perfluorobutanesulfonic acid (PFBS)	375-73-5	ND	H	ND	ND	H	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	17.9	H	12.1	H	11.5	H
Perfluorodecanic acid (PFDA)	335-76-2	0.176	J H B	0.0659	J H B	0.109	J H B
N-ethylperfluorooctanesulfonamidoacetic acid (NEFOSAA)	2991-50-6	ND	H	ND	H	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid (MNEFOSAA)	2355-31-9	ND	H	ND	H	ND	ND
Perfluorheptanoic acid (PFHpA)	375-85-9	ND	H	ND	H	ND	H
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	ND	H	ND	H	ND	H
Perfluorononanoic acid (PFNA)	375-95-1	ND	H	ND	H	ND	H
Perfluorohexanoic acid (PFHxA)	307-24-4	ND	H	ND	H	ND	H
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ND	H	ND	H	ND	H
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ND	H	ND	H	ND	H
Perfluorodecanesulfonic acid (PFDS)	335-77-3	ND	H	ND	H *	ND	H *
Perfluorooctanoic acid (PFOA)	335-67-1	ND	H	ND	H	ND	H
Perfluorooctanesulfonamide (FOSA)	754-91-6	ND	H	ND	H	ND	H
Perfluorobutanoic acid (PFBA)	375-22-4	ND	H	ND	H	ND	H
Perfluoropentanoic acid (PFPeA)	2706-90-3	ND	H	ND	H	ND	H
Perfluorotetradecanoic acid (PFTeA)	376-06-7	ND	H	ND	H	ND	H
Perfluorotridecanoic acid (PFTriA)	72629-94-8	ND	H *	ND	H *	ND	H *
Perfluoroundecanoic acid (PFUnA)	2058-94-8	ND	H	ND	H	ND	H
Perfluorododecanoic acid (PFDoA)	307-55-1	ND	H	ND	H	ND	H
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	ND	H	ND	H	ND	H
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	0.677	H	0.744	H B *	4.77	H B *
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	ND	H	ND	H	ND	H
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	ND	H	ND	H	ND	H



**TABLE 6 (Continued)**  
Formulation Analysis Results

Tower ID	MG			MP		
	Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
Lab Sample ID	140-24634-12	140-24634-18	140-24634-32	140-24634-7	140-24634-25	
Compound	ng/g			ng/g		
Perfluorobutanesulfonic acid (PFBS)	ND	H	ND	ND	H	H
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	966	H	541	14.4	H	H
Perfluorodecanoic acid (PFDA)	ND	ND	ND	0.136	J H B	0.0946 J H B
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	2991-50-6	ND	ND	ND	H	H
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2355-31-9	ND	ND	ND	H	H
Perfluorheptanoic acid (PFHpA)	375-85-9	ND	ND	ND	H	H
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	ND	ND	ND	H	H
Perfluorononanoic acid (PFNA)	375-95-1	ND	ND	ND	H	H
Perfluorohexanoic acid (PFHxA)	307-24-4	ND	ND	ND	H	H
Perfluorooctanesulfonic acid (PFOS)	375-92-8	ND	ND	ND	H	H
Perfluorodecanesulfonic acid (PFDS)	1763-23-1	ND	ND	ND	H	H
Perfluorooctanesulfonic acid (PFOS)	335-77-3	ND	ND	ND	H	H
Perfluorooctanesulfonamide (FOSA)	335-67-1	ND	ND	ND	H	H
Perfluorobutanoic acid (PFBA)	754-91-6	ND	ND	ND	H	H
Perfluoropentanoic acid (PFPeA)	375-22-4	ND	ND	ND	H	H
Perfluorotetradecanoic acid (PFTeA)	2706-90-3	ND	ND	ND	H	H
Perfluoroundecanoic acid (PFUnA)	376-06-7	ND	ND	ND	H	H
Perfluorododecanoic acid (PFDoA)	72629-94-8	ND	ND	ND	H	H
Perfluoropentanesulfonic acid (PFPeS)	2058-94-8	ND	ND	ND	H	H
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2706-91-4	ND	ND	ND	H	H
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	27619-97-2	ND	26.9	ND	H	H
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	39108-34-4	ND	ND	ND	H	H
	757124-72-4	ND	ND	ND	H	H

**TABLE 6 (Continued)**  
Formulation Analysis Results

Tower ID Run ID Lab Sample ID Compound	MC			MD		
	Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
	140-24634-2	140-24634-16 ng/g	140-24634-26	140-24634-10	140-24634-17 ng/g	140-24634-28
Perfluorobutanesulfonic acid (PFBS)	ND	H	ND	ND	ND	ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13.5	H	4.02	H	225	H
Perfluorodecanoic acid (PFDA)	0.147	J H B	0.106	J H B	ND	ND
N-ethylperfluorooctanesulfonamidoacetic acid (NEFOSAA)	2991.50-6	ND	ND	ND	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2355-31-9	ND	ND	ND	ND	ND
Perfluorheptanoic acid (PFHpA)	375-85-9	ND	ND	ND	ND	ND
Perfluorhexanesulfonic acid (PFHxS)	355-46-4	ND	ND	ND	ND	ND
Perfluorononanoic acid (PFNA)	375-95-1	ND	ND	ND	ND	ND
Perfluorohexanoic acid (PFHxA)	307-24-4	ND	ND	ND	ND	ND
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ND	ND	ND	ND	ND
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ND	ND	ND	ND	ND
Perfluorodecanesulfonic acid (PFDS)	335-77-3	ND	ND	H *- *1	ND	H *- *1
Perfluorooctanoic acid (PFOA)	335-67-1	ND	ND	ND	ND	ND
Perfluorooctanesulfonamide (FOSA)	754-91-6	ND	ND	ND	ND	ND
Perfluorobutanoic acid (PFBA)	375-22-4	ND	ND	ND	ND	ND
Perfluoropentanoic acid (PFPeA)	2706-90-3	ND	ND	ND	ND	ND
Perfluorotetradecanoic acid (PFTeA)	376-06-7	ND	ND	ND	ND	ND
Perfluorotridecanoic acid (PFTriA)	72629-94-8	ND	ND	ND	ND	ND
Perfluoroundecanoic acid (PFUnA)	2058-94-8	ND	ND	ND	ND	ND
Perfluorododecanoic acid (PFDoA)	307-55-1	ND	ND	ND	ND	ND
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	ND	0.943	H B *-1	ND	ND
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	ND	ND	4.32	J H	4.94
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	ND	ND	ND	ND	ND
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	ND	ND	ND	ND	ND

**TABLE 6 (Continued)**  
Formulation Analysis Results

Tower ID	Run ID	MQ			MR		
		Run 1	Run 2	Run 3	Run 1	Run 2	Run 3
Lab Sample ID		140-24634-4	140-24634-13	140-24634-33	140-24634-8	140-24634-15	140-24634-27
Compound	CAS #	ng/g			ng/g		
Perfluorobutanesulfonic acid (PFBS)	375-73-5	ND	ND	ND	ND	ND	ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	361	414	317	335	409	9.08
Perfluorodecanoic acid (PFDA)	335-76-2	ND	ND	ND	1.27	1.77	0.106
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2991-50-6	ND	ND	ND	ND	ND	ND
N-methylperfluorooctanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	ND	ND	ND	ND	ND	ND
Perfluoroheptanoic acid (PFHpA)	375-85-9	ND	ND	ND	ND	ND	ND
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	ND	ND	ND	ND	ND	ND
Perfluorononanoic acid (PFNA)	375-95-1	ND	ND	ND	4.76	8.75	ND
Perfluorohexanoic acid (PFHxA)	307-24-4	ND	ND	ND	ND	ND	ND
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ND	ND	ND	ND	ND	ND
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ND	ND	ND	ND	ND	ND
Perfluorodecane sulfonic acid (PFDS)	335-77-3	ND	ND	H *- *1	ND	ND	H *- *1
Perfluorooctanoic acid (PFOA)	335-67-1	ND	ND	ND	ND	ND	ND
Perfluorooctanesulfonamide (FOSA)	754-91-6	ND	ND	ND	ND	ND	ND
Perfluorobutanoic acid (PFBA)	375-22-4	ND	ND	ND	ND	ND	ND
Perfluoropentanoic acid (PFPeA)	2706-90-3	ND	ND	ND	4.87	4.50	ND
Perfluorotetradecanoic acid (PFTeA)	376-06-7	ND	ND	ND	ND	ND	ND
Perfluorotridecanoic acid (PFTriA)	72629-94-8	ND	H *- *1	ND	2.52	3.49	H *- *
Perfluoroundecanoic acid (PFUnA)	2058-94-8	ND	ND	ND	12.6	18.5	ND
Perfluorododecanoic acid (PFDoA)	307-55-1	ND	ND	ND	ND	ND	ND
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	ND	ND	ND	ND	ND	ND
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	ND	ND	H *1	ND	ND	0.406
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	ND	ND	ND	ND	ND	H
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	ND	ND	ND	ND	ND	ND

**TABLE 6 (Continued)**  
Formulation Analysis Results

Tower ID		MS		
Run ID		Run 1	Run 2	Run 3
Lab Sample ID		140-24634-11	140-24634-14	140-24634-34
Compound	CAS #	ng/g		
Perfluorobutanesulfonic acid (PFBS)	375-73-5	ND	H ND	H ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	13252-13-6	125	H 51.7	H 363
Perfluorodecanoic acid (PFDA)	335-76-2	3.68	J H B 0.124	H ND
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2991-50-6	ND	H ND	H ND
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2355-31-9	ND	H ND	H ND
Perfluoroheptanoic acid (PFHpA)	375-85-9	9.39	H 0.891	H ND
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	ND	H ND	H ND
Perfluorononanoic acid (PFNA)	375-95-1	26.3	H ND	H ND
Perfluorohexanoic acid (PFHxA)	307-24-4	2.93	J H I 6.69	H 3.90
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ND	H ND	H ND
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ND	H 0.0735	H ND
Perfluorodecanesulfonic acid (PFDS)	335-77-3	ND	H ND	H ND
Perfluorooctanoic acid (PFOA)	335-67-1	ND	H ND	H ND
Perfluorooctanesulfonamide (FOSA)	754-91-6	ND	H ND	H ND
Perfluorobutanoic acid (PFBA)	375-22-4	20.9	H 6.55	H 13.3
Perfluoropentanoic acid (PFPeA)	2706-90-3	114	H 2.99	H 1.03
Perfluorotetradecanoic acid (PFTeA)	376-06-7	ND	H ND	H ND
Perfluoroundecanoic acid (PFUnA)	2058-94-8	8.60	C I *. *1	H ND
Perfluorododecanoic acid (PFDoA)	307-55-1	0.792	J H I ND	H ND
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	ND	H ND	H ND
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	ND	H ND	H 32.3
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	ND	H ND	H ND
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	ND	H ND	H ND