

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF FLORIDA  
PENSACOLA DIVISION**

IN RE: DEEPWATER HORIZON  
BELO CASES

Case No. 3:19cv963

This Document Relates to All Cases

Judge M. Casey Rodgers  
Magistrate Judge Gary R. Jones

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**ORDER**

The Plaintiffs in this consolidated action consist of cleanup workers and coastal residents of North Florida who claim to suffer various chronic medical conditions as a result of exposure to crude oil and other chemicals following the “Deepwater Horizon” oil spill in the Gulf of Mexico. All claims against Defendants BP Exploration & Production, Inc. and BP America Production Company (collectively, “BP”) arising from the oil spill were originally consolidated in the Eastern District of Louisiana as part of the Deepwater Horizon multidistrict litigation (MDL No. 2179). For personal injury plaintiffs, the MDL resolved in the certification of a Medical Benefits Class and approval of a comprehensive Medical Benefits Class Action Settlement Agreement (“Settlement Agreement”). The Settlement Agreement provided a claims process for eligible class members who were diagnosed with a specified physical condition on or before April 16, 2012, and a separate litigation option for those with a physical condition diagnosed after that

cutoff date. Plaintiffs in this litigation were diagnosed after the cutoff date and thus were ineligible to participate in the claims process, but the terms of the Settlement Agreement allowed them to file separate individual tort suits against BP in the Eastern District of Louisiana. Over 500 such cases have since been transferred to this Court for discovery and trial. Two groups of Plaintiffs have been randomly selected to proceed as bellwether cases, with discovery bifurcated between general and specific causation.<sup>1</sup>

Now pending is BP's Motion for Summary Judgment, ECF No. 68,<sup>2</sup> in which it argues that the general causation opinions of the bellwether Plaintiffs' expert, toxicologist Patricia Williams, Ph.D., are unreliable and unhelpful, and therefore inadmissible under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow*

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<sup>1</sup> The Fifth Circuit's description of "bellwether" is apt:

The term bellwether is derived from the ancient practice of belling a wether (a male sheep) selected to lead his flock. The ultimate success of the wether selected to wear the bell was determined by whether the flock had confidence that the wether would not lead them astray, and so it is in the mass tort context. The notion that the trial of some members of a large group of claimants may provide a basis for enhancing prospects of settlement or for resolving common issues or claims is a sound one that has achieved general acceptance by both bench and bar.

*In re Chevron U.S.A., Inc.*, 109 F.3d 1016, 1019 (5th Cir.1997).

<sup>2</sup> A master docket has been established for efficient case administration and the resolution of common issues for all BELO cases transferred to this Court: Case No. 3:19cv963-MCR-GRJ. All ECF docket citations in this Order are references to documents filed on the master docket, using the electronic filing page numbers.

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*Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). BP relies on the opinions of its own experts—Dominik Alexander, Ph.D., an epidemiologist; Robert Cox, M.D., Ph.D., a toxicologist; and Damian Shea, Ph.D., an environmental chemist and professor of environmental toxicology. The Court heard oral argument, and now, having fully and carefully reviewed the record, the parties’ arguments, and the law, the Court agrees with BP that Dr. Williams’s opinions must be excluded. As a result, the Court further concludes that Plaintiffs cannot create a material question of disputed fact on general causation, and therefore, BP is entitled to summary judgment.

## **I. Background**

### **A. Deepwater Horizon Incident and Response**

On April 20, 2010, an explosion and fire erupted on the Deepwater Horizon mobile offshore drilling unit at the Macondo well site in Mississippi Canyon Block 252 (“MC252”), located on the outer continental shelf in the Gulf of Mexico, approximately 130 miles southeast of New Orleans and approximately 50 miles from the Mississippi River delta. *In re: Oil Spill by the Oil Rig Deepwater Horizon in the Gulf of Mexico, on Apr. 20, 2010*, 731 F. Supp. 2d 1352, 1353 (U.S. Jud. Pan. Mult. Lit. 2010). The rig sank two days later in approximately 5,000 feet of water. *See id.* Tragically, the explosion killed 11 workers on the BP-leased rig, injured many more, and resulted in a free flow of oil from the well site, which “gushed from the *In re Deepwater Horizon BELO Cases*, Case No. 3:19cv963

site in unprecedented amounts.” *See id.* The well was finally capped on July 15, 2010, after releasing over 4.9 million barrels of crude oil into the Gulf of Mexico.<sup>3</sup> ECF No. 68-2 (citing the United States Coast Guard 2011).

In response to the oil spill, a massive effort was undertaken to contain and disperse the oil and clean the areas impacted by it. Response activities were carried out through a coordinated response operations plan established by the Unified Area Command (“UAC”).<sup>4</sup> The UAC included the United States Environmental Protection Agency (“EPA”), the United States Coast Guard (“Coast Guard”), the National Institute for Occupational Safety and Health (“NIOSH”), the National Oceanic and Atmospheric Administration (“NOAA”); state environmental departments of Alabama, Florida, Louisiana, and Mississippi; and BP as a responsible party. The response activities consisted of skimming oil from the water surface, conducting approximately 400 *in situ* controlled burns, placing containment and absorption booms, cleaning beaches, and restoring wildlife. Most of the burn

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<sup>3</sup> Fresh crude oil released from the well site beneath the ocean “traveled through approximately one mile of water before reaching the ocean surface, during which time it was significantly ‘scrubbed’ of a number of the more water-soluble, volatile components.” ECF No. 70-12 at 33 (Order Approving Settlement) (citing the declaration of Dr. Cox.); ECF No. 70-13 at ¶¶85-86 (Cox Decl.).

<sup>4</sup> The UAC was established under the Incident Command System, which in turn was established under the National Oil and Hazardous Substances Pollution Contingency Plan Contingency Plan—the federal government’s blueprint for responding to oil spills. *See* ECF No. 70-12 at 23 (citing 40 C.F.R. pt. 300).

sites were close to the Deepwater Horizon wellhead site and nearly 100 miles from the northern Gulf Coast of Florida, where Plaintiffs worked or lived.<sup>5</sup>

Additionally, approximately 1.8 million gallons of chemical dispersants, namely Corexit EC9527A (“Corexit 9527”) and Corexit EC9500A (“Corexit 9500”), were applied, aerially and by vessel, both at the surface of the water and below in the stream of oil leaving the wellhead, in an attempt to break up the oil slicks into small droplets that could be more easily dispersed by natural processes.<sup>6</sup> Dispersants were sprayed from vessels primarily within five miles of the spill site. A NOAA map illustrating the flight paths of aerial dispersant applications reflects that the spraying occurred over the Gulf of Mexico at least 50 miles offshore and that no dispersants were applied on shore. *See* ECF No. 68-14. Some Plaintiffs nonetheless reported feeling dispersant droplets directly on their skin.<sup>7</sup>

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<sup>5</sup> *See* ECF No. 79-2 at 22 (Cox Report) (“No burns took place within 100 miles of the Florida coast.”); ECF No. 79-2 at 32 (Shea Report) (stating the burn sites were more than 96 miles from the shoreline of Pensacola Beach, Florida).

<sup>6</sup> ECF No. 68-2 at 15 (citing studies by Wise and Wise (2011) and McGowan, et al. (2017)); ECF No. 70-12 at 2 (Order Approving Medical Benefits Class Action Settlement).

<sup>7</sup> Dr. Williams disputes the accuracy of the NOAA map based on her interviews of Plaintiffs who reported seeing planes at night dropping dispersants on the coastline. The interviews are not in the record but the Plaintiffs reportedly told Dr. Williams they were sprayed directly while working onshore and felt dispersant droplets on their faces and saw crystallized dust on tar balls that they believed was a chemical dispersant. ECF No. 68-2 at 11 (Williams Report). According to Dr. Cox, the NOAA map shows that the closest aerial dispersant applications to Florida coastal cities were as follows: Perdido Key—50 miles offshore; Pensacola—66 miles offshore; and Destin—82 miles offshore. ECF No. 79-2 at 24; *see also* ECF No. 70-12 at 24-26

As many as 90,000 response workers were engaged in the near-shore and offshore response activities. The response operations plan required BP to implement a medical program to provide emergency and first aid treatment to workers at numerous locations. ECF No. 70-12 at 26. The UAC established Safety and Industrial Hygiene groups to develop protocols related to worker safety and health. The protocols, which were approved by the UAC and OSHA (the Occupational Safety and Health Administration), addressed exposure assessment, safe work practices, personal protective equipment, and worker training.<sup>8</sup> During the response and cleanup activities, workers and coastal residents complained of various medical symptoms, including nasal congestion, cough, shortness of breath, headaches, nausea, dizziness, dermal irritation or rash, itchy and sore eyes, as well as heat-related conditions. The UAC Safety and Industrial Hygiene groups collected and analyzed the reports of work-related illness and injuries in real time to identify trends for the purpose of instituting corrective measures. *Id.*

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(Order Approving Settlement) (stating 98% of the applications reportedly occurred greater than ten nautical miles off shore). For purposes of summary judgment, the dispute is not material to the Court's decision because the facts and plausible inferences are construed in the light most favorable to the Plaintiffs.

<sup>8</sup> The extent to which personal protective equipment was actually provided and used is disputed, but this dispute is also not material.

## **B. Chemical Components of Crude Oil and Dispersants**

Crude oil is comprised of a number of chemical components. The crude oil from the Macondo well (“MC252 crude oil”) included volatile aliphatic hydrocarbons (methane, heptane, butane, hexane, and cyclohexane); volatile aromatic hydrocarbons—benzene, toluene, xylenes, and ethylbenzene (often referred to collectively as “BTEX”); and polycyclic aromatic hydrocarbons (“PAHs”) (consisting of naphthalene, benzo(a)pyrene and phenanthrene).<sup>9</sup> ECF No. 70-13 ¶ 19. BTEX, hexane, and naphthalene are “associated with adverse health effects when inhaled at sufficient concentrations and for sufficient durations.” ECF No. 70-13 at ¶22 (Cox Decl.). The hydrocarbons from crude oil react with nitrogen oxides in the atmosphere in the presence of sunlight, forming lower volatility secondary organic aerosol particles as well as pollutants, such as ozone and Peroxyacetyl nitrate. ECF No. 68-2 at 12 (Williams Report). Also, when oil is burned, some PAHs and other less-volatile hydrocarbons form “criteria pollutants”—Particulate Matter (“PM”), ozone, and sulfur dioxide—and

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<sup>9</sup> The MC252 crude oil also contained less volatile aliphatic hydrocarbons (decane and undecane); less volatile aromatic hydrocarbons (propylbenzene and pentylbenzenes); and naphthenic hydrocarbons. ECF No. 70-13 at ¶¶ 19-21 (Cox Decl.).

polychlorinated dibenzodioxins and furans (“dioxins”).<sup>10</sup> *Id.* at ¶¶ 21, 37-42; *see also* ECF No. 68-2 at 12. Dr. Cox explained that “criteria pollutants are always present in ambient air and can be generated by numerous industrial processes and automobile exhaust, as well as natural processes such as forest fires.” ECF No. 70-13 at ¶ 38 (noting also that “[a]ll states perform regular air monitoring for the criteria pollutants to assess air quality generally” and regulatory compliance).

Of all these substances, only two are relevant here. Specifically, Dr. Williams identified PM (formed from the constituents of oil) and arsenic (a component of the chemical dispersants) as causative of the Plaintiffs’ chronic medical conditions. PM “is a mixture of solid particles and liquid droplets, and is found in ambient air.” ECF No. 70-13 ¶ 39 (Cox Decl.). It is defined based on size — PM<sub>10</sub> is coarse particulate matter (referring to particles that are less than 10 micrometers) and PM<sub>2.5</sub> is fine particulate matter (referring to particles that are less than 2.5 micrometers in diameter).<sup>11</sup> *Id.* “The size of particles is directly linked to their potential for causing

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<sup>10</sup> While low levels of dioxins are ubiquitous in the environment, high levels are associated with adverse human health effects. Dr. Cox noted that the EPA measurements of dioxin levels above the *in situ* burns revealed low levels of dioxin, similar to emissions from residential woodstoves or forest fires, which, in his opinion, “did not pose an appreciable cancer risk for cleanup workers and members of the general public.” ECF No. 70-13 at ¶ 73-74. In any event, cancer is not alleged in these cases.

<sup>11</sup> The chemical constituents of PM can vary depending on the sources from which it was formed, which can be numerous. ECF No. 68-2 at 50 (Williams Report, noting PM can contain ammonium, metals, and PAHs); ECF No. 68-4 at 173 (Williams depo.) (noting PM can contain *In re Deepwater Horizon BELO Cases*, Case No. 3:19cv963

health problems.” ECF No. 68-2 (Williams Report, quoting EPA 2003). “Fine particulates pose a greater potential risk to human health than coarse particulates because they are easily inhaled deeper into the lungs and can cause a number of respiratory symptoms, such as irritation of the airways, coughing, difficulty breathing, and exacerbation of pre-existing respiratory conditions.” ECF No. 70-13 at ¶ 39 (Cox Decl.). Larger particles, on the other hand, “can irritate your eyes, nose, and throat.” ECF No. 68-2 (Williams Report, quoting EPA 2003).

Arsenic, which is a heavy metal and cumulative toxicant, is a component of the chemical dispersants applied during response activities. As noted above, Corexit 9527 and Corexit 9500 were applied during the response activities. Corexit 9527 was applied aerially but only through May 22, 2010. Corexit 9500 was applied aerially and sprayed from vessels through July 19, 2010.<sup>12</sup> According to a product bulletin, Corexit 9500 contains 160 ppb of arsenic, in addition to several other

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PAHs, arsenic, or “whatever’s in the atmosphere”). Dr. Williams did not identify the chemical constituents of the PM and testified that its specific constituents did not matter for purposes of her analysis, ECF No. 68-4 at 185, and yet she also testified that the chemical “dispersants are huge when it comes to particulate matter . . . [and] very, very important,” *id.* at 163.

<sup>12</sup> Corexit 9527 contained 2-butoxyethanol, which can be toxic if ingested or inhaled in large enough quantities, and also 5ppb (parts per billion) of arsenic. ECF No. 68-2 at 15 (Williams Report). Dr. Williams did not render an opinion as to Corexit 9527 because it was discontinued in May 2010, before the bellwether Plaintiffs began their cleanup duties on the beaches.

chemicals.<sup>13</sup> The product bulletin warns that Corexit must be used with ventilation, users should avoid eye and skin contact, and some components of Corexit are known to cause skin irritation, contact dermatitis, irritation of mucus membranes, headaches, and dizziness on direct or frequent contact or if inhaled. ECF Nos. 68-2 at 16-18; 70-13 at ¶¶26-33. The manufacturer's Material Safety Data Sheet ("MSDS") for Corexit 9500 lists the human health risk as "slight" but, as noted in the Order approving the Settlement Agreement, also cautions that "prolonged exposure to Corexit 9500 [in an undiluted form] can cause dermal and respiratory irritation and other minor health effects." ECF No. 70-13 at ¶¶35-36 (explaining also that the MSDS toxicity information "relates to the effects that might occur if an individual is exposed to the pure, undiluted Corexit products, at sufficient levels and for sufficient duration" and are much less likely to occur after the dispersants have been diluted from application to an oil spill in the ocean).

### **C. Data Collection**

During the ongoing response activities, the UAC engaged in extensive and coordinated data collection and environmental monitoring efforts, in what has been

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<sup>13</sup> Corexit 9500 also contains some commonly used compounds, such as propylene glycol, which is a generally safe food and cosmetic additive, dioctyl sodium sulfonate, which is used in cosmetics and stool softener medication, and a surfactant, to name a few. ECF No. 70-13 at ¶¶26-32 (Cox Decl.).

characterized as “the largest environmental investigation of an oil spill ever undertaken.” ECF No. 79-1 at 7. As a result, “[a] massive quantity of high-quality environmental data” exists, which has been essential to analyzing the environmental impact of the spill. *Id.* For instance, air quality was monitored at fixed-monitoring stations along the Gulf Coast from Texas through Florida; the EPA deployed mobile air monitoring equipment in Trace Atmospheric Gas Analyzer buses (self-contained mobile laboratories) to detect volatile organic compounds (“VOCs”), PAHs, and concentrations of BTEX, all of which are components of crude oil, as noted; NOAA conducted airborne chemical laboratory flights; and the United States Geological Survey (“USGS”) and United States Department of the Interior measured organic contaminants and trace and major elements in water and sediment samples along the Gulf Coast. The UAC formed a team including members of the U.S. Coast Guard, NOAA, the USGS, the Bureau of Ocean Energy Management Regulation and Enforcement, the EPA, and BP, to assess and report on the data collected during the response. ECF No. 70-12 at 32 n.11.

Of note, water samples were collected from 70 coastal sites along the Gulf of Mexico in May 2010, documenting the baseline “pre-landfall” conditions, and a subset was resampled “post-landfall” during October 2010 “to determine if actionable concentrations of oil were present along shorelines.” ECF No. 68-2 at 19

(Williams Report) (citing USGS 2011-2017). The USGS reported that most of the “exceedances” identified in the post-landfall water samples were for the elements of boron, copper, and manganese. *Id.* Also, 16% of sediment samples collected in Louisiana and Texas were found to exceed upper screening-value benchmarks for the elements of barium, vanadium aluminum, manganese, arsenic, chromium, and cobalt. *See* ECF No. 68-2 at 19 (citing USGS 2011-2017).

In addition, the EPA collected over 2,000 air samples and took “well over 100,000 high-sensitivity measurements” for analysis of VOCs and PAHs as part of a Community Air Monitoring program along the Gulf Coast between April 28, 2010 and September 18, 2010. ECF No. 79-1 at 24. Dr. Shea stated that from these samples, “[o]nly a single measurement of BTEX (benzene) exceeded the U.S. EPA screening level for human health.” *Id.* at 24, 25. All other air samples and measurements “met the U.S. EPA standards for air quality related to BTEX and other VOCs.” *Id.* Out of nearly 1,000 air samples taken onshore in the Gulf region that the EPA measured for combustion-related PAHs, “not a single sample exceeded the U.S. EPA screening level for air and all were at least 400 times below the U.S. EPA [s]creening [l]evels.” *Id.* at 31-32. Air quality data was also collected through a Personal Breathing Zone Monitoring Program, which “place[d] passive sampling badges” on workers performing beach cleanup and other tasks, such as boom  
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deployment and retrieval or oil skimming. The data collected from these workers was then analyzed according to human health standards, and, consistent with the community monitoring, while BTEX and VOCs were detected throughout the Gulf of Mexico shoreline, none of the measurements recorded in the Plaintiffs' breathing zone badges exceeded human health standards established by the EPA.<sup>14</sup> ECF No. 79-1 at 25-28. According to Dr. Shea, these results are consistent with those of nearly 15,000 additional breathing zone samples collected during the industrial hygiene monitoring, which measured oil-related chemicals in the breathing zones of workers.<sup>15</sup> *Id.* at 30.

During this time, specifically on June 8 and June 10, 2010, NOAA also recorded air quality readings from flights "over the Gulf of Mexico in the vicinity and downwind of the [Deepwater Horizon] spill site." ECF No. 68-2 at 12-13. The flights recorded PM concentrations described by NOAA as air pollution

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<sup>14</sup> Dr. Shea's report includes charts showing the personal breathing zone monitoring measurements for each bellwether Plaintiff. Plaintiffs object to the use of personal breathing badge levels for any particular Plaintiff at the general causation stage. This information is included only for background, as it demonstrates the extensive monitoring that was performed. Although the absence of measurements exceeding general health benchmarks from the geographical area at issue is highly relevant, the Court's decision does not rely on measurements specific to any particular Plaintiff.

<sup>15</sup> Dr. Shea's report includes maps of the Community Air Monitoring, but the precise locations of the industrial hygiene breathing zone monitoring are not identified, other than by a statement that there was "a focus on people working on the response." ECF No. 79-1 at 16.

“comparable to a day with very high concentrations in a major U.S. city.” ECF No. 68-2 at 13 (quoting NOAA Report). The EPA evaluated the general air quality of the Gulf shoreline (including the northern Gulf Coast of Florida) comparing measurements to the Air Quality Index, which measures PM, ground-level ozone, carbon monoxide, sulfur dioxide (SO<sub>2</sub>), and nitrogen dioxide (NO<sub>2</sub>).<sup>16</sup> A NIOSH study of the data concluded that due to open air and wind conditions, the higher volatility compounds from the oil “may have dissipated shortly after release and during the weathering process so that concentrations on vessels and onshore were minimal.” ECF No. 79-1 at 35 (Shea Report) (quoting NIOSH study).

#### **D. MDL Settlement Agreement and BELO Litigation**

The Macondo well was eventually capped, but “the spill’s effects are widespread” and a firestorm of litigation later ensued along the Gulf Coast. *See In re: Oil Spill by the Oil Rig Deepwater Horizon*, 731 F. Supp. 2d at 1353. As noted, hundreds of lawsuits raising claims of personal injury, property and environmental damage, and economic loss by thousands of individual claimants, were ultimately consolidated into multidistrict litigation (MDL 2179) before Judge Carl Barbier in

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<sup>16</sup> The measurements as charted by the EPA are included in Dr. Shea’s report. ECF No. 79-1 at 34. According to Dr. Shea and Dr. Cox, the charts reflect data in 2010 that is comparable to, and not worse than, data from the previous two years.

the Eastern District of Louisiana. *See id.* The claims were organized according to common issues, and, relevant to the instant litigation, a Medical Benefits Class Action consisting of injured cleanup workers and coastal residents was certified and settled.<sup>17</sup>

The Medical Benefits Class Action Settlement Agreement was executed in May 2012 for the purpose of resolving personal injury claims. The Settlement Agreement included a Specified Physical Conditions Matrix (“Matrix”) that listed medical conditions with minimal proof requirements corresponding to fixed payments. *See* ECF No. 70-7 at 208-220. To prove a claim under the Matrix, class members were required to provide documentation showing that a specified medical condition had manifested within a given number of hours after exposure (24 to 72 hours, depending on the condition) and proof of a medical diagnosis on or before April 16, 2012.<sup>18</sup> A Claims Administrator determined eligibility under the Matrix,

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<sup>17</sup> The Medical Benefits Settlement Class is defined as all natural persons who worked as clean-up workers at any time between April 20, 2010, and April 16, 2012, or who resided in “Zone A” for 60 days between April 20, 2010, and September 30, 2010. ECF No. 70-7 at 15 (Section I.A.(1)-(2)).

<sup>18</sup> The Matrix provided payment tables for specified acute conditions, which included conjunctivitis, acute rhinosinusitis, and acute contact dermatitis, as listed in Table 1. The Matrix also provided payment tables for chronic specified physical conditions, listed in Table 3, categorized as (1) Ocular—injury from direct chemical splash, involving documented objective finding of damage to conjunctiva, cornea, and/or surrounding structures; and (2) Respiratory—documented chronic rhinosinusitis (an inflammatory condition involving the paranasal sinuses lasting 12 weeks or longer) and reactive airway dysfunction syndrome (irritant induced asthma).

and thousands of individual cleanup workers and residents received a fixed payment pursuant to its terms.

Class members claiming a medical condition specified on the Matrix but who did not receive a diagnosis until after the cutoff date of April 16, 2012, were not eligible for a fixed payment settlement from the Claims Administrator, regardless of when their symptoms first manifested. Instead, the Settlement Agreement allowed those claimants to litigate their subsequently diagnosed conditions as “later manifested physical conditions” through a Back-End Litigation Option (“BELO”) suit.<sup>19</sup> See ECF No. 70-7 at 63-70 (Section VIII, G, Settlement Agreement). Under this procedure, BELO suits must be filed initially in the Eastern District of Louisiana and may later be transferred to a more appropriate venue for discovery and trial after meeting certain disclosure requirements, which is what occurred in each BELO case transferred to this District. The Settlement Agreement specified certain issues that

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ECF No. 70-7 at 220. The Matrix listed the pathways for the chronic conditions as direct contact for the ocular condition (within 24 hours of exposure) and inhalation for the rhinosinusitis inflammatory condition (within 72 hours of exposure). *Id.*

<sup>19</sup> “Back-End Litigation Option” is defined in the Settlement Agreement as the right of certain medical benefits class members to bring a lawsuit for a later-manifested physical condition, “subject to the terms and conditions of Section VIII.” ECF No. 70-7 at 9 (Section II H, Settlement Agreement). A “later-manifested physical condition” is defined as “a physical condition that is first diagnosed . . . after April 16, 2012” and is claimed to have resulted from “exposure to oil, other hydrocarbons, or other substances released” during the spill and/or released in connection with dispersants or decontaminants used in connection with the response activities. ECF No. 70-7 at 17-18 (Section II, VV, Settlement Agreement).

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either may or need not be litigated in a BELO suit. Important to the instant dispute, the Settlement Agreement permitted the parties to litigate the amount and location of substances released in connection with the spill and response, the level and duration of a plaintiff's exposure, and legal causation.<sup>20</sup>

To date, 521 BELO cases have been transferred to this Court for discovery and trial. The cases have been stayed, with the exception of a randomly selected First Trial Pool, consisting of two groups of bellwether cases—referenced as the Falcon Group and the Downs Group (named after counsel for each group).<sup>21</sup> The bellwether Plaintiffs each worked or resided on beaches in Florida following the spill. The Falcon Group Plaintiffs claim to suffer from chronic conjunctivitis and chronic dry eye syndrome; the Downs Group Plaintiffs assert medical conditions of chronic conjunctivitis, chronic dermatitis, chronic rhinitis, chronic sinusitis, and/or

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<sup>20</sup> More specifically, Section VIII G(3)(a) identified the following issues to be litigated in BELO suits: (i) the fact of diagnosis, (ii) the amount, location, and timing of oil or other substances released in connection with the response activities, (iii) the level and duration of the plaintiff's exposure, (iv) whether the later-manifested physical condition was legally caused by the exposure to substances released or used in connection with the Deepwater Horizon spill, (v) alternative causes, and (vi) the amount of compensatory damages. ECF No. 70-7 at 66-67.

Section G(3)(b) provided that the following issues need not be proven and may not be litigated in BELO cases: (1) the existence of the Settlement Agreement; (ii) the alleged fault of BP; and (iii) exposure, and thus no case can be dismissed for failure to prove or litigate these issues. ECF No. 70-7 at 67-68.

<sup>21</sup> Originally, there were three bellwether groups selected, but all cases within what was Group Two have been voluntarily dismissed.

chronic rhinosinusitis. The Plaintiffs maintain these chronic conditions were caused by their exposure to oil, its chemical constituents, and/or dispersants released during the Deepwater Horizon oil spill and cleanup efforts.<sup>22</sup>

The Court bifurcated discovery between general and specific causation, with general causation proceeding first through discovery and dispositive motions. Initially, the Plaintiffs sought to avoid the general causation phase by moving to “enforce” the Settlement Agreement, arguing that its terms effectively already established general causation for BELO suits that involve medical conditions stated on the Matrix. When approving the Settlement Agreement and Matrix, Judge Barbier relied on expert declarations, including from BP’s experts, stating that the medical conditions listed on the Matrix could be caused by exposure to oil and/or dispersants, assuming the presence of sufficiently high levels.<sup>23</sup> Plaintiffs argued

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<sup>22</sup> Specifically, the plaintiff profile forms submitted by the Falcon Group Plaintiffs state they were possibly exposed to benzene and Corexit. The Downs Group Plaintiffs state they were exposed to benzene, toluene, ethylbenzene total hydrocarbons, xylene (BTEX), arsenic, petrochemicals, Corexit 9527 and Corexit 9500, crude oil, dispersants, and others.

<sup>23</sup> In particular, the Order granting approval of the Settlement Agreement stated, “there is a medical basis to conclude that [conditions stated on the Matrix] could be caused by exposure to oil and/or dispersants at sufficient levels,” citing the declarations of experts Michael R. Harbut, M.D., M.P.H., F.C.C.P. (for class counsel), ECF No. 70-8, 70-9, and Jessica Herzstein, M.D., M.P.H. (for BP), ECF No. 70-10. *See* ECF No. 70-12 (Order at 9). BP’s expert, Dr. Herzstein, stated by declaration that oil and dispersants could cause the conditions listed in the Matrix *assuming* “exposure to sufficient amounts of such substances for a sufficient duration of time.” Dr. Harbut similarly concluded that the conditions in the Matrix reflected the state of science and

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here that those expert declarations established general causation as the law of the case. The Court rejected the argument, finding that general causation was neither litigated previously nor conceded by BP's willingness to settle certain claims and compromise on the Matrix in the absence of litigation. ECF No. 52. While the experts had agreed to general causation for purposes of establishing a comprehensive medical settlement on the assumption of sufficient exposure, it was clear from the outset that the effects of the spill spanned the entire Gulf Coast and impacted beaches from Texas throughout Florida in varying degrees. For the BELO plaintiffs, although the settlement compromise established the fact of exposure, it expressly required proof of the amount and location of the toxic substances they claim have harmed them, as well as their level of exposure and legal causation.

The parties then designated general causation experts and conducted expert depositions. For Plaintiffs, Dr. Williams provided separate but similar general causation reports for the Falcon Group and the Downs Group.<sup>24</sup> She focused her general causation reports on two substances—PM (fine PM<sub>2.5</sub> and coarse PM<sub>10</sub>) (discussed in both reports as causing chronic eye and respiratory conditions) and

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medical literature regarding the health effects from petroleum and dispersants. No specific substance or harmful level of exposure was identified in these general statements.

<sup>24</sup> Because the record included two depositions of Dr. Williams, the Court found live testimony at the summary judgment stage unnecessary.

arsenic (discussed only in the Downs Report, as causing chronic dermatitis). After reviewing the scientific literature, Dr. Williams concluded that there is a cause-effect relationship between the medical conditions at issue and exposure to the PM<sub>2.5</sub>, PM<sub>10</sub> and/or arsenic associated with the Deepwater Horizon crude oil spill and subsequent application of chemical dispersants.

For BP, Dr. Alexander and Dr. Cox provided reports concluding, contrary to Dr. Williams, that there is insufficient evidence in the epidemiological literature and the environmental data collected during the spill and cleanup to conclude that oil and/or dispersants on the northern Gulf Coast of Florida could cause any of the chronic conditions Plaintiffs claim as injury. In addition, Dr. Shea evaluated the actual exposure data to determine whether the bellwether Plaintiffs *could have been* exposed to sufficient levels of potentially harmful chemicals associated with the Deepwater Horizon spill to increase their risk of developing the chronic medical conditions at issue. He expressed the opinion that the levels of chemicals present in the general areas where the Plaintiffs worked or resided (northern Florida beaches) were negligible and harmless to human health. Although Dr. Shea admitted during his deposition that substances from the spill could cause the conditions at issue if

present in “very high” concentrations, in his opinion, those conditions did not exist in Florida.<sup>25</sup>

Dr. Cox and Dr. Alexander also reviewed Dr. Williams’s reports. In detailed rebuttal reports, each found that she failed to follow a reliable epidemiologic methodology and as just noted failed to consider the actual exposure data collected in the region where the bellwether Plaintiffs worked and lived. BP therefore argues that her opinion is inadmissible and as a result, Plaintiffs cannot create a question of material fact on general causation.

## **II. Legal Standards**

### **A. Summary Judgment**

Summary judgment is appropriate if “there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *see Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-248 (1986) (“The mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment.”). The moving party bears the burden of establishing that there is no genuine dispute of fact and that the

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<sup>25</sup> Plaintiffs have not challenged the reliability of BP’s expert opinions, but they say they intend to challenge Dr. Shea’s opinions under *Daubert* at the specific causation phase on grounds that the exposure data he relied on is too “generalized and disconnected from the plaintiffs’ actual exposure” to be reliable. ECF No. 70 at 18 n. 11.

plaintiff has failed to establish an essential element of the claim. *See Allen v. Bd. of Pub. Educ.*, 495 F.3d 1306, 1313 (11th Cir. 2007); *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986). To avoid summary judgment, the nonmoving party must then go beyond the pleadings and “designate specific facts showing that there is a genuine issue for trial.” *Celotex*, 477 U.S. at 324 (internal marks omitted). However, summary judgment cannot be avoided through evidence that is “inadmissible at trial.” *Chapman v. Procter & Gamble Distrib., LLC*, 766 F.3d 1296, 1313 (11th Cir. 2014) (quoting *Corwin v. Walt Disney Co.*, 475 F.3d 1239, 1249 (11th Cir. 2007)).

**B. Rule 702 and *Daubert***

In a toxic tort case, such as this, a plaintiff must establish both general and specific causation through admissible, reliable expert testimony. *McClain v. Metabolife Int’l, Inc.*, 401 F.3d 1233, 1239 (11th Cir. 2005). Rule 702 provides that expert testimony regarding scientific, technical, or specialized knowledge is admissible if it is: (1) helpful to the jury, (2) based on sufficient facts or data, (3) the product of reliable principles and methods, and (4) demonstrates that “the expert has reliably applied the principles and methods to the facts of the case.” Fed. R. Evid. 702. The Eleventh Circuit has distilled the Rule 702 requirements into three inquiries: (1) whether the expert is qualified; (2) whether “the methodology by which the expert reaches [a] conclusion is sufficiently reliable” under the principles of *In re Deepwater Horizon BELO Cases*, Case No. 3:19cv963

*Daubert*; and (3) whether the testimony will assist the trier of fact to understand the evidence or determine a fact in issue through the application of scientific, technical, or other specialized knowledge. *Rink v. Cheminova, Inc.*, 400 F.3d 1286, 1291-92 (11th Cir. 2005). Reliability under *Daubert* is determined by considering: (1) whether the expert’s methodology can or has been tested; (2) whether the scientific technique or theory has been subjected to peer review and publication; (3) whether there is a known rate of error for the method; and (4) whether the technique is generally accepted in the scientific community. *See Daubert*, 509 U.S. at 593-94; *Rink*, 400 F.3d at 1292. The court considers “whether the reasoning or methodology underlying the testimony is scientifically valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue.” *Seamon v. Remington Arms Co., LLC*, 813 F.3d 983, 988 (11th Cir. 2016) (quoting *Daubert*, 509 U.S. at 592-93). The helpfulness prong of Rule 702 is concerned with ensuring that expert testimony is not only scientifically reliable but also “relevant to the task at hand.” *Daubert*, 509 U.S. at 597. The party offering the expert testimony has the burden to establish “these basic requirements—qualification, reliability and helpfulness.”<sup>26</sup> *United States v. Frazier*, 387 F.3d 1244, 1260 (11th Cir. 2004). The court’s aim

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<sup>26</sup> Only reliability and helpfulness are at issue. BP has not challenged Dr. Williams’s qualifications.

through this analysis is to “make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *McClain*, 401 F.3d at 1237 (quoting *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152 (1999)). As explained by the Supreme Court in *Daubert* and its progeny, the trial court exercises a “gatekeeping role” under Rule 702 to ensure that expert testimony is only admitted if it is both reliable and relevant. *Daubert*, 509 U.S. at 597; *Rink*, 400 F.3d at 1291.

Importantly, “[v]igorous cross examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert*, 509 U.S. at 596. For this reason, the Court is mindful of the delicate balance between its gatekeeping role, scrutinizing the expert testimony for reliability, and the jury’s role of weighing the credibility and persuasiveness of opposing expert opinions as the ultimate factfinder. *Frazier*, 387 F.3d at 1272 (the jury ultimately determines “where the truth in any case lies”); *see also Quiet Tech. DC-8, Inc. v. Hurel-Dubois UK Ltd.*, 326 F.3d 1333, 1341 (11th Cir. 2003) (noting it is not the court’s role to make conclusions as to “the persuasiveness of the proffered evidence”). However, while identifying weaknesses in an expert’s application of a generally reliable

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scientific method is ordinarily the role of cross-examination, *see Jones v. Otis Elevator Co.*, 861 F.2d 655, 663 (11th Cir. 1988) (weaknesses in an expert opinion go to weight not admissibility), identifying a flaw so fundamental that it impugns the scientific validity of the expert's methods impacts reliability, requiring the Court to exercise its gatekeeping role, *Kilpatrick v. Breg, Inc.*, 613 F.3d 1329, 1343 (11th Cir. 2010) (excluding an opinion where a "key foundation for applying" the methodology is missing). Additionally, nothing "requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert." *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

### III. Discussion

General causation, a necessary element in a toxic tort case, is concerned with whether a "drug or chemical *can* cause the harm plaintiff alleges," that is, whether a chemical agent "increases the incidence of disease in a group," not whether it caused an individual plaintiff's disease. *McClain*, 401 F.3d at 1239 (quoting Michael D. Green et al., *Reference Guide on Epidemiology*, in *Reference Manual on Scientific Evidence* 392 (Federal Judicial Center, 2d ed. 2000)). The Eleventh Circuit has identified two categories for purposes of proving causation in toxic tort cases. In the "first category," the medical community generally recognizes both the toxicity of a drug or chemical—*i.e.*, asbestos, silica, or cigarette smoke—and that the toxin alone

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causes the particular disease or cancer that the plaintiff alleges, and in those cases, only specific causation is at issue. *See McClain*, 401 F.3d at 1239. In the “second category,” this nexus is not specifically recognized and therefore, both general causation and specific causation must be proven. *Id.*

This is a “second category” case under *McClain*, requiring a scientifically reliable opinion by a qualified expert. Plaintiffs argue that an extensive *Daubert* review is not required in this case because general causation was previously established as the “science of the case” through the declarations in support of the Settlement Agreement in the MDL. The Court previously rejected this argument and finds no reason to revisit it. The settlement declarations confirmed that the Matrix was consistent with science for purposes of achieving a settlement but the opinions were general in nature, were not issued for purposes of proof in an adversarial setting, and were never subject to a *Daubert* challenge. Importantly, the declarations were based on *assumptions* that the plaintiffs were exposed to sufficiently high levels of toxins. Also, those experts did not identify a generally accepted level at which any particular substance associated with the Deepwater Horizon spill was likely to increase the incidence of a specific medical condition. Therefore, the declarations do not represent a reliable expert opinion for purposes of establishing general causation in this case.

The Plaintiffs' reliance on one comment by BP's expert, Dr. Shea, fares no better. Dr. Shea agreed during his deposition, similar to the expert declarations in the settlement approval process, that "at very high exposures, these chemicals can potentially cause adverse health effects, including the symptoms that are listed by the plaintiffs[,] at very high exposures."<sup>27</sup> ECF No. 70-4 at 125. However, this offhand comment is far removed from the type of proof required to establish that the medical community recognizes both the toxicity of a particular chemical at issue and that at any given level, the substance alone causes the chronic medical conditions alleged. Read in context, it is evident Dr. Shea was generally referencing the entire universe of substances related to the Deepwater Horizon incident and was not recognizing a scientific link between any specific substance and any particular medical condition. In fact, he testified that chemicals from the spill were not present in areas along the Florida coast where the Plaintiffs worked at high enough levels to have caused *any* adverse health effects to humans. In his opinion, the tar balls on beaches consisted of weathered oil with almost no remaining PAHs, only a few areas near the wellhead "had the potential to create toxicity," and the dispersants diluted

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<sup>27</sup> Dr. Shea defined "very high exposures" as generally above the EPA and other health benchmarks set out in his report, which according to his review of the data, were not present. ECF No. 70-4 at 125-126.

and degraded soon after application. ECF No. 79-1 at 45. Thus, Dr. Shea's stray comment is not sufficient to create a question of fact in Plaintiffs' favor on general causation. Plaintiffs instead must create a genuine issue of fact through their own *Daubert* qualified expert. *See McClain*, 401 F.3d at 1239.

To carry the burden on general causation in this toxic tort case, reliable expert testimony "must demonstrate the levels of exposure that are hazardous to human beings generally," *id.* at 1241, and the substance's "general toxicity for the harm Plaintiffs allege," *id.* at 1239. "[S]cientific knowledge of the harmful level of exposure to a chemical plus knowledge that plaintiff was exposed to such quantities are minimal facts necessary to sustain the plaintiff's burden."<sup>28</sup> *Id.* at 1241 (quoting *Allen v. Pennsylvania Eng'g Corp.*, 102 F.3d 194, 199 (5th Cir. 1996)) (ellipsis omitted). Specific causation, by contrast, which is not yet at issue, requires expert opinion that the substance "in fact harmed them." *Id.* at 1239.

Three "primary" scientific methodologies are recognized by the Eleventh Circuit as "indispensable" to proving general causation in a toxic tort case: (1)

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<sup>28</sup> The Eleventh Circuit noted that precise numbers are not necessarily required to show this dose response relationship but the expert's opinions must provide a reliable link. *McClain*, 401 F.3d at 1241 n.6.

epidemiological evidence, (2) dose-response relationship,<sup>29</sup> and (3) the background risk of disease. *Chapman*, 766 F.3d at 1308. The Eleventh Circuit has expressed the view that epidemiology “is generally considered to be the best evidence of causation in toxic tort actions.” *Rider v. Sandoz Pharm. Corp.*, 295 F.3d 1194, 1198 (11th Cir. 2002). Epidemiology is “the branch of science that studies the incidence, distribution, and cause of disease in human populations,” *In re Abilify (Aripiprazole) Prod. Liab. Litig.*, 299 F. Supp. 3d 1291, 1306 (N.D. Fla. 2018), and “examine[s] the pattern of disease in human populations,” *Joiner*, 522 U.S. at 144 n.2. There are several types of epidemiological studies—*i.e.*, observational cohort, case control, and cross-sectional.<sup>30</sup>

When, as here, a review of epidemiological studies forms the basis of an expert opinion, the essential first step requires the expert to identify an association

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<sup>29</sup> A “dose-response relationship” exists when “a change in amount, intensity, or duration of exposure to an agent is associated with a change—either an increase or decrease—in risk of disease.” *McClain*, 401 F.3d at 1241–42. The Eleventh Circuit cautions that an expert who “neglects this principle of toxic torts without justification casts suspicion on the reliability of his methodology.” *Id.* (internal alterations, citation, and quotations omitted).

<sup>30</sup> A cohort study measures and compares “the incidence of disease in the exposed and unexposed (‘control’) groups.” *Ref. Man.* at 567 (3d ed. 2011). A case-control study measures and compares “the frequency of exposure” between a group where participants have the disease (“cases”) and a control group where participants do not have the disease. *Id.* at 557. In a cross-sectional study, “both exposure and disease are determined in an individual at the same point in time,” and therefore, “it is not possible to establish the temporal relation between exposure and disease” from this type of study. *Id.* at 560.

noted in the literature between exposure to the toxic agent and a particular disease or adverse effect. See *In re Abilify*, 299 F. Supp. 3d at 1306-07; Ref. Man. at 566 (3d ed. 2011). The second step requires a determination by the expert of whether the identified association “reflects a true cause-effect relationship” between exposure to the substance at issue and the disease. To make this determination, scientists consider other criteria indicative of causation, such as the widely recognized Bradford Hill factors.<sup>31</sup> Ref. Man. at 597; see also *Jones v. Novartis Pharm. Corp.*, 235 F. Supp. 3d 1244, 1267 (N.D. Ala. 2017) (noting the Bradford Hill factors are “widely used in the scientific community to assess general causation”) (internal citations and quotations omitted). The Bradford Hill factors include:

(1) temporal relationship; (2) strength of the association; (3) dose-response relationship; (4) replication of the findings; (5) biological plausibility; (6) consideration of alternative explanations; (7) cessation of exposure; (8) specificity of the association; and (9) consistency with other knowledge.

*In re Abilify*, 299 F. Supp. 3d at 1307 (citing Ref. Man. at 599-600). These factors are not rigidly applied in a general causation analysis but rather provide guidance

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<sup>31</sup> “Sir Bradford Hill was a world-renowned epidemiologist who articulated a nine-factor set of guidelines in his seminal methodological article on causality inferences.” *Jones v. Novartis Pharm. Corp.*, 235 F. Supp. 3d 1244, 1267 (N.D. Ala. 2017) (internal citations and quotations omitted).

for the expert's inferential process *after* an association has been identified in the literature.<sup>32</sup> See Ref. Man. at 598-99 & n. 141 (considering such factors in the absence of an association identified in epidemiologic studies “does not reflect accepted epidemiologic methodology”), 600 (“Drawing causal inferences after finding an association and considering these factors requires judgment and searching analysis, based on biology, of why a factor or factors may be absent despite a causal relationship, and vice versa.”). Importantly, in the absence of a statistical association supported by an epidemiologic study, “secondary” evidence, even within the Bradford Hill factors, such as biological plausibility, case studies, adverse event reports, animal and *in vitro* studies, standing alone or in the aggregate, are “insufficient proof of general causation.” *Chapman*, 766 F.3d at 1308; *In re Abilify*, 299 F. Supp. 3d at 1306; see also *Kilpatrick*, 613 F.3d at 1338 (case reports, without any statistical context or controls, do not alone provide reliable information to

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<sup>32</sup> Sir Bradford Hill described his nine principles as “viewpoints from which we should study association” to aid the inferential process and not necessarily “hard-and-fast rules of evidence.” He acknowledged: “None of my nine viewpoints can bring indisputable evidence for or against the cause-and-effect hypothesis and none can be required as a *sine qua non*.” Austin Bradford Hill, *The Environment and Disease: Association or Causation?* 58 Proc. Royal Soc’y Med. 295, 299 (1965); see also ECF No. 79-4 at 19 (Alexander Report) (“Properly conducted analytical epidemiologic studies can identify statistical associations between an exposure, such as a chemical exposure, and a disease or other health outcomes. However, this is merely the first step in the causal analysis; a statistical association does not by itself indicate a causal relationship . . . [O]nce those are evaluated, other criteria are applied—such as the Bradford Hill criteria . . . —to make a scientifically valid determination of causation.”).

support a causation opinion); *Hendrix ex rel. G.P. v. Evenflo Co.*, 609 F.3d 1183, 1197 (11th Cir. 2010) (causality cannot be assumed from temporality alone or case reports, which merely reflect accounts of events, not scientific methodology); *In re Accutane Prod. Liab.*, 511 F. Supp. 2d 1288, 1296 (M.D. Fla. 2007) (“biological possibility is not proof of causation”).

The Court must now evaluate the reliability and helpfulness of Dr. Williams’s expert opinions in light of these standards, beginning with a summary of her reports.

Dr. Williams prepared a separate but similar general causation report for the Falcon and Downs Groups, citing epidemiological and other scientific literature.<sup>33</sup> In the Falcon Report, she concluded that a cause-effect relation exists between chronic conjunctivitis and chronic dry eye syndrome and exposure to PM<sub>2.5</sub> or PM<sub>10</sub>.<sup>34</sup> ECF No. 68-1 at 65. In the Downs Report, she concluded that a cause-effect relationship exists between chronic conjunctivitis, chronic rhinitis, chronic sinusitis, and chronic rhinosinusitis and exposure to PM<sub>2.5</sub> and PM<sub>10</sub>, and that a cause-effect relationship exists between arsenic and chronic dermatitis. ECF No.

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<sup>33</sup> The two reports are very similar and overlap in substance. See ECF Nos. 68-1 (Falcon Report), 68-2 (Downs Report). Because the Falcon report is largely included within the Downs report, for ease of reference, the Court will generally cite the Downs Report.

<sup>34</sup> In her reports, Dr. Williams provided definitions and symptoms of the medical conditions at issue but did not consistently distinguish between acute or chronic conditions.

68-2, at 81. Dr. Williams also stated the following in support of her general causation opinions:

- “The particulate matter of solid particles or droplets in the respiratory tract, on the skin [eye] and mucous membranes containing PM2.5, PM10, arsenic and other toxicants is pertinent to completed exposure pathways by inhalation, ingestion, and dermal exposure.” (Falcon Report and Downs Report).
- “Fugitive Particulate Matter containing aerosols, solid particles, and dispersants in the atmosphere and breathing zones of workers and residents are documented in the literature following Oil Spills with subsequent adverse health effects.” (Falcon Report and Downs Report).
- “The US EPA MSDS for Corexit 9500A documents that 160 ppb of Arsenic is contained in the dispersant and released in undiluted concentration as listed on the MSDS sheet.” (Downs Report).

ECF Nos. 68-1 at 65; 68-2 at 81.

Dr. Williams’s reports are organized into several sections. The first outlines her qualifications, which are not challenged, and describes her methodology, which she says consisted of a review of epidemiological and other scientific literature in light of the Bradford Hill criteria. The second section identifies the potential completed pathways of exposure for the Plaintiffs as ingestion, inhalation, and dermal. This is based on Dr. Williams’s interviews of Plaintiffs in which they reportedly told her that during their cleanup work, they breathed fumes, strong odors, and “poofed up” powder dust from tar balls or dust from the sand being raked;

potentially ingested water droplets; and felt droplets of undiluted Corexit 9500 on their skin, which they believe was either sprayed from planes and/or carried through the air.

The remaining sections of Dr. Williams's reports are largely compilations of selected quotes excerpted from various peer reviewed studies, reports, or treatises she reviewed.<sup>35</sup> Dr. Williams included quotes from studies detailing the environmental impacts of the Deepwater Horizon spill in the Gulf waters and multistate coastline. She also quoted from studies of other oil spills around the world documenting medical "symptoms" reported by cleanup workers. She referenced various clinical and epidemiological studies of urban populations exposed to air pollution containing PM and other substances, which documented increased complaints of conjunctivitis, dry eye, or aggravated sinusitis, rhinitis, or rhinosinusitis with chronic exposure to increasing levels of air pollution. Dr. Williams also included studies of arsenic exposure, which documented skin lesions and dermatological diseases in children and adults who were exposed over a number

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<sup>35</sup> In her deposition, Dr. Williams stated that everything in her report is a quote from the study she cites ("I stick to the language of the author"). She says she does this to avoid making a statement that is later characterized as only her "interpretation" of the study. ECF No. 68-5 at 191.

of years to arsenic in drinking water or in mine tailings.<sup>36</sup> In addition, Dr. Williams's reports included certain EPA health exposure benchmarks for PM in air quality readings and arsenic in drinking water.<sup>37</sup> Her reports also included lengthy descriptions of the plausible biological mechanisms related to exposure to PM and arsenic.

Dr. Williams made the following statement before listing her general causation opinions:

The scientific literature documents the causal considerations of sufficient strength of association in clinical and epidemiologic studies and consistency of repeated observations of an association in different populations; cause and effect of mechanistic studies and consistency of repeated observations of such in numerous studies; Dose-response and biological gradients in both animal, in vitro, and epidemiologic studies; Temporal relationships are documented for exposures and its biological effects; The associations of epidemiologic studies and the demonstrated effects of mechanistic studies are biologically plausible and consistent with the natural history and biology of the damage, disease, and cancer caused by the above mentioned toxicants; Experimental evidence in animals and in vitro studies supplement and confirm human studies in causal determination. Therefore, the following general causation opinions are rendered--

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<sup>36</sup> Tailings are the residue separated from rock or ore during the mining process. See <https://www.merriam-webster.com/dictionary/tailing> (last visited November 4, 2020). "Mine tailings are metallic waste that contain arsenic, mercury, lead, zinc, and cadmium." ECF No. 68-6 at 11 (Cox Report).

<sup>37</sup> Dr. Williams identified the NAAQS health benchmarks for PM as follows: 35 ug/m<sup>3</sup> (24-hour average for PM<sub>2.5</sub>), 150 ug/m<sup>3</sup> (24-hour average for PM<sub>10</sub>), and 12 ug/m<sup>3</sup> (annual average for PM<sub>2.5</sub>). She identified the World Health Organization ("WHO") and EPA limit for arsenic in drinking water as 10 ug/L.

ECF No. 68-1 at 64-65; ECF No. 68-2 at 81. She then concluded that a cause-effect relationship exists between PM and the chronic ocular and respiratory medical conditions alleged by the Plaintiffs and between arsenic and chronic dermatitis. No independent analysis or explanation is provided within the reports. The studies themselves are not part of the record (only a lengthy list of sources is provided).

After carefully reviewing Dr. Williams's reports and her deposition testimony, the Court agrees with BP that her opinions fall woefully short of the *Daubert* and Rule 702 standards based on her failure to identify *relevant* statistically significant associations in the epidemiologic literature and her failure to provide anything more than a conclusory analysis of the Bradford Hill factors to explain her opinions. These flaws stem from Dr. Williams's overarching failure to provide any analysis of the studies she relied on. In the absence of this independent analysis, her opinions are classic *ipse dixit*, see *Joiner*, 522 US at 146. See *Hendrix*, 609 F.3d at 1196–97; *McClain*, 401 F.3d at 1253 (an “expert does not establish the reliability of h[er] techniques . . . simply by claiming [she] performed” the analysis); see also *Navelski v. Int'l Paper Co.*, 244 F. Supp. 3d 1275, 1296 (N.D. Fla. 2017) (noting, in the absence of a “reasoned explanation,” neither the court nor a jury could “meaningfully evaluate the process by which [the opinion] was reached”). In

addition to this reliability problem, Dr. Williams's opinions regarding these Plaintiffs are not helpful because she refused to consider the actual exposure data for the relevant geographical area and chose instead to rely on exposure data from locations far from the Gulf Coast of Florida.

Plaintiffs argue that the expansive scope of the peer reviewed materials Dr. Williams relied on as well as her deposition testimony cure these analytical gaps. The Court disagrees. First, Dr. Williams did not explain her method for identifying the literature she relied on, aside from stating broadly that she did "computer searches" and looked "for everything that is in crude oil." ECF No. 68-5 at 23. An expert opinion, even if supported by a lengthy list of case studies and treatises, is not reliable without an explanation of the logical steps supporting it. *See In re Abilify*, 299 F. Supp. 3d at 1359–60 (finding a lengthy appendix of scientific literature insufficient to substantiate a qualified expert's opinion, despite the expert's considerable expertise, because he failed to directly connect the publications to his own analysis). Moreover, Dr. Williams's reports simply contain serial lists of quotes from various studies, with no discussion, critique, or assessment of the quality, design, or relevance of *any* study she relied on.<sup>38</sup> Her justification for not providing

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<sup>38</sup> While it is not always apparent in Dr. Williams's reports whether she is quoting or summarizing studies, she testified that her paragraphs summarizing studies are in fact direct *In re Deepwater Horizon BELO Cases*, Case No. 3:19cv963

any independent assessment of the studies she relied on was the fact that the studies were all peer reviewed and published. This does not cure the problem, as “it is well established that ‘[p]ublication . . . is not a *sine qua non* of admissibility.’” *See Allison v. McGhan Med. Corp.*, 184 F.3d 1300, 1314 (11th Cir. 1999) (quoting *Daubert*, 509 U.S. at 593) (alteration in original). According to the Federal Judicial Center’s Reference Manual on Scientific Evidence, which Dr. Williams cited, when evaluating epidemiologic evidence, “the methodological soundness of a study . . . must be assessed,” with “the key questions” being whether a study’s limitations compromise its findings and the extent to which the study permits an inference regarding causation. Ref. Man. at 553-54. Aside from broadly observing that all epidemiological studies are flawed, Dr. Williams clearly did not feel it was her job to critique the studies she relied on or identify what distinctions, similarities, limitations, or biases in the studies she found important. In fact, when given the opportunity during her deposition to provide a critical analysis of the studies she relied on, Dr. Williams flatly refused, saying: “I’m not going to sit up there and give a lot of gobbledygook,” ECF No. 68-4 at 95; “I’m not going to critique each study and put that in a report,” *id.* at 98; and finally, “I critique them, but I don’t write it

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quotes, *see supra* Note 38; ECF No. 68-5 at 191. In any event, what little narrative she included did not evaluate the studies.

down,”<sup>39</sup> *id.* The Court agrees with BP that Dr. Williams’s failure to engage in a core element of epidemiologic review is fatal to her methodology. *See* ECF No. 68-7, at 6-9 (Dr. Alexander opining that Dr. Williams’s reports are “devoid of the systematic methodology that is required to evaluate a body of scientific evidence to make claims of general causation from epidemiologic studies”); *see also Kilpatrick*, 613 F.3d at 1343 (noting that where a “key foundation for applying” the methodology is missing, the scientific validity of the expert’s method is impugned).

Notably, Dr. Alexander and Dr. Cox both identified significant distinctions, limitations, and biases in the studies Dr. Williams cited. ECF Nos. 68-6, 68-7. For starters, Dr. Alexander and Dr. Cox noted that the exposure scenarios in the studies Dr. Williams cited occurred close to shore and involved fresh crude oil, whereas the Deepwater Horizon spill occurred approximately 125 miles offshore of Florida, *see* ECF No. 68-6 at 7, and exposed cleanup workers on Florida beaches to weathered oil. Also, the other oil spills studied involved workers coming into “direct contact with oil or its vapors” and workers being exposed to “high” concentrations of VOCs, PAHs, naphthalene, benzene, toluene, xylenes, and mercury, ECF No. 68-2 at 37-

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<sup>39</sup> Dr. Williams reminded counsel that she is a toxicologist, and she decried the entire field of epidemiology as “extremely limited,” saying, “[y]ou have so many errors in all of these” studies. ECF No. 68-4 at 101. She also commented, “Epidemiologists don’t have a clue,” ECF No. 68-5 at 52.

42, whereas here there is no evidence of direct contact with fresh MC252 crude oil or similarly high concentrations of the substances identified in the studies. Dr. Williams testified that there was fresh crude oil inside the weathered tar balls that the Plaintiffs handled, but this is not in her report, which referenced dust from tar balls. Moreover, there is no evidence of this, let alone evidence from the relevant geographical area. Nonetheless, even assuming this fact in the Plaintiffs' favor, there is similarly no evidence that any fresh oil inside the tar balls contained substances that exceeded any general health benchmarks or that the conditions present in these cases were somehow comparable to the conditions present in these studies. Also, although Dr. Williams specifically identified PM and arsenic as the causative agents in Plaintiffs' cases, neither is referenced in Dr. Williams's oil spill studies. Another distinction, according to Dr. Alexander and Dr. Cox, is that the other oil spill studies documented "symptoms" reported by workers (including sore eyes, runny nose, or skin irritation) and "primarily acute health effects experienced over a period of less than a year after exposure," ECF No. 68-7 at 7, not chronic conditions, as are alleged here. *See also* ECF No. 68-6 at 15 (Dr. Cox stating, "[i]t is not medically or toxicologically acceptable to do a causation analysis for acute conditions, then to substitute that analysis to support conclusions about chronic conditions"). Dr. Williams did not address this in her reports, except to acknowledge *In re Deepwater Horizon BELO Cases*, Case No. 3:19cv963

that, despite differences in the total constituents of oil from one spill to another, the workers “were all exposed to crude oil” and all exhibited similar “symptoms.” Indeed, again, neither her reports nor her deposition testimony discussed or contrasted the exposure conditions experienced on North Florida beaches with the conditions present in the studies of other oil spills. ECF No. 68-5 at 151-157.

Dr. Alexander also criticized the oil spill studies Dr. Williams relied on as largely cross-sectional in nature and therefore not designed to assess causation, and he and Dr. Cox both noted the existence of bias in the oil spill studies, many of which relied on self-reported symptoms that were not medically verified. In particular, Dr. Cox criticized one study of Deepwater Horizon workers (D’Andrea and Reddy 2018), which documented workers as reporting chronic rhinosinusitis as much as five to seven years after their cleanup work. In Dr. Cox’s opinion, because the study is based on self-reported unverified medical conditions and the participants had been referred to the study by attorneys, the study is “severely biased,” and its results could not be used “for any proper scientific conclusions.” ECF No. 68-6 at 15.

In her deposition, Dr. Williams rejected the suggestion that cross-sectional study designs are not useful in determining causation.<sup>40</sup> And, while she acknowledged that the studies she cited generally included confounders and biases, she did not identify any, instead maintaining that all epidemiological studies are flawed and commenting only, “[t]hat’s epidemiology.” ECF No. 68-5 at 197. Dr. Williams insisted in her deposition testimony that she had identified reasonably valid associations in the studies of other oil spills, ECF No. 68-5 at 151, but she did not analyze or otherwise discuss the particular aspects or biases of any study cited.<sup>41</sup>

Dr. Cox and Dr. Alexander also noted distinctions and limitations in the studies of air pollution/PM and arsenic Dr Williams relied on. The Court finds their criticisms well taken. Although Dr. Williams identified statistically significant results within these epidemiological studies, her failure to explain their relevance to the Plaintiffs’ cases despite the distinctions and limitations noted by Dr. Cox and Dr. Alexander renders her general causation opinions based on these statistics

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<sup>40</sup> When asked whether any studies she relied on in forming her general causation opinion are cross-sectional in design, Dr. Williams answered, “They may be,” and “I’ve tried to put everything I could in there,” and “I look at everything.” ECF No. 68-4 at 99, 112.

<sup>41</sup> Ordinarily, the failure to identify a distinction, limitation, or bias in any particular study would go more to the weight of the expert’s testimony than its admissibility. *See Jones*, 861 F.2d at 663. In this instance, however, Dr. Williams’s complete failure to engage in any critical analysis of the studies she cited is a fatal flaw in her methodology.

unreliable. For instance, Dr. Williams's air pollution studies documented statistically significant increases in complaints of eye and respiratory symptoms with increasing levels of air pollution in urban and industrial populations. According to Dr. Cox and Dr. Alexander, the studies have limited value to these cases because they referenced chronic *exposure*, in contrast with the limited exposures here (lasting a matter of months), and, notably, did not reference the chronic medical conditions alleged here. At least one study included PM<sub>2.5</sub> concentrations three to four times greater than the conditions that existed during the cleanup in North Florida in 2010. Also, as explained by Dr. Cox, the air pollution studies were incapable of identifying PM as the sole causative agent of the eye and nasal conditions reported because the air pollution documented in the studies included multiple substances, such as NO<sub>2</sub>, SO<sub>2</sub>, and ozone, also producing positive associations.<sup>42</sup> ECF No. 68-6 at 13-14. According to Dr. Cox, it is not possible to isolate PM from this data as singularly causative as Dr. Williams purports to do, and, again, Dr. Williams did not even discuss the fact of the multiple substances included in these studies or attempt to explain whether and to what extent that may have impacted her opinions.

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<sup>42</sup> As Dr. Cox explained, inhaling ozone "can cause a number of respiratory symptoms, including coughing, throat irritation, and exacerbation of pre-existing respiratory conditions." ECF No. 70-13 at ¶40.

The Court also agrees with Dr. Cox and Dr. Alexander that Dr. Williams's arsenic opinion is unreliable given her reliance on several studies showing an association between arsenic in drinking water and skin lesions, neither of which is at issue here. Dr. Cox noted that the mine tailings study cited by Dr. Williams included long-term, not short-term, exposure and also included not only arsenic but also lead, mercury, and cadmium. Dr. Williams never explained how exposure to mine tailings is comparable to the alleged pathway of exposure here, *i.e.*, through droplets of Corexit 9500, or how she could validly isolate arsenic as causal considering the multiple metals present in that study.<sup>43</sup> When asked in her deposition whether she found it meaningful that the types of exposures and pathways of exposure in these studies were not similar to those of the Plaintiffs or whether she had considered other causes for the Plaintiffs' relatively common but chronic medical conditions, Dr. Williams refused to answer, stating that those were questions

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<sup>43</sup> According to Dr. Cox, the mine tailings study cited by Dr. Williams (Ramos, et al., 2008) considered a population exposed over a period of six years and documented high serum levels of mercury, lead, and arsenic. Dr. Cox noted that the authors concluded: "our findings imply that heavy metals in mine tailings may become a triggering and/or exacerbating factor for the development of chronic dermatologic diseases." The authors did not single out arsenic as causative and in fact, Dr. Cox said the authors "posited that mercury is likely the causative agent for contact dermatitis," given its known tendency to induce hypersensitivity reactions in the skin. ECF No. 68-6 at 11. Dr. Williams did not include this in her report.

of specific causation, which she was not addressing.<sup>44</sup> ECF No. 68-5 at 186-87, 144-147. Again, Dr. Williams's unwillingness to consider the glaring exposure distinctions between the studies she relied on and the facts of these cases, and her failure to explain how the statistical associations she identified are relevant, despite those distinctions, dooms the reliability of her opinions. *See generally In re Abilify*, 299 F. Supp. 3d at 1306-07 (an essential first step in epidemiologic review is that the expert must identify an association noted in the literature between exposure to the toxic agent and a particular disease or adverse effect); Ref. Man. at 566.

Equally troubling is Dr. Williams's conclusory application of the Bradford Hill factors. While Dr. Williams testified that she considered each Bradford Hill factor, ECF No. 68-4 at 128-134, her testimony was conclusory and lacked any indication that she gave meaningful consideration to the Bradford Hill factors of alternative explanations, the cessation of exposure, and dose-response relationship. Although a general causation opinion "need not be independently supported by each of the nine Bradford Hill factors," it must be evident from the analysis that the expert

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<sup>44</sup> She did acknowledge, when asked about the chronic conditions at issue, that there are many causes for them, saying, "you've got so many different causes" and "I think everybody has had some type of -- of -- of a condition like this at some time in their life. It's very common." ECF No. 68-5 at 147. But she failed to rule out any of them.

considered the factors using “the same level of intellectual rigor that [s]he employs in h[er] academic work.” *See In re Mirena Ius Levonorgestrel-Related Prod. Liab. Litig. (No. II)*, 341 F. Supp. 3d 213, 247-48 (S.D.N.Y. 2018). That is not evident on this record. In her reports, Dr. Williams provided no more than a conclusory, generic statement referencing the Bradford Hill factors that could be cut and pasted into any expert report. What is evident from her deposition testimony is that Dr. Williams gave primary importance to the strength of her biological mechanism data, which she found “definitive,” ECF No. 68-4 at 95 (“my mechanistic data is absolutely definitive”).<sup>45</sup> Biological plausibility in this case, which involves relatively common health conditions, is insufficient to overcome the gap in methodology resulting from Dr. Williams’s failure to first explain the validity and relevance of the associations she identified and her mere lip service to all other Bradford Hill factors. *Cf. See In*

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<sup>45</sup> Dr. Williams rejected any suggestion that certain types of methodologies should be considered “primary” or “secondary” when determining general causation, insisting, “you look at all of them;” and in her opinion, “it’s all primary,” ECF No. 68-5 at 41, 44, which is not consistent with the Eleventh Circuit’s established principles for determining reliability. *See Chapman*, 766 F.3d at 1308; *see also In re Abilify*, 299 F. Supp. 3d at 1306-07. Plaintiffs argue that Dr. Williams’s evidence of biological plausibility should be sufficient in itself to support her opinions. They claim she is at the “forefront” of a recent trend recognized in the Reference Manual on Scientific Evidence. The Court rejects this argument. Although the Reference Manual acknowledges that the International Agency for Research on Cancer (“IARC”) has begun to rely on the biological mechanism as sufficient in and of itself to establish cancer causation for some carcinogens, this is not a cancer case. *See Ref. Man.* at 656 & n.64 (stating, “[i]n recent years, with improved understanding of the mechanism of action for chemical carcinogens, there has been increased use of mechanistic data,” and as a result, courts may give greater credence to mechanistic data when considering agents that cause cancer).

*re Accutane Prod. Liab.*, 511 F. Supp. 2d at 1296 (“While [an expert’s] biological theory may be exactly right, at this point it is merely plausible, not proven, and biological possibility is not proof of causation.”).

Dr. Williams’s opinions also fail the helpfulness prong of Rule 702. Expert testimony must be “relevant to the task at hand” as well as scientifically reliable. *Daubert*, 509 U.S. at 597. Relevance in this context means there is an appropriate “fit” between the expert testimony and an issue in the case. *Quiet Tech*, 326 F.3d at 1347 (requiring “a valid scientific connection to the pertinent inquiry” in the case). According to the Supreme Court, the “fit” may not be “obvious,” but “scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes.” *Daubert*, 509 U.S. at 591. As with reliability, there is “no fit” if “a large analytical leap must be made between the facts and the opinion.” *Chapman*, 766 F.3d at 1306 (quoting *McDowell v. Brown*, 392 F.3d 1283, 1299 (11th Cir. 2004)). An opinion on general causation in the context of the instant cases is only helpful and a good “fit” if it reliably shows “general toxicity for the harm Plaintiffs allege” and establishes an exposure level that is considered “hazardous to human beings generally.” *McClain*, 401 F.3d at 1239, 1241. “[S]cientific knowledge of the harmful level of exposure to a chemical plus knowledge that plaintiff was exposed

to such quantities are minimal facts necessary to sustain the plaintiff's burden.” *Id.* at 1241.

Dr. Williams relied on the NAAQS standards for PM exposure and the EPA and WHO limit for arsenic exposure in drinking water as the relevant generally hazardous exposure levels, but she did not present evidence that the air and water in the general areas where the Plaintiffs worked and lived exceeded those benchmarks, much less evidence of a health benchmark for the chronic medical conditions at issue. While precise exposure data may not be available in every case, here there is an abundance of publicly available air and water quality data, which was collected during the spill and cleanup in the region of Florida where the bellwether Plaintiffs worked and lived.<sup>46</sup> As noted, however, Dr. Williams chose not to consider this data. She maintained that the only measure of exposure required for general causation is “what is in the literature,” ECF No. 68-5 at 25 and she viewed the exposure data as necessary only for a specific causation analysis. She instead relied heavily on two Deep Water Horizon spill studies that bear no geographical relationship to the areas where the Plaintiffs in these cases worked and lived. For

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<sup>46</sup> That the BELO Plaintiffs were exposed generally “to oil, hydrocarbons, and other substances released from MC252 Well . . . and/or dispersants and/or decontaminants used in the connection with the Response Activities” is admitted in the Settlement Agreement, ECF No. 70-7 at 77, but there is no admission that they were exposed to levels generally harmful to human health.

example, one of the studies cited evaluated air quality measurements taken near a burn site somewhere over the Gulf of Mexico close to the well site, potentially up to 100 miles from the northern Gulf Coast of Florida. ECF No. 68-2 at 12 (Middlebrook, *et al.* 2012). The other evaluated measurements of excessive PM levels recorded in Louisiana (Nance, *et al.* 2016), *not Florida*. Dr. Williams also relied on a USGS study of sediment collected during the Deepwater Horizon spill that documented arsenic in sediment samples taken in Louisiana and Texas, *not Florida*. With no air modeling analysis linking the air quality measurements from other areas to the areas where the Plaintiffs worked and lived, and no studies documenting excessive PM or arsenic levels in areas where the Plaintiffs worked and lived, these studies are not relevant and thus Dr. Williams's opinion relying on them is not helpful.<sup>47</sup> A general causation opinion that PM or arsenic can be harmful at some level that the Plaintiffs were not potentially exposed to, or the fact that PM or arsenic exceeded human health benchmarks in an area where the Plaintiffs did not

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<sup>47</sup> Dr. Williams also relied on statements that dispersants were dropped directly on the Plaintiffs' skin or was present as dust on tar balls, but she did not identify any health benchmark for dermal absorption that was exceeded by the Corexit droplets or dust. Dr. Williams identified a European dermal exposure benchmark of 500 ppb for arsenic in cosmetics, but she provided no explanation of how that relates to the facts of this case. Even assuming Corexit was dropped undiluted on the Plaintiffs' skin, it contained 160 ppb of arsenic, which Dr. Cox characterized as a trace amount. Although the Corexit 9500 product bulletin warned against inhalation and stated the dispersant could cause irritation and contact dermatitis, it did not reference chronic medical conditions.

work, is simply not helpful to the trier of fact, and to the extent Plaintiffs needed another expert to bridge this gap, it was their burden to produce one.

By contrast, BP's experts considered the actual data collected from the relevant geographical area during the spill and cleanup. Based on that data, Dr. Cox concluded that the "concentrations of oil and/or dispersant-related substances to which cleanup workers and residents in Florida could have been exposed were hundreds to thousands of times less than the concentrations known to cause *irritation*," making it "extremely unlikely" the substances could cause the chronic conditions asserted by Plaintiffs.<sup>48</sup> ECF No. 79-2 at 5 (emphasis added). Dr. Shea similarly found that the data reflects exposure levels "so vanishingly low, and in most cases not even detectable, that it's inconceivable that chemicals from the oil spill could have caused any adverse health effects."<sup>49</sup> ECF No. 70-4 at 124. He further explained that the oil from the Macondo well and the dispersants underwent rapid biodegradation, evaporation, dilution, and weathering, resulting in potential chemical exposure where the Plaintiffs worked—based on the levels of BTEX,

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<sup>48</sup> Dr. Cox reviewed the air monitoring data collected in Florida coastal areas (Pensacola, Clearwater, Sarasota, and St. Petersburg) and concluded that the 2010 average of PM<sub>2.5</sub> levels were less than the averages for the three previous years, 2007 through 2009. ECF No. 68-6 at 13.

<sup>49</sup> Dr. Shea considered over 20,000 water samples, over 8,000 sediment samples, and over 20,000 air samples collected as part of the environmental investigations following the Deepwater Horizon oil spill. ECF No. 79-1 at 4.

VOCs, and PAHs actually detected in the collected samples in Florida—at such low levels as to be negligible and therefore harmless to human health. ECF No. 79-1 at 4-5.

Although Dr. Williams expressed some distrust of the monitoring data, she did not provide any conflicting data or other evidence-based reason to discredit it—only her unsupported speculation that “there’s a lot of problems with the monitoring.”<sup>50</sup> ECF No. 68-5 at 24. Absent competent evidence disputing the accuracy of the data cited by BP’s experts, Plaintiffs acted at their own peril by ignoring it. By not addressing the actual data head on, Dr. Williams’s opinions are not helpful in these cases.<sup>51</sup> See ECF No. 68-6 at 8 (Dr. Cox: “[i]t is improper to ignore the readily available data”); ECF No. 79-1 at 4 (Dr. Shea: “any scientifically defensible assessment of chemical exposure should be based on data—if available”).

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<sup>50</sup> Dr. Williams asserted, without supporting evidence, that the government monitoring was problematic because it used “levels of detection that would be absolutely impossible to find” for arsenic, ECF No. 68-5 at 24-25. This is not an opinion expressed in her report, and she offered no further explanation or support for the statement. She also disputed the accuracy of the Corexit application map, which did not show onshore applications of dispersants. She relied on Plaintiff interviews, not the actual data collected, and speculated, “I think some of those pilots need to be brought in with their instruments, with their readings, and all of their flight paths to see why they deviated.” ECF No. 68-5 at 101.

<sup>51</sup> The Court is not suggesting that Dr. Williams was required to identify and analyze the actual exposure levels for any particular Plaintiff or to opine as to whether such exposure in fact caused a particular Plaintiff’s illness at this general causation stage. However, the Plaintiffs could not ignore the data from the relevant geographical locations, as Dr. Williams did, particularly in light of BP’s analysis of it.

The Court therefore concludes that Dr. Williams's expert opinions must be excluded as unreliable and unhelpful, and absent a qualified expert to testify regarding general causation, Plaintiffs cannot survive summary judgment.<sup>52</sup>

Accordingly, Defendants' Motion for Summary Judgment Based on Plaintiffs' Unreliable Evidence of General Causation, ECF No. 68, is **GRANTED**. The Clerk is directed to enter final summary judgment only in the cases listed and attached to this Order, to tax costs in those cases against the Plaintiffs, and close the files. A new set of bellwether trial pools will be randomly selected by separate order.

**DONE and ORDERED** this 4th day of November 2020.

*M. Casey Rodgers*

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**M. CASEY RODGERS**  
**UNITED STATES DISTRICT JUDGE**

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<sup>52</sup> The undersigned does not make this decision lightly. Dr. Williams is a highly qualified toxicologist, and the biological mechanism portions of her report have not been challenged. Nonetheless, general causation cannot be inferred without a reliable scientific method. The Court must decide under *Daubert* "whether the evidence is genuinely scientific, as distinct from being unscientific speculation offered by a genuine scientist," *Allison v. McGhan Med. Corp.*, 184 F.3d 1300, 1316–17 (11th Cir. 1999) (quoting *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 318 (7th Cir. 1996)), and may not accept the mere *ipse dixit* of the expert, *see Joiner*, 522 U.S. at 146.

**EXHIBIT A**  
**FIRST TRIAL POOL CASES<sup>53</sup>**  
**GROUP 1**

	Case No.	Plaintiff	Condition(s)
1	3:19cv386	Peggy A. Griffin	Chronic conjunctivitis
2	3:19cv427	Calvin Nettles	Chronic conjunctivitis Chronic dry eye syndrome
3	3:19cv439	Chason K. Norris	Chronic conjunctivitis Chronic dry eye syndrome
4	3:19cv431	Jackie Robertson	Chronic conjunctivitis Chronic dry eye syndrome
5	3:19cv432	Linda M. Singleton	Chronic conjunctivitis Chronic dry eye syndrome
6	3:19cv390	Gregory L. Warren	Chronic conjunctivitis

**GROUP 3**

	Case No.	Plaintiff	Condition(s)
1	3:18cv2215	James A. Cooper	Chronic conjunctivitis Chronic dermatitis
2	4:19cv35	Bryant Hand, Jr.	Chronic rhinitis Chronic sinusitis
3	5:19cv49	Dorothy Lynn Hill	Chronic sinusitis
4	3:19cv73	Derrick Lee	Chronic rhinosinusitis
5	3:19cv389	Michael J. Turner	Chronic conjunctivitis Chronic sinusitis
6	4:19cv76	Dewayne Veasey	Chronic sinusitis

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<sup>53</sup> Because all cases in Group 2 have been closed, they have been removed from the First Trial Pool.