

[PUBLISH]

IN THE UNITED STATES COURT OF APPEALS
FOR THE ELEVENTH CIRCUIT

No. 17-10894

D.C. Docket No. 8:14-cv-01748-MSS-TGW

RHONDA WILLIAMS,

Plaintiff-Appellant,

versus

MOSAIC FERTILIZER, LLC,

Defendant-Appellee.

Appeal from the United States District Court
for the Middle District of Florida

(May 14, 2018)

Before TJOFLAT and ROSENBAUM, Circuit Judges, and UNGARO,* District Judge.

TJOFLAT, Circuit Judge:

In this toxic tort suit, Rhonda Williams appeals the District Court's grant of summary judgment against her and in favor of Mosaic Fertilizer, LLC ("Mosaic").

* Honorable Ursula Ungaro, United States District Judge for the Southern District of Florida, sitting by designation.

Ms. Williams alleged that toxic substances emitted from a factory operated by Mosaic caused or exacerbated various medical conditions from which she suffers, including pulmonary hypertension, obstructive pulmonary disease, and other lung and non-lung-related conditions. The District Court, acting pursuant to Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786 (1993), excluded the opinions of her proffered expert witness, Dr. Franklin Mink. Dr. Mink's opinions were Ms. Williams' only evidence as to general and specific causation. Therefore, upon excluding Dr. Mink's opinions, the Court granted Mosaic's motion for summary judgment with respect to all causes of action requiring a showing of causation. The District Court also excluded Ms. Williams' testimony about the value and salability of her home, and, in the absence of other evidence showing that the value of her home was diminished by Mosaic's alleged contamination of it, granted summary judgment in favor of Mosaic as to the remaining cause of action.

After careful review of the record, and with the benefit of oral argument, we affirm.

I.

Ms. Williams was born in 1967 and has lived her entire life at the same residence in Tampa, Florida. The home, located in the Progress Village neighborhood, is approximately three miles from Mosaic's Riverview plant. She

alleged that she suffers from G6PD associated pulmonary hypertension, asthma-related restrictive pulmonary function, obstructive pulmonary disease, airway remodeling, lower lung scarring, allergic reactions, side effects from therapeutic treatments for her lung disorders, extreme fatigue, intense abdominal pain, and diabetes. She alleged that chemicals emitted from Mosaic's facility caused, contributed to, or exacerbated these conditions.

According to Ms. Williams, Mosaic's operations in and around the Riverview plant involve the production and handling of a number of chemicals, including sulfuric acid, phosphoric acid, fluoride, and ammoniate phosphates. She averred that Mosaic's production of these substances produces emissions, in the form of dust and particulates, of toxic substances that permeate the ambient air in and around her home and community. Some of these include various types of particulate matter, arsenic, cadmium, chromium, lead, manganese, nickel, phosphorous, and zinc.

In the past, the U.S. Environmental Protection Agency ("EPA") and the Hillsborough County Environmental Protection Commission have promulgated data taken from monitoring stations at or near the Riverview plant showing that sulfur dioxide levels in the ambient air at those stations exceeded the National Ambient Air Quality Standard ("NAAQS") of 75 parts per billion. Additionally, Hillsborough County at large has been found in violation of the NAAQS standard,

and the ambient air at a monitoring station at the Riverview plant has on multiple occasions been found in violation of Florida's more lenient standard of 100 parts per billion. In addition to these sulfur dioxide emissions, monitoring data at a testing site located near the Riverview facility and Ms. Williams' neighborhood showed, on at least one occasion, that the concentration of PM₁₀ respirable particulates, a respiratory irritant, exceeded the national standard of 150 micrograms based on a one-hour average.

Ms. Williams alleged six causes of action under Florida law in separate counts: negligence, gross negligence, strict liability, strict liability failure to warn, strict liability for "prohibited discharge" of pollutants, and medical monitoring and environmental testing.¹ To establish general and specific causation, she turned to Dr. Mink. Dr. Mink, an experienced toxicologist, prepared and furnished a summary of his "preliminary expert opinions."

The report contained sixteen pages of analysis, including a description of Ms. Williams' medical background, information on G6PD deficiency, and a set of "preliminary expert opinions" reached "with a reasonable degree of scientific certainty." Those opinions were:

- 1) Rhonda Williams has been exposed to significant quantities of regulated pollutants and hazardous materials from both direct and

¹ The District Court had diversity jurisdiction under 28 U.S.C. § 1332. Mosaic removed the action from Florida state court to the Middle District of Florida in accordance with 28 U.S.C. §§ 1332, 1441, and 1446.

fugitive sources as a result of Mosaic's operations including phosphogypsum mining, processing, storage, transportation and waste handling operations over her lifetime residence in Prospect Village, Florida primarily through inhalation and dermal exposures.

2) Rhonda Williams has developed significant adverse health effects as a result of these hazardous exposures including G6PD associated pulmonary hypertension and obstructive pulmonary disease resulting in a diminished quality of life and potentially reduced life span.

3) Rhonda Williams has developed significant adverse health effects as a result of secondary effects from therapeutic agents used to treat her diseases/symptoms resulting from these exposures further diminishing her quality of life and threatening her long-term physical and mental wellbeing.

At the end of the analysis section of the report, Dr. Mink listed fifty-eight references. These consisted of various empirical studies, website references, and regulatory documents. Within the body of the analysis, he cited another eighteen sources. None were pin-cited or otherwise annotated to show which portions supported each conclusion.

After Dr. Mink submitted his preliminary report, Mosaic deposed him. After the deposition, Mosaic moved to exclude Dr. Mink's testimony under Federal Rule of Evidence 702 and *Daubert*. Mosaic also moved for summary judgment as to all of Ms. Williams' claims. Ms. Williams filed responses in opposition. Without conducting a *Daubert* hearing, the District Court granted Mosaic's motion to exclude Dr. Mink's opinion testimony. The Court explained its decision thusly:

[T]he Court concludes that Dr. Mink's expert report and proposed testimony cannot survive a *Daubert* challenge. Critically, Dr. Mink has neglected the hallmark of the science of toxic torts—the dose response relationship. In and of itself, this is a sufficient basis for excluding his testimony. He also unjustifiably relies on regulatory standards to determine dose, infers facts from studies that contradict his conclusions, fails to consider the background risk for Plaintiff's illnesses, fails to rule out alternative potential causes of Plaintiff's illnesses, and renders speculative and conclusory opinions about Plaintiff's exposure to Mosaic's emissions. All in all, it is clear that Dr. Mink has failed to adhere to the methodology expected of toxicologists in toxic tort cases, and he has not demonstrated a reliable basis for his opinions.

In its order granting the motion, the Court comprehensively analyzed Dr. Mink's report and methodology, identifying and explaining its primary concerns and others. Because Dr. Mink was Ms. Williams' sole source of causation evidence, the Court, in the same order, granted Mosaic's motion for summary judgment as to all claims requiring a showing of causation.

When the dust settled, Ms. Williams had one remaining claim: her “prohibited discharge” claim. This claim was brought under Section 376.313 of the Florida Statutes, which confers a private right of action on citizens who suffer damage from a discharge of materials in violation of Florida's environmental standards. For this claim, Ms. Williams alleged that the pollutants and dust from the Riverview plant diminished the value of her home to the point where it was unsellable. Ms. Williams planned to testify on her own behalf as to the value of her home. According to her responses to Mosaic's interrogatories, Ms. Williams

believed and planned to testify that “the property has no present value as any sale would require the disclosure of the toxins found in and around the home and neighborhood, . . . which came directly from Mosaic Fertilizer.”

As the case proceeded towards trial, Mosaic moved to exclude Ms. Williams’ valuation testimony, arguing that such testimony was beyond her expertise as a lay witness, irrelevant, and substantially more prejudicial than probative because it called for heavy speculation and conjecture. The District Court granted Mosaic’s motion. Upon consideration of her discovery responses and prior testimony, it found that Ms. Williams’ testimony “lack[ed] foundation and [wa]s purely speculative.” Then, in the same order, the District Court granted summary judgment for Mosaic *sua sponte* as to the remaining claim. The Court observed that Ms. Williams “was on notice that she was required to come forth with all her evidence regarding the damages element of the Section 376.313 claim,” yet failed to produce anything more than her own inadmissible testimony. Thus, the Court found that summary judgment was warranted as to her “prohibited discharge” claim on account of her failure to prove any damages resulting from the discharge. The Court therefore entered judgment in favor of Mosaic. Ms. Williams timely appealed.

II.

We review the District Court’s grant of summary judgment *de novo*. *Doe v. Sch. Bd.*, 604 F.3d 1248, 1253 (11th Cir. 2010). We begin with the exclusion of Dr. Mink’s opinion testimony. Federal Rule of Evidence 702 makes expert opinion testimony admissible only “if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.” As interpreted by the Supreme Court in *Daubert*, this requires the trial court “to act as a gatekeeper to insure that speculative and unreliable opinions do not reach the jury.” *McClain v. Metabolife Int’l, Inc.*, 401 F.3d 1233, 1237 (11th Cir. 2005). To properly serve as a gatekeeper, the trial court must perform “a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.” *Daubert*, 509 U.S. at 593–94, 113 S.Ct. at 2796. When doing so, “the court must consider the testimony with the understanding that the burden of establishing qualification, reliability, and helpfulness rests on the proponent of the expert opinion.” *McClain*, 401 F.3d at 1238 (quotations omitted) (alterations omitted) (quoting *United States v. Frazier*, 387 F.3d 1244, 1260 (11th Cir. 2004)).

“The trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable” under *Daubert*. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152, 119 S. Ct. 1167, 1176 (1999). Hence, we review a district court’s *Daubert* rulings for abuse of discretion. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 143, 118 S. Ct. 512, 517 (1997). We will affirm unless the court “has made a clear error of judgment, or has applied an incorrect legal standard.” *Piamba Cortes v. Am. Airlines, Inc.*, 177 F.3d 1272, 1306 (11th Cir. 1999) (quotations omitted).

Here, the District Court did not abuse its discretion in excluding Dr. Mink’s opinions. The Court comprehensively analyzed Dr. Mink’s report and deposition testimony, carefully reviewed the literature upon which he relied in forming his causation opinions, and determined that his methodology was undermined by multiple defects.² We find no error in the Court’s analysis and no need to discuss

² Ms. Williams argues that the District Court abused its discretion in requiring Dr. Mink to demonstrate both general and specific causation, as opposed to just specific causation. This Court has delineated two categories of toxic tort cases: “those cases in which the medical community generally recognizes the toxicity of the drug or chemical at issue,” and “those cases in which the medical community does not generally recognize the agent as both toxic and causing the injury the plaintiff alleges.” *McClain*, 401 F.3d at 1239. In the former cases, “[t]he court need not undertake an extensive *Daubert* analysis on the general toxicity question.” *Id.* In the latter, “the *Daubert* analysis covers not only the expert’s methodology for the plaintiff-specific questions about individual causation but also the general question of whether the drug or chemical *can* cause the harm plaintiff alleges.” *Id.* (emphasis in original).

In Ms. Williams’ view, the scientific sources she and Dr. Mink cite demonstrate that it is generally accepted in the scientific community that the toxins emitted by Mosaic’s facility “cause the exact type of harm alleged by Ms. Williams.” The District Court treated the toxicity of the substances as not generally accepted because it found that “Plaintiff has failed to offer any

every aspect of its comprehensive assessment anew. However, three of the most significant problems with Dr. Mink's methodology are illustrative: first, his failure to properly assess dose-response with regard to Ms. Williams; second, his failure to meaningfully rule out other potential causes of Ms. Williams' medical conditions; and third, his failure to account for the background risk of her conditions.

With respect to dose-response, we have explained the importance of the dose-response assessment in these sorts of cases before. "When analyzing an expert's methodology in toxic tort cases, the court should pay careful attention to the expert's testimony about the dose-response relationship." *McClain*, 401 F.3d at 1241. This attention is due because dose-response is "the hallmark of basic toxicology." *Id.* at 1242. Stripped to its bare essentials, a dose-response assessment estimates scientifically "the dose or level of exposure at which [the substance at issue] causes harm." *Id.* at 1241.

evidence of general acceptance within the medical community that sulfur dioxide and the other constituents from the Mosaic emissions cause the illnesses from which she claims she suffers." We need not and do not decide this question. Setting general causation aside, to establish specific causation, Dr. Mink would still have to reliably calculate whether Ms. Williams was "exposed to enough of the toxin to cause the alleged injury," *McClain*, 401 F.3d at 1239, which he could have done only after reliably calculating *how much* exposure would have adversely affected her. In other words, under either category, he still needed to perform or rely upon a methodologically sound dose-response assessment specifically relevant to Ms. Williams. As discussed, his dose-response analysis was deeply flawed. *See infra*. Thus, no matter whether the case was treated as a category one case or a category two case, the District Court's exclusion of his opinion testimony was not an abuse of discretion.

Here, Dr. Mink conceded he never conducted an independent dose calculation specific to Ms. Williams. Instead, he relied on two academic studies measuring the ambient air concentration of pollutants in the area in which Ms. Williams lived to estimate the dose she received and on the EPA's NAAQS regulatory standards to establish the dose threshold above which Ms. Williams' conditions would likely result from her exposure. As the District Court correctly observed, his reliance on these sources was methodologically problematic in multiple respects. Among the most glaring problems was the fact that both academic studies he relied upon directly contradicted his causation opinions. For example, one study concluded that "phosphate fertilizer plants make minor contribution to the ambient levels of HAP metals compared to other sources for the general population in the Tampa Bay area," and that the air concentration of the various pollutants studied fell hundreds of times below levels that would present health risks to the public. Hsing-Wang Li, et al., *Impacts of Hazardous Air Pollutants Emitted from Phosphate Fertilizer Production Plants on Their Ambient Concentration Levels in the Tampa Bay Area*, 8 Air Qual. Atmos. Health 453, 453, 464 (2015).

This cuts directly against his opinion that Mosaic's emissions adversely affected Ms. Williams. And although Ms. Williams argues that Dr. Mink relied on the studies' underlying *data* while disagreeing with their ultimate conclusions, Dr.

Mink and Ms. Williams never clearly explained why Dr. Mink reached a different conclusion with regard to Mosaic's contribution to pollution in Ms. Williams' community or why his conclusion was correct and the authors' incorrect until *after* the District Court ruled on the admissibility of his testimony. Thus, he failed to squarely present the basis for his disagreements to the District Court until after the fact. *See Kilpatrick v. Breg, Inc.*, 613 F.3d 1329, 1341 (11th Cir. 2010) (holding the district court did not abuse its discretion in excluding expert testimony, when the expert "had ample opportunity to identify all of the bases for his conclusions and to explain his methodology in reaching those conclusions" yet failed to do so).

Moreover, assuming for the sake of argument that Dr. Mink's dose estimates were methodologically sound, he failed to demonstrate a scientific basis for concluding that those exposure levels would likely produce, contribute to, or exacerbate Ms. Williams' conditions. For example, he estimated that Ms. Williams was exposed to sulfur dioxide at a long-term concentration rate exceeding 75 parts per billion (though he never reached a more specific number than this), and, based on her purported heightened sensitivity to exposure and the NAAQS standard's calculation to protect sensitive members of the population, assumed that exposure at or above this level was likely to cause her conditions. He based this sweeping assumption on the fact that the 75 parts per billion number is the primary emissions standard set by the EPA for sulfur dioxide in its NAAQS

standard. However, this Court has previously explained the potential methodological perils of relying, at face value, on regulatory emissions levels to establish causation. *See McClain*, 401 F.3d at 1249 (observing that face-value reliance on regulatory dose standards raises a “subtle methodological issue”).

The biggest problem stems from the potential difference in purpose between regulatory standards and toxicological dose-response calculations: regulatory standards often build in considerable cushion in order to account for the most sensitive members of the population and prophylactically protect the public (in other words, they are *protective*), while dose-response calculations aim to identify the exposure levels that actually cause harm (in other words, they are *predictive*). *See id.* at 1249–50 (explaining the different calculations and burdens of proof employed by regulatory agencies in setting exposure standards for the general public, as compared to those employed by toxicologists in calculating dose-response).

But Ms. Williams argues that Dr. Mink’s facial reliance on NAAQS standards in this case is different, because those standards *are* predictive. She contends that the EPA’s assessments reveal that “exposure to 75 ppb of [sulfur dioxide] causes (not *may* cause or *can* cause, but actually *does* cause) respiratory morbidity,” and that the standards result from “dose-response assessments based on human studies.” (Emphasis in original). In other words, relevant dose-response

assessments are built into the standard. However, the EPA's own regulations require the agency to establish NAAQS levels ensuring "protection of public health with an adequate margin of safety," even if this means setting emissions thresholds at a level at which "the risk is not precisely identified as to nature or degree." 75 Fed. Reg. 35520-01 at *35521 (June 22, 2010). Further, Dr. Mink stated that he relied upon dose-response calculations included in the EPA's Integration Risk Information System ("IRIS"), which the EPA relies upon in setting NAAQS standards. But the EPA has expressly stated that the dose-response assessments in IRIS are not suited to predicting the incidence of exposure-caused disease in humans:

In general, risk values, such as those on IRIS, cannot be used to predict the actual incidence of human disease or the type of effects chemical exposures may have on humans. This is due to the numerous uncertainties involved in risk assessment, including those associated with extrapolations from animal data to humans and from high experimental doses to lower environmental exposures. The organs affected and the types of adverse effects resulting from chemical exposure may differ between study animals and humans. In addition, many factors besides exposure to a chemical influence the occurrence and extent of human disease.

53 Fed. Reg. 20162-02 at *20163 (June 2, 1988). It is for precisely these reasons that we have cautioned against facial reliance on regulatory standards as a substitute for scientifically rigorous dose-response assessments. And while it is true that the EPA's studies "led to the conclusion that there is a causal relationship between respiratory morbidity and short-term exposure to SO₂," the existence of a

generalized “causal relationship” was not the operative issue. What mattered was whether the EPA’s data provided a reasonably specific calculation as to the exposure amounts required to cause Ms. Williams’ conditions upon which Dr. Mink could reasonably rely in forming his opinions.

Though Ms. Williams alleged that, on account of her G6PD, she is more sensitive to exposure than the average member of the general public, Dr. Mink never attempted to quantify *how much* more sensitive she is. As the District Court observed, at the time it made its ruling, he did “not cite with specificity which studies and peer-reviewed literature demonstrate the increased sensitivity of individuals with G6PD. Consequently, the Court [could] not evaluate those sources and determine whether they are based on reliable methodologies or otherwise support his opinions.” Without this, he could not rely on NAAQS standards, because he never adequately established whether her sensitivity to exposure placed her within the class of persons who would likely suffer from exposure at the ranges he estimated, let alone whether the standards were predictive or protective with regard to her.

To be clear, we have never required an expert to “give precise numbers about a dose-response relationship,” *McClain*, 401 F.3d at 1241 n.6, and we do not do so here. But we do require an expert to lay a “reliable groundwork for determining the dose-response relationship.” *Id.* at 1241. Here, Ms. Williams bore

the burden of demonstrating to the District Court that Dr. Mink's facial reliance on NAAQS standards was methodologically sound. In light of their protective nature and the EPA's express warnings that those standards—and the IRIS assessments upon which they were formulated—are unreliable predictors of conditions in humans, we are not persuaded that the District Court erred in determining that Ms. Williams failed to meet that burden.³

Further, the District Court correctly observed that Dr. Mink's report suffered from methodological errors related to the cause of Ms. Williams' conditions. Dr. Mink failed to meaningfully rule out other potential causes of Ms. Williams'

³ We further note that both in the District Court and before this Court, when put to the task of identifying the bases of Dr. Mink's dose-response conclusions with specificity, Dr. Mink and Ms. Williams obfuscated. We granted leave for counsel to file a one-page letter brief with citations in the record to authorities relied upon by Dr. Mink which employed predictive, rather than protective, analyses. In response, we received an eleven-page, shotgun-style brief with citations to dozens of regulatory documents comprising hundreds of pages. Most had nothing to do with studies—predictive or protective—at all, many included only estimated “fatal” doses of the various substances discussed (and nothing about doses that could lead to Ms. Williams' conditions), many of the studies were concerned solely with the carcinogenic effects of those substances (Ms. Williams does not have cancer and the carcinogenicity of the substances is not otherwise at issue in this case), many were not in the record below, and none were pin-cited.

Dr. Mink's expert report submitted in the District Court fared no better. At the end of the analysis section of his report, Dr. Mink listed 58 references. These consisted of various empirical studies, website references, and regulatory documents. Within the body of the analysis, he cited another 18 sources. Included with none of those 76 sources were endnotes, pin cites, or any other explanations as to what information Dr. Mink gained from those references or what sources supported what conclusions. And certainly nothing pointed the District Court to the underlying dose-response assessments Dr. Mink purportedly relied upon. It was only after the District Court excluded his testimony that Dr. Mink filed a more concise statement concerning the bases of his conclusions. Thus, to the extent the District Court was limited in its assessment of Dr. Mink's methodology by his and Ms. Williams' obfuscation in explaining the bases of his conclusions, it did not err in considering only that which was squarely before it. See *Kilpatrick*, 613 F.3d at 1341 (holding the district court did not abuse its discretion in excluding expert testimony, when the expert “had ample opportunity to identify all of the bases for his conclusions and to explain his methodology in reaching those conclusions” yet failed to do so).

conditions and symptoms. Indeed, one of the studies heavily relied upon by Dr. Mink determined that environmental factors and emissions by other facilities caused the vast majority of pollution in the area in which Ms. Williams lived. Li, *supra*, at 453. Yet Dr. Mink never addressed how or even if he ruled out those other potential contributors in reaching his conclusion that Mosaic's facility caused Ms. Williams' alleged harms. Nor did he, in his report or his deposition, eliminate or even address factors not related to air quality, such as Ms. Williams' obesity, allergies, lifestyle, exposure to secondhand smoke, or possible genetic predisposition. When asked about how he eliminated other potential causes of Ms. Williams' conditions, Dr. Mink stated:

Oh, I think we eliminated causes based on their probability. I mean, they were so low in comparison that—that we can eliminate them. Are they totally nonexistent, absolutely not, and I think I testified to that earlier.

However, Dr. Mink never provided the District Court or this Court with any probability studies regarding those potential causes, and his expert report never referenced those probabilities.

Thus, although he made passing references to the purported "low" probability of those other causes, Dr. Mink never provided the District Court with any scientific basis upon which he relied in concluding that the likelihood that various other potential factors caused Ms. Williams' conditions was low enough to reasonably rule them out. The law does not require the District Court to take him

at his word. *See Joiner*, 522 U.S. at 146 (“[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.”).⁴

Nor does it appear Dr. Mink meaningfully accounted for the background risk of Ms. Williams’ conditions. The background risk “is the risk a plaintiff and other members of the general public have of suffering the disease or injury that plaintiff alleges *without* exposure to the drug or chemical in question.” *McClain*, 401 F.3d at 1243 (emphasis in original). When asked during his deposition, Dr. Mink did not demonstrate specific knowledge of the general prevalence of Ms. Williams’ various conditions:

Q: What is the prevalence of pulmonary hypertension in the population, the general population?

A: I don’t recall. It’s not large.

Q: What is the prevalence of obstructive pulmonary disease in the population?

A: I don’t recall specifically, but it’s significant.

These answers do not indicate serious consideration of the background risk. And while his deposition alone may not authoritatively indicate that he failed to account

⁴ To the extent Ms. Williams argues that Dr. Mink could have better cited the specific authorities in support of his opinions at a *Daubert* hearing, we conclude that the District Court did not abuse its discretion in ruling on the admissibility of his opinion testimony without conducting such a hearing. Dr. Mink filed his expert report and testified at a day-long deposition, and Ms. Williams’ counsel had the opportunity to cite those authorities with greater specificity in her response to Mosaic’s motion to exclude Dr. Mink’s testimony. Thus, Dr. Mink and Ms. Williams had sufficient opportunity to present those bases to the Court before it decided the question. This is true with regard to both his dose-response assessments and his assessments regarding other potential causes.

for it, he also failed to address background risk in his report or elsewhere. Thus, the evidence before the District Court at the time it considered Mosaic's *Daubert* motion does not indicate he meaningfully accounted for background risk.

In conclusion, Dr. Mink failed to meaningfully address other potential causes of Ms. Williams' conditions or even the background risk of those conditions. This fundamental methodological failure undermined the soundness of his causation opinions, and the District Court was therefore right to exclude those opinions as unsound.

III.

We review the District Court's exclusion of lay opinion testimony pursuant to the Federal Rules of Evidence for abuse of discretion. *United States v. Jeri*, 869 F.3d 1247, 1259 (11th Cir. 2017), *cert. denied*, 138 S. Ct. 529 (2017). Lay opinion testimony must be "(a) rationally based on the witness's perception; (b) helpful to clearly understanding the witness's testimony or to determining a fact in issue; and (c) not based on scientific, technical, or other specialized knowledge within the scope of Rule 702." Fed. R. Evid. 701.

In general, "an owner of property is competent to testify regarding its value." *Neff v. Kehoe*, 708 F.2d 639, 644 (11th Cir. 1983). However, "where the owner bases his estimation solely on speculative factors, the owner's testimony may be of such minimal probative force to warrant a judge's refusal even to submit

the issue to the jury.” *Kestenbaum v. Falstaff Brewing Corp.*, 514 F.2d 690, 699 (5th Cir. 1975), *modified on other grounds en banc*, 575 F.2d 464 (5th Cir. 1978).⁵

The District Court did not abuse its discretion in excluding Ms. Williams’ lay valuation testimony. Opinions by lay witnesses must be derived from personal knowledge or experience. *See* Fed. R. Evid. 701 Advisory Committee Notes, 2000 Amendments. Here, Ms. Williams does not allege she tried to sell her home or spoke with an appraiser or real estate agent to ascertain its value. Indeed, she concedes she did not. When asked by Mosaic in its interrogatories to provide “any criteria, rationale, bases, or grounds” for calculating her valuation estimate of zero, she stated:

Ms. Williams contends the property has no present value as any sale would require the disclosure of the toxins found in and around the home and neighborhood, as previously produced in this action, which came directly from Mosaic Fertilizer. Ms. Williams does not believe that a rational, educated person, who had knowledge of the presence of the toxic emissions and/or their long-term health effects would want to acquire residential property in her neighborhood; and that her property is damaged by the stigma associated with the continual and on-going exposure to Sulfur Dioxide, Arsenic, Cadmium, Chromium, Barium, Radioactive isotopes and other hazardous air pollutants. Under the law, a seller in Florida must disclose any facts to a potential buyer that would affect the value of the property. Here, Ms. Williams would be required to disclose the presence of Sulfur Dioxide, Radioactive isotopes and other hazardous air pollutants found at her property and in and around her neighborhood.

⁵ We have adopted as binding “the decisions of the United States Court of Appeals for the Fifth Circuit, as that court existed on September 30, 1981, handed down by that court prior to close of business on that date.” *Bonner v. City of Prichard*., 661 F.2d 1206, 1209 (11th Cir. 1981) (en banc).

This is pure speculation. That a home is contaminated does not necessarily make it valueless. In fact, Ms. Williams testified from her own knowledge that homes in her neighborhood, including one on the same block as hers, had recently been sold. This directly refuted her contention that the value of her home was zero. Thus, despite the general rule that homeowners may testify as to the value of their homes, Ms. Williams' testimony was inadmissible because it would not have been based on personal knowledge. The District Court therefore did not err in excluding her testimony for lack of foundation.

Ms. Williams argues in the alternative that even if exclusion of her valuation testimony was proper, she should have been allowed to present evidence of "contamination damages," including "destruction and remediation damages." But Ms. Williams did not allege any functional damage to her home or cognizable economic losses resulting from the contamination of her home, such as repair expenses. Instead, she sought "destruction damages (which is full value for permanent damage caused by the contamination)." This is just another way of stating that her home's value was diminished as a result of pollutants from Mosaic's facility. Hence, her testimony would not have been any different under a theory of "stigma damages" (the diminution in value of her home from having to disclose the presence of contaminants in her neighborhood) or a theory of "contamination damages" (the diminution in value of her home as a result of its

actual contamination with pollutants). Therefore, the District Court committed no error in excluding her testimony.

IV.

We accordingly affirm the District Court's exclusion of Dr. Mink and Ms. Williams' opinion testimony and its subsequent grants of summary judgment in favor of Mosaic.

AFFIRMED.