

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA**

**CASE NO. 13-80928-CIV-MARRA
(Consolidated Action: Lead Case)**

**RICHARD COTROMANO et al.,
Plaintiffs,**

vs.

**UNITED TECHNOLOGIES CORPORATION and
PALM BEACH AGGREGATES, LLC,
Defendants.**

Case No. 13-80928-Civ-Marra

**JOSEPH ADINOLFE etc., et al.,
Plaintiffs,**

vs.

**UNITED TECHNOLOGIES CORPORATION,
Defendant.**

Case No. 10-80840-Civ-Marra

**OPINION MEMORANDUM AND ORDER
DENYING PLAINTIFFS' MOTION TO CERTIFY LITIGATION CLASS
AS AGAINST DEFENDANT UNITED TECHNOLOGIES CORPORATION [DE 265]
and
DENYING PLAINTIFFS AND DEFENDANT PALM BEACH AGGREGATES, LLC'S
JOINT MOTION TO CERTIFY SETTLEMENT CLASS
AS AGAINST DEFENDANT PALM BEACH AGGREGATES, LLC [DE 253]**

THIS CAUSE is before the Court on the Plaintiffs' Joint Motion for Class Certification as against Defendant United Technologies Corporation [DE 265].¹ Defendant United Technologies Corporation ("UTC") filed a Response in Opposition to the Motion [DE 320] and Plaintiffs filed a Reply [DE 330]. Each side has moved to exclude the others' experts pursuant to

¹ Also before the Court is the Plaintiffs and Defendant Palm Beach Aggregates, LLC [PBA]'s joint motion to certify a settlement class as to Defendant Palm Beach Aggregates [DE 253], Defendant United Technologies Response in Opposition to the Motion [DE 321] and Plaintiffs' and PBA's Replies [DE 327, 331]. The Court previously directed that the class certification issues presented by both motions would be determined simultaneously, following a single evidentiary proceeding [DE 349], and now proceeds to determine both motions.

Rule 702 of the Federal Rules of Evidence and *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed.2d 469 (1993) and those motions are also pending [DE 236-248, 251, 277, 279]. The Court held a five-day evidentiary hearing on all relevant motions from January 8-12, 2018. The parties have since submitted written summations and proposed findings of fact and conclusions of law [DE 425, 426-1, 427-1, 428]. Having reviewed the Plaintiffs' Consolidated Class Action Complaint [DE 318] ("Compl."), the parties' class certification briefs, voluminous evidentiary submissions [DE 255-264; 284-285; 319; 363-367; 368-374, 394, 405, 419-424] expert reports, and the relevant law, the Court rules as follows.

I. Preface

Plaintiffs are five married couples and two individuals who own property in a semi-rural residential community in western Palm Beach County known as "the Acreage." They filed this putative class action against United Technologies Corporation ("UTC"), Pratt & Whitney Group ("Pratt & Whitney"), the owner of a rocket and aerospace testing and manufacturing plant located between five to fifteen miles north of the Plaintiffs' properties. Plaintiffs allege Pratt & Whitney released toxic contaminants into the air, water and soil at the Pratt & Whitney plant and in the communities surrounding the plant, and that some of the contaminants migrated to the Acreage via groundwater or soil transport. They claim their properties are either contaminated, at risk of future contamination, or in proximity to contaminated property as a result of Pratt & Whitney's environmental abuses, and that they have suffered a loss of use and enjoyment of their property, as well as a diminution in property values, as a result.²

² Ten of the putative class representatives in this case are also individual plaintiffs in separate personal injury lawsuits alleging that certain family members residing in their homes developed brain tumors or other cancers as a result of exposure to contaminants allegedly released to the Acreage by Pratt & Whitney. *Pinares v. United Technology Corporation*, Case No. 10-80883-CIV-MARRA (consolidated action). In their capacity as putative class representatives in the above-styled proceeding, Plaintiffs do not allege that any putative class members have suffered health problems or personal injury from the alleged contamination.

In earlier proceedings before the Honorable Judge Kenneth L. Ryskamp, to whom this action was originally assigned, Plaintiffs' claims were dismissed due to insufficient evidence of class-wide actual contamination and causation. The Eleventh Circuit reversed and reinstated the claims, *Adinolfi v. United Technologies Corp. d/b/a Pratt & Whitney*, 768 F.3d 1161 (11th Cir. 2014). Following remand and reassignment to the undersigned, the putative class representatives filed a joint consolidated class action complaint [DE 318] and moved for class certification [DE 265]. For reasons set forth below, the Plaintiffs' motion for class certification is denied.

II. Fact Background³

Since 1957, Pratt & Whitney has continuously operated rocket and aerospace testing and manufacturing facilities on a 30-square-mile property in rural western Palm Beach County. It has done business at this location as the Pratt & Whitney Government Engine Business Division, the Pratt & Whitney Aircraft Florida Research and Development Center, and Pratt & Whitney Rocketdyne. To support these operations, UTC constructed a system of canals, ponds, above and below ground tanks, pipelines, cooling towers and test stands. The southern edge of Pratt & Whitney's property is contiguous to a 25-square-mile parcel known as the J.W. Corbett Wildlife Management Area ("Corbett Wildlife Area"). The Corbett Wildlife Area, in turn, abuts the northernmost edge of the residential community known as "the Acreage."

According to Plaintiffs, Pratt & Whitney's manufacturing activities caused the release of vast quantities of toxins, contaminants, carcinogens and other hazardous wastes -- collectively referred to as Chemical Contaminants of Concern ("CCOCs") -- into the air, groundwater and

³ Except as otherwise noted (by reference to allegations, or disputed expert fact findings or interpretation of those findings), the facts recited in this history are undisputed and are drawn from the complaint, expert affidavits, hearing testimony and other evidence submitted by the parties in connection with the pending class certification and *Daubert* motions. The facts recited here are provided as explanatory background to the issues framed by the current motion for class certification and relevant *Daubert* determinations, and are not conclusive or binding in any other context.

soil at and near its Palm Beach County Campus. This allegedly resulted in migration of CCOCs to the Acreage by way of a shared permeable aquifer, and by way of ground transport of contaminated soil allegedly dumped at the Acreage for landfill.⁴

Due to concerns about on-site contamination with radionuclides and other contaminants, the United States Environmental Agency (“EPA”) designated the Pratt & Whitney property as a potential Superfund site in the 1980s and placed it on the EPA National Priorities List.⁵ Ultimately, UTC, through its consultant, Dames & Moore, negotiated a remediation plan with the Florida Department of Environmental Regulation, allowing it to conduct remediation at its Pratt & Whitney Campus with limited EPA oversight and without formal designation as an EPA “Superfund” site. Plaintiffs contend these remediation efforts came too late, after the shared aquifer had already been heavily contaminated, and that Pratt & Whitney’s remediation work did not stop contaminated groundwater from escaping and traveling to the Acreage (Compl. ¶¶ 46, 49).

In June 2009, the Florida Department of Health (FDOH) began investigating the incidence of pediatric cancer cases in the Acreage at request of a concerned parent whose six-year-old son had recently been diagnosed with a brain tumor. On February 1, 2010, at the completion of its investigation, the FDOH reported pediatric brain tumors diagnosed in the

⁴ In the early 1990s, UTC began shipping tons of soil from its Pratt & Whitney campus to soil recycling companies. This process continued for roughly ten years and involved the removal of over 50,000 tons of soil. The bulk of the soil was shipped by rail to a treatment facility in Michigan, while the remainder was slated for shipment by truck to thermal treatment centers in West Palm Beach and Pompano Beach, Florida. Plaintiffs allege that many of the Florida soil transports were either not properly treated, or were diverted from the soil treatment recycling facilities and instead delivered directly to landfills. In this fashion, Plaintiffs allege there is a “possibility” that some soil removed from Pratt & Whitney’s campus ended up, untreated, as residential landfill at the Acreage.

⁵ The EPA determined that the Pratt & Whitney Camus met the criteria for Superfund designation in accordance with the provisions of the Comprehensive Environmental Response, Compensation. Liability Act of 1980 (“CERCLA”), 42 U.S.C. §§ 9601- 9657, as amended by the Superfund Amendments and Reauthorization Act of 1986. The Superfund “national priorities list” is a national list of facilities throughout the United States known to have released hazardous substances. Using established criteria, the EPA sets priorities for taking remedial response actions at Superfund sites, including investigation and clean-up of hazardous materials.

Acreage to be significantly escalated for years 2005-2007, leading the Palm Beach County Health Department to designate a section of the Acreage as a “cancer cluster” [Compl. ¶75]. Shortly after, the Center for Disease Control (CDC) confirmed the escalation and added 2008 pediatric diagnoses to the cluster [Compl. ¶¶ 25-26].

The FDOH investigation triggered a multi-agency inquiry into environmental contamination in the area. The Federal Housing Administration imposed a warning advising appraisers that the state-declared cancer cluster may be harming home values in the central Palm Beach County residential community known as the Acreage. The Florida Department of Environmental Protection also stepped in, but, after several years of extensive on-site testing, concluded there was no reason for concern about environmental conditions in the Acreage: It announced, in its August 2010 public report, that “[t]he water quality in the Acreage is generally good and residential property in The Acreage is safe for families to enjoy outside activities in their yards....” It noted “no risk factors were found associated to pediatric brain cancer,” leading the FDOH to cease its investigation with no finding on causation of the cancer cluster. Plaintiffs contend this lapse is attributable to FDOH’s use of incomplete data, failure to assess local polluters, agency bias and improper influence of a county engineer [Compl. ¶ 36].

It is undisputed that the soil and groundwater at the Pratt & Whitney Campus were contaminated when CCOCs seeped into the soil and groundwater over the course of Defendant’s operations at the site. It is also undisputed that some of these contaminants migrated to the adjacent Corbett Wildlife Area, as evidenced by an underground plume of 1,4-dioxane originating at the Pratt & Whitney site and extending 1000 feet into the Corbett Wildlife Area. At issue in this case is whether contaminants released by Pratt & Whitney also migrated to or

near the Acreage, by way of groundwater or soil transport, creating health risks for Acreage inhabitants and environmental stigma which has damaged their property values.

Groundwater Transport

Pratt & Whitney's Palm Beach County Campus, the Corbett Wildlife Area, and the Acreage are underlain by and share a common underground aquifer. A groundwater "ridge" bisects the Pratt & Whitney campus and the Corbett Wildlife Area to the south. Groundwater from the eastern portion of the Pratt & Whitney site flows east and southeast, and groundwater from the western half of the site flows west and southwest. The experts' groundwater models, including the one prepared by Plaintiffs' expert, Daniel Stephens, show a narrow band in the center of the Pratt & Whitney property, described as a "preferred pathway," where groundwater could potentially flow from Pratt & Whitney toward the proposed class area.

The parties disagree as to whether groundwater velocity in this area is capable of carrying groundwater from Pratt & Whitney's site to the northern edge of the proposed class area in the relevant time period. Plaintiffs' hydrogeologists, Philip Bedient and Daniel Stephens, opined this is feasible, via the "preferential pathway," and that contaminants from the aquifer underlying Pratt & Whitney could have, within a reasonable degree of probability, migrated to the Acreage via this pathway. The Defendant's hydrogeologist expert, Thomas Missimer, came to the opposite conclusion, opining that any contaminants found in groundwater at the Pratt and & Whitney facility would have attenuated by natural processes to the point of being undetectable before reaching the proposed class area.

Off-Site Contamination

It is undisputed, as noted above, that an I, 4-dioxane underground plume migrated offsite from the Pratt & Whitney site, approximately 1,000 feet into the Corbett Wildlife Area. It is also

undisputed that high concentrations of I, 4-dioxane have been detected in groundwater at the Pratt & Whitney site. In the Acreage, however, the FDEP detected I, 4-dioxane at only four of over 100 locations tested in the northern part of the proposed class area, and these detections were classified as “I” results below the “practical quantification limit” for the lab, meaning the amounts were too small to measure accurately. The Defendant disputes whether these detections are attributable to Pratt & Whitney operations.

Plaintiffs’ experts also detected, based on independent test well drilling in the Acreage, the presence of methylene chloride, chloroform, bromodichloromethane, 1-4-dioxane, dioxins and furans. Plaintiffs’ expert geologist, Brian Moore, attributes the presence of these chemicals in the Acreage to Pratt & Whitney operations. Moore explains that UTC’s operations are known to involve carbon tetrachloride, which undergoes anaerobic microbial degradation to become chloroform, which in turn undergoes anaerobic microbial degradation to become methylene chloride. His opinion tethering these chemicals to Pratt & Whitney also derives from UTC’s self-report of significant levels of chloroform, methylene chloride and bromodichloromethane in its monitoring wells, as well as high concentrations of I, 4-dioxane in its groundwater. UTC contests the admissibility of Moore’s expert testimony connecting the detection of these materials to Pratt & Whitney activities.

Brian Moore also testified to detections of dioxin and furans in the groundwater at seven locations in the proposed class area, again attributing the presence of these materials to Pratt & Whitney operations. Defendant challenges the reliability of Moore’s physical findings and migration opinions – questioning lab accreditation and lab contamination issues attending the testing and criticizing Moore’s failure to consider alternative sources for the Acreage detections.

Soil Transport

The defense hydrogeologist, Thomas Missimer, testified that surface or groundwater transport of radioactive materials to the proposed class area is not possible. Plaintiffs do not identify any competing expert testimony on this issue.

Plaintiffs do focus on soil transport as the likely migration path of radioactive contaminants. Plaintiffs contend that untreated, contaminated soil removed from the Pratt & Whitney site was diverted from delivery to designated soil recycling plants in South Florida and instead trucked directly into the Acreage where it was used, untreated, as residential landfill;⁶ in this manner, Plaintiffs contend that radioactive materials originating with Pratt & Whitney were introduced into the Acreage environment, where residuals relating to Acreage drinking water systems later showed “shockingly high levels of radioactive isotopes” at some homes.

Plaintiffs’ environmental radioactivity expert, civil engineer Marco Kaltofen, found elevated levels of several radioactive materials (comparable to those found at the UTC site) in several of the Acreage test home yards and in soils where the water systems backflush at those properties. Some of these homes were identified as potential recipients of fill products from Tru Trucking, one of the ground transport companies used by Pratt & Whitney to remove soil from its Palm Beach County Campus during the 1990s. Sporadic testing by Kaltofen in the proposed class area revealed detections of naturally-occurring radioactive materials such as Uranium and Thorium-230, and man-made materials such as Cesium-137 and Strontium-90.

⁶ Plaintiffs adduce a chain of circumstantial evidence suggesting this sequence. They point to records from the Magnum treatment facility, showing it was not receiving and treating the same amount of soil that UTC purported to have shipped there, and showing it did not treat all soil delivered to it. Combined with evidence of liens for soil deliveries by relevant trucking companies, and Tru-Trucking bookkeeper testimony that soil removed from Pratt & Whitney was not always delivered to Magnum, together with soil contamination test results within the Acreage, Plaintiffs adduce that contaminated soil from UTC found its way directly to the Acreage for use as residential landfill.

Kaltofen found detections of Thorium isotopes in some locations at above-background levels (without identifying the range of expected levels or reporting a mean for thorium detections above expected background concentrations),⁷ in addition to detections of Radium-226 and Lead-210 found at above background levels. He correlated these detections to materials used at the UTC site, and by comparing characteristics of offsite and onsite samples using a microscopic analysis procedure called “SEM.”⁸

Kaltofen tested for Strontium-90 in fifty soil samples, tabulated in his direct testimony affidavit [DE 363-1 pp. 10-11]. He explained that the sampling areas primarily encompassed case homes (homes included in the FDOH cancer cluster investigation), Pratt & Whitney site locations, in addition to six samples taken at Acreage homes identified as recipients of Tru Truck landfill deliveries. He found elevated Strontium-90 detections highest at the UTC campus, at Acreage homes closest to the UTC campus, and in Acreage homes that received Tru Trucking landfill, and noted that several of these detections were found in samples taken at different times and run by separate lab reports.

⁷ As to Thorium-232, UTC acknowledges this material was also used in Pratt & Whitney’s manufacturing operations, but disputes there is competent evidence linking Pratt & Whitney to the detections of this material found in the Acreage. It acknowledges this material was used in the form of thoriated nickel to manufacture a small quantity of engine parts (bound in a metal alloy resistant to corrosion) at its plant, but states that it disposed of thoriated nickel scrap and various remnants in or near its scrapyard, which was later remediated with the removal and shipment of toxic materials to a facility licensed to accept radioactive waste. Plaintiffs contend that thorium-inclusive alloys such as TD Nickel and TD Cobalt were used in its nuclear jet program, and question the efficacy of the alleged remediation efforts.

⁸ UTC challenges the reliability of these conclusions, noting other explanations for Kaltoven’s high findings, and also challenges Kaltoven’s expert opinion identifying Pratt & Whitney as the likely source of radionuclides detected at the Acreage. It contends there are several known alternative sources of man-made and naturally occurring radioactive materials detected in the proposed class area which were not considered by Kaltoven. For example, it notes man-made radionuclides are present around the world, at background levels, as a result of fallout from nuclear weapons testing and other large scale nuclear events. It also notes that natural radioactive materials are present throughout the environment, observing their presence can be enhanced through mining operations such as those conducted by co-defendant Palm Beach Aggregates. Palm Beach Aggregates is located directly adjacent to the western edge of the proposed class area and was also a major source “fill” at Pratt & Whitney and in the construction of homes in the proposed class area.

Kaltofen acknowledged that radioactive contamination could not be shown in a representative distribution across the proposed class area, and his Acreage samples were simply a presentation of a “particular mode of contamination spread.” Drawing from the results of his limited sampling areas, he ultimately correlated the presence of radioactive materials (other than Strontium-90 and Cesium-137) detected in the Acreage to materials found in UTC operations, by comparing characteristics of onsite and offsite samples and by comparing metals present in samples through microscopic analysis.

Defendant acknowledges some documented uses of Cesium-137 and Strontium-90 at Pratt & Whitney, but contends there is only evidence of use of small quantities maintained in “closed sources,” with no evidence that these materials were used at the site in an “uncontrolled fashion” that would allow them to be released into the environment. Kaltoven agrees that closed sources could not be a source of radioactive contaminants, assuming closed sources were used; he also acknowledges that the presence of Cesium-137 and Strontium-90 from something other than sealed sources would require nuclear fission, through means such as the operation of a nuclear reactor or detonation of a nuclear bomb, and that these materials could only be present in the amounts he detected if such fission-producing work occurred at the Pratt & Whitney site.⁹ With no specific evidence of either event ever occurring at the Pratt & Whitney site, Kaltoven offered no opinion as to source of Cesium-137 or Strontium-90 detections specifically.

III. Procedural Posture

A. The Consolidated Class Action Complaint

⁹ Plaintiffs allude to the possibility that Pratt & Whitney developed nuclear aircraft propulsion at its Palm Beach County Campus. They refer to a Pratt & Whitney memorandum recently made available to them by the U.S. Energy Department, which mandates that any documentation regarding use or performance of nuclear material at its site remain classified. If the import of this reference is to intimate fission-producing activity may have occurred at the Pratt & Whitney site, but is unknown due to security interests, the intimation is speculative and assigned no weight in the Court’s current analysis.

In its present incarnation, the Plaintiffs' Joint Consolidated Class Action Complaint [DE 318] alleges state-law causes of action against UTC for strict liability (Counts 1 – 3),¹⁰ negligence (Counts 4-5),¹¹ and nuisance (Count 6),¹² as well as a federal claim for nuclear incident liability under the Price-Anderson Act (Count 7).¹³

Plaintiffs allege that UTC'S mishandling and improper disposal of CCOCs directly and proximately caused (1) contamination of a shared aquifer relied on by well-water reliant Acreage residents for activities of daily living; (2) widespread public concerns that it is unsafe to reside in the Acreage due to contamination of the shared aquifer; (3) localized areas of contamination at select locations within the Acreage, and (4) diminution of property values across the Acreage

¹⁰ The common law strict liability claim is based on the ultra-hazardous activity of test-firing rocket engines and jet engines on test stands using chemicals which create ultra-hazardous CCOCs (Count 1). The statutory strict liability claim is asserted under Sec. 376.313 (3), Fla. Stat., which authorizes "any person" to recover "all damages resulting from a discharge or other condition of pollution." On the statutory strict liability claims, Plaintiffs seek compensatory damages for injury due to "stigma" caused by the "groundwater plume" detected under the Corbett property (Count 2) and the "stigma" caused by contamination found by state investigatory agencies at Acreage case study homes included in the cancer cluster study, including benzopyrene and various heavy metals (lead, cadmium and barium) (Count 3).

¹¹ The common law negligence claim is based on the failure to use reasonable care in the use, storage, discharge and disposal of CCOCs at the UTC campus, and violation of statutory duties of care imposed by Florida Air and Water Pollution Control Act and Water Quality Assurance Act. Plaintiffs allege injury due to "stigma" caused by the groundwater plume (Count 4) and stigma caused by contamination of Acreage homes included in the cancer cluster investigation (Count 5).

¹² The common law nuisance claim is based on Pratt & Whitney's alleged improper storage use and disposal of CCOCs at the Pratt & Whitney Palm Beach County campus, resulting in the release and migration of contaminants by air and groundwater into Acreage neighborhoods. These acts allegedly caused a disturbance in Plaintiffs' free use, possession and enjoyment of their property (e.g. inability to fully use wells; fear and anxiety over exposure to and ingestion of well water drawn from contaminated aquifer; reliance on bottled water and water purification systems) (Count 6).

¹³ The Price-Anderson Act claim is based on Pratt & Whitney's alleged failure to follow applicable regulations promulgated under the statute, including 10 C.F.R.¶ 20.1301, and its unpermitted uses, burial, burning and dumping of nuclear source and by-product materials (Count 7). Plaintiffs claim these acts caused radionuclides to be leached or emitted into ground and surface waters which eventually migrated to Acreage. On this claim, Plaintiffs seek compensatory damages for injury due to contamination of certain Acreage homes with radioactive materials released by UTC as a result of unauthorized use and disposal of licensed nuclear by-product or source materials, and damages flowing from the "stigma" of living in a community where radioactive materials, migrating from a nearby industrial neighborhood, have been detected at above-background levels.

as a result of environmental stigma and contamination at the UTC site and surrounding areas attributable to UTC [Compl. ¶50].

B. The Proposed Class, Class Area, Class Representatives

The Plaintiffs propose a 60-square-mile class area which they describe as a “well-defined, homogenous, semi-rural predominantly residential neighborhood in Palm Beach County, Florida” commonly known as the “Acreage.” This area contains 17,409 residential parcels, 14,509 of which are improved and 2,900 of which are vacant [DE 24-4 p. 10-11][DE 258-6].

The proposed class they seek to certify consists of:

All persons who, on August 24, 2009 (or alternatively on February 1, 2010) owned residential property within the neighborhood in Palm Beach County, Florida, known as The Acreage, as defined on the map attached directly to this motion as Exhibit A (or alternatively on the map attached directly to this motion as Exhibit B).¹⁴

Plaintiffs contend that either alternative definition of the proposed class meets the requirements of Rule 23(a) and Rule 23(b)(3). With this proposed definition, Plaintiffs presumably seek to show that persons owning property found within either of these metes and bounds map descriptions have suffered a common injury by virtue of “being in the vicinity of, or being under the future threat of [environmental] contamination” caused by Pratt & Whitney [DE 265, p. 12].

The putative class representatives in *Cotromano* are five married couples who own or owned residential properties in the Acreage, all of whom have a child that was declared to be a

¹⁴ Plaintiffs’ alternative proposed class, shown on the Ex. B map, is a slightly smaller area consisting of 15,663 parcels in the Acreage. This area corresponds with the cancer cluster identified by the Florida Department of Health and the definition originally proposed by the *Cotromano* plaintiffs in their Second Amended Complaint [DE 79 p. 5, DOH Report 10, p. 23-24].

member of the pediatric brain tumor cluster designated by the Florida Department of Health.¹⁵ In *Adinolfi*, the proposed class representatives are two individual property owners, Joseph Adinolfi and Kay Samson, who claim a diminution in value of their property as a result of environmental stigma caused by UTC which clouds their property.

Pratt & Whitney argues that class certification is inappropriate because the putative class representatives' claims are not typical of all injuries of the proposed absent class members (who are not claiming personal injury). They also object that the proposed class area is overbroad and insufficiently defined, without reference to a common injury from a common cause, and is therefore not "ascertainable." Defendant's primary objection, however, goes to the predominance and superiority requirements of Rule 23(b)(3). It asserts that individual issues touching on the measure of damages, the causation of each class member's damage, and defenses to be raised against such claims (e.g. statute of limitations) predominate over any common issues that exist. It also contends that Plaintiffs' mass appraisal technique for assessing property damage is not a valid formulaic or mathematical method that would be appropriate for a class action under the facts of this case. Finally, Defendant asserts that a class action is not a superior vehicle for adjudication of Plaintiffs' claims because absent class members have a strong interest in controlling their own claims, which are significant.

As noted, the Court held a lengthy evidentiary hearing on the Plaintiffs' Motion for Class Certification from January 8, 2018 through January 12, 2018. In the wake of that hearing, the Court directed both sides to submit written summations, in addition to proposed findings of fact and conclusions of law. The purpose of this post-hearing supplementary briefing was to provide

¹⁵ The named plaintiffs in this group include: Richard and Bethany Cotromano (76th Road); Frank and Paulette DeCarlo (80th Lane North); Joyce and Bill Featherson (80th Lane North); Gregory and Jennifer Dunsford (85th St. North); Robert and Tracy Newfield (Banyan Blvd). The Dunsfords and Cotromanos sold their homes at a short sale after the FDOH included their homes in the pediatric brain tumor cluster declared in February 2010; the Feathersons lost their property in a foreclosure action after losing their child, Michael Beratta, to cancer.

an opportunity for the parties to streamline their arguments, and to designate specific exhibits and specific portions of the relevant depositions or live testimony they wish to be considered in support of or in opposition to the class certification motion. The parties have since submitted supplemental briefing, which to a limited degree, furthers this objective, and Plaintiffs' motion for class certification is now properly before the Court for disposition.

When an expert's report or testimony is "critical" to class certification, the court is bound to make a conclusive ruling on any *Daubert* challenge to that expert's qualifications or submissions before it may rule on a motion for class certification. *Sher v. Raytheon Co.*, 419 Fed. Appx. 887 (11th Cir.2011) citing *American Honda Motor Co v. Allen*, 600 F.3d 813 (7th Cir. 2010). This obligation applies whether the Court grants or denies certification, requiring a *Daubert* ruling on any expert opinion which touches upon or issues critical to the Court's class certification decision. *Messner v. Northshore University HealthSystem*, 669 F.3d 802, 812-13 (7th Cir. 2012).

In this case, the Court focuses its analysis on Plaintiffs' proffered expert witness on class-wide damages, Dr. John Kilpatrick. Dr. Kilpatrick holds a Ph.D in Real Estate Finance and is a licensed certified real estate appraiser in all fifty states. Plaintiffs tender Kilpatrick in effort to demonstrate that damages in this putative class action, encompassing approximately 18,000 property owners, are susceptible to calculation on a class-wide, uniform basis throughout the proposed class area by application of "mass appraisal" methodology. Because Kilpatrick's testimony is critical to the elements of commonality and predominance under Rule 23(b)(3), the Court must examine his opinion testimony to determine whether the underlying methodology shows some hallmarks of reliability for purpose of ruling on the threshold *Daubert* challenge to

it. *See generally In re Polypropylene Carpet Antitrust Litigation*, 996 F. Supp. 18, 26 (N.D. Ga. 1997).

Having done so, relying in part on the critique of Kilpatrick's methodology proffered by defense rebuttal expert, John Hauser, Sc.D., the Court finds Dr. Kilpatrick's opinions on class-wide diminution in value calculations does not satisfy *Daubert* and is appropriately excluded under application of Rule 702. Without Kilpatrick's testimony,¹⁶ Plaintiffs cannot satisfy the predominance and superiority requirements of Rule 23(b)(3), as discussed in more detail below, and cannot carry their burden of proof under Rule 23, compelling defeat of their motion for class certification.

IV. ANALYSIS - RULE 23 CLASS CERTIFICATION ISSUES

A. Rule 23(a) Standard

Class actions are an exception to the rule that litigation is ordinarily conducted on behalf of individually named parties. *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 348 (2011). To obtain class certification, parties must satisfy Rule 23(a)'s four threshold requirements, as well as the requirements of Rule 23 (b) (1), (2) or (3). *Maldonado v. Ochsner Clinic Foundation*, 493 F.3d 521, 523 (5th Cir. 2007).

Rule 23(a) sets forth the following prerequisites for class certification:

- (1) the class is so numerous that joinder of all members is impracticable;
- (2) there are questions of law or fact common to the class;
- (3) the claims or defenses of the representative parties are typical of the claims or defenses of the proposed class members and
- (4) the representative parties will fairly and adequately protect the interests of the class.

¹⁶ Because elimination of Kilpatrick defeats the class certification motion, it is unnecessary for Court to address the numerous *Daubert* motions directed to the liability and causation experts on both sides at this juncture.

Fed. R. Civ. P. 23 (a). *See Valley Drug Co. v. Geneva Pharmaceuticals, Inc.*, 350 F.3d 1181, 1188 n. 15 (11th Cir. 2003); *Brown v. Electrolux Home Products, Inc.*, 817 F.3d 1225, 1233 (11th Cir. 2016).

A district court is obligated to undertake a “rigorous analysis” to ensure that all requirements of Rule 23(a) are met, *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 131 S. Ct. 2451, 2551, 180 L Ed.2d 374 (2011), and to resolve all conflicts in the evidence necessary to make the requisite findings on the elements set forth in Rule 23. *Comcast Corp. v. Behrend*, 569 U.S. 27, 133 S. Ct. 1426, 1432, 185 L.Ed. 2d 515 (2013).

In addition to the Rule 23(a) requirements, parties seeking class certification must show the proposed class is “adequately defined and clearly ascertainable” in order to demonstrate standing, *Prado-Steiman v. Bush*, 221 F.3d 1266, 1279 (11th Cir. 2000); *Carriuolo v. General Motors Co.*, 823 F.3d 977, 984 (quoting *Little v. T-Mobile USA, Inc.*, 691 F.3d 1302, 1304 (11th Cir. 2012), and they must satisfy one or more prongs of Rule 23(b).

Here, Plaintiffs invoke Rule 23(b)(3), which allows a class to be certified if “the court finds that the questions of law or fact common to class members predominate over any questions affecting only individual members, and that a class action is superior to other available methods for fairly and efficiently adjudicating the controversy.” Fed. R. Civ. P. 23(b)(3). In evaluating Rule 23(b)(3)’s predominance and superiority requirements, the Rule prescribes “[t]he matters pertinent to these findings” to include:

- (A) the class members’ interest in individually controlling the prosecution or defense of separate actions;
- (B) the extent and nature of any litigation concerning the controversy already begun by or against class members;

(C) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; and

(D) the likely difficulties in managing a class action.

Fed. R. Civ. P. 23(b)(3).

In assessing a motion for class certification, the court is mindful that “it is the party seeking certification that bears the burden of establishing that the requirements of Rule 23 have been met,” *Gene & Gene LLC v. BioPay LLC*, 541 F.3d 318, 325 (5th Cir. 2008), and it is within the district court’s discretion to certify a class, a decision that it reviewed only for an abuse of that discretion. *Anderson v. U.S. Dept. of Housing & Urban Development*, 554 F.3d 525 (5th Cir. 2008).

Further, in conducting its “rigorous analysis” of the Rule 23 pre-requisites, the court may look past the pleadings to see if the requirements are met – indeed, going beyond the pleadings is necessary, because the court must understand the claims, defenses, relevant facts and applicable substantive law in order to make a meaningful determination of the certification issues. *O’Sullivan v. Countrywide Home Loans*, 319 F.3d 732 (5th Cir. 2003).

1. Ascertainability of the Proposed Class

A party seeking class certification “must establish that the proposed class is adequately defined and clearly ascertainable.” *Little v. T-Mobile USA, Inc.* 691 F.3d 1302, 1304 (11th Cir. 2012). This means the class must be defined “by reference to objective criteria,” *Bussey v. Macon Cty. Greyhound Park, Inc.*, 562 Fed. Appx. 782, 787 (11th Cir. 2014) (quoting *Fogarazzo v. Lehman Bros., Inc.*, 263 F.R.D. 90, 97 (S.D.N.Y. 2000), and, as defined, must include a common claim for injury attributable to a common cause (the defendant’s conduct). *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 349-50. See also Federal Judicial Center Manual for Complex Litigation § 21.222 (4th ed. 2004) (class definition must be “precise, objective, and

presently ascertainable..... An identifiable class exists if its members can be ascertained by reference to objective criteria. The order defining the class should avoid subjective standards ... or terms that depend on resolution of the merits ...”). The district court has discretion to redefine the class to cure a deficiency in the proposed class, *see Benefield v. Int’l Paper Co.*, 270 F.R.D. 640, 645(M.D. Ala. 2010), but Plaintiffs “must propose an administratively feasible method by which class members can be identified.” *Karhu v. Vital Pharms., Inc.* 621 Fed. Appx. 945, 947 (11th Cir. 2015) (unpub).

The proposed class definition here is stated as:

All persons who, on August 24, 2009 (or alternatively on February 1, 2010) owned residential property within the neighborhood in Palm Beach County, Florida, known as The Acreage, as defined on the map attached directly to this motion as Exhibit A (or alternatively on the map attached directly to this motion as Exhibit B).

The first proposal matches the exact boundaries used by Palm Beach County and FDOH in conducting the cancer cluster investigation (advanced by the *Cotromano* plaintiffs), while the alternative proposal expands those boundaries to include “two disjointed sections of the official Acreage” and to “add[] some neighborhood blocks” found adjacent to “the official Acreage” (advanced by the *Adinolfe* plaintiffs). That is, Plaintiffs seek to certify a class consisting of all persons who owned property on certain dates (tethered to the timing of Palm Beach County’s cancer cluster investigation and announcements) within certain metes and bounds related to FDOH-defined cancer cluster boundaries. Properties within these metes and bounds (for the smaller proposed class), or in the general vicinity of these bounds (for the larger proposed

class),¹⁷ are, according to Plaintiffs, “area[s] affected by the stigma of environmental contamination” [DE 428 p. 11].

The Court finds both definitions to be over-inclusive, and even assuming the admissibility of expert liability evidence on groundwater and soil migration, and considering Plaintiffs’ evidence of sporadic contamination spots in Acreage locations, the Court is disinclined to refine the definition because it finds no means of doing so, using objective criteria, on this record.

Plaintiffs’ groundwater expert, Daniel Stephens, expressed doubt that the whole area delineated by Plaintiffs as “the Acreage” has contamination. He testified it was theoretically possible that trace amounts of chemicals could travel via the aquifer, along the “preferred pathway” to discrete locations miles south of Pratt & Whitney’s facility, but did not define any areas of actual, or threatened contamination, that correspond to the proposed class area. For example, he identified only four “estimated” detections of I, 4-dioxane in the proposed class area, and acknowledged that the “vast majority” of results from the testing in the 60-square mile were “non-detects.” Plaintiffs’ other groundwater transport expert, Philip Bedient, did not define the contours of the proposed area by reference to actual contamination, or proximity to it, but instead relied on a handful of sporadic detections of chemicals across the 60-square mile area, conceding these sporadic detections do not indicate the presence of contamination at other properties within the Acreage.

Plaintiffs’ real estate appraisal expert, John Kilpatrick, opined about the metes and bounds of what he believed to be the “Acreage community,” derived from his survey research, based on informal interviews with local realtors and inhabitants of similar semi-rural

¹⁷ Plaintiffs rely on their expert hydrogeologists, Daniel Stephens and Philip Bedient, and property appraiser, John Kilpatrick, to support their alternative definitions of the two proposed class areas.

communities such as Jupiter Farms and Palm Beach Country Estates. He admitted, however, that his metes and bounds description of the proposed class area, including the entirety of the area colloquially known as “the Acreage,” had nothing to do with areas actually affected by contamination, and that he took no steps to assess what market participants perceived to be the extent of contamination at locations within the Acreage. He was also unable to identify any survey methodology by which an appraiser could define a geographic area affected by the “stigma” of environmental contamination.

None of Plaintiffs’ experts, then, connect the metes and bounds of the proposed class area to danger posed by soil or water contamination attributable to conduct of the Defendant, and in this sense, offer nothing meaningful on the threshold ascertainability issue. Plaintiffs simply argue, without evidentiary support, that each named putative class representative is similarly affected by CCOCs that migrated off-site from the Pratt & Whitney Campus because they own property which shares a common aquifer with that underlying the Pratt & Whitney site, and is situate in some amorphous zone of “vicinity” to contamination detections (of different types and levels) at different sporadic locations throughout the Acreage.

However, a definition based on general physical proximity to the Pratt & Whitney site (within a five to fifteen mile southern trajectory) or indeterminate distances from properties in the Acreage revealing detections of any variety of CCOCs alleged to have migrated there from the Pratt & Whitney site – untethered to evidence of exposure or dose reconstruction data for each individual in the proposed class and medical evidence establishing a health risk posed by that exposure – does not supply the requisite “objective criteria” needed to define a class by reference to a common injury attributable to a common cause.

Plaintiffs contend that the general public and relevant real estate market harbor *a perception* that there is an elevated risk to human health posed by residing near industrial operations known to have released harmful contaminants into the groundwater (shared aquifer) and soil -- a fear allegedly created by Pratt & Whitney through its mishandling of contaminants at its site -- and that the class of property owners negatively affected by this “perception” may be captured here by drawing a line around nearby residential neighborhoods and communities loosely defined as “the Acreage.” [DE 293, pp. 4-5]. The problem with this premise is that a public fear or perception of risk of environmental contamination is not an objective criteria by which to define an ascertainable class holding actionable tort claims against the alleged polluter --this follows because the claims are not actionable unless the polluter’s alleged created dangerous dose exposures, measured in terms of risk to human life, to persons residing within specified geographical zones.

Under the view advanced by Plaintiffs, “environmental stigma” could attach due to an entirely unfounded and unreasonable perception of fear of environmental harm posed by negligent, accidental or even intentional contaminant spills or releases at nearby properties. However, engaging in conduct which causes a subjective, unreasonable fear of environmental danger is not actionable (e.g. a spill occurs, is completely remediated and poses no exposure risk under any heightened scientific standard, but the public still harbor concerns and the environmental stigma continues to cloud neighboring property as a result). Exposing people in neighboring communities to dangerous doses of contaminants through mishandling of CCOCs is an actionable harm.

In this case, there is no class-wide evidence of the dangerous exposure levels.

On the issue of risk, Plaintiffs' proffered Dr. Arie Perry, M.D., a neuropathologist with expertise in pediatric cancer, to give an opinion on the medically recognized causes for "increased incidence" of pediatric brain tumors of the type found in the Acreage. Dr. Perry testified, based on extensive review of epidemiological data, that radiation is recognized as the most well-established external carcinogen relative to pediatric brain tumors, and he confirmed the well-known association between brain tumors and high-dose ionizing radiation.

Dr. Perry stated he was not asked to give opinion on causation of any individual case. However, he explained he was not given any information regarding specific doses of radiation for any individual in the proposed class area. Therefore, he had no basis to compare the exposure Plaintiffs' allegedly suffered to the relevant medical literature [DE 363-7, ¶5c]. Also, Dr. Perry did not opine that exposure to radiation in water or soil (in any level) could result in a dose to the brain.

Without class-wide dose reconstruction data, there is no objective manner by which Defendant's alleged misconduct could be logically tethered to *all* property owners in the 60-square-mile expanse of the proposed class area covering 18,000 homes. If Plaintiffs could identify discrete locations in or near Acreage properties which were contaminated by CCOCs at dose levels posing a risk to human health for persons residing within prescribed geographic distances of those contaminants, they might supply this missing evidentiary link, and possibly propose an ascertainable class (based on an objectively-measured geographic zone of danger).¹⁸

¹⁸ Plaintiffs correctly assert, under *Adinolfi, supra*, that they are not required to prove class-wide contamination of the properties in order to state actionable claims against Pratt & Whitney. However, they are obligated to proffer a class definition, based on objectively reasonable criteria, that identifies a class of persons suffering a common injury from a common cause attributable to Defendant. Vaguely owning property "in the vicinity of" contamination released by Defendant is not an objectively reasonable yardstick, as it offers no objectively reasonable criteria by which to identify property likely damaged by environmental "stigma" created by Defendant (as opposed to stigma attaching due to public perceptions not logically related to harmful conduct attributable to Defendant).

However, as this cannot be accomplished without an entire restructuring of the evidence, the Court finds it impossible to re-draw the geographical boundaries of the proposed class on this record and shall deny the motion to certify the class due to failure to demonstrate ascertainability.

Put another way, while a definable class may, as a general proposition, be established by geographic boundaries,¹⁹ it is not possible to do so here because the geographic boundaries of the proposed class are not tied to exposure contours demonstrated to be dangerous to human life. Compare *Yslava v. Hughes Aircraft Co.*, 845 F. Supp. 705, 712 (D. Ariz. 1993) (plaintiffs seeking damages for contamination of groundwater rationally defined proposed class with sufficient precision, where they delineated twenty-four separate subgroups representing precise geographic areas where plaintiffs lived, worked or went to school, and alleged that persons within specified areas were exposed to contaminated water) with *Daigle v. Shell Oil Co.*, 133 F.R.D. 600, 602-03 (D. Col. 1990) (rejecting class against oil company defined by geographic boundaries where plaintiffs “failed to identify any logical reason relating to the defendant’s activities” at toxic waste disposal pond).

Assuming, arguendo, that Plaintiffs’ proposed class definition is adequate, or could somehow be redefined to satisfy ascertainability, the Court shall proceed to examine the adequacy of Plaintiffs’ showing on Rule 23(b)(3)’s predominance element.

¹⁹ *In re Methyl Tertiary Butyl Ether (“MTBE”) Prods. Liab. Lit.*, 2007 WL 541954 at *1 (S.D.N.Y. 2007) (class defined as those living in vicinity of those owners whose property was actually contaminated); *Boggs v. Divested Atomic Corp.*, 141 F.R.D. 58 (S.D. Ohio 1991) (class defined as persons living within six miles of radioactive materials plant, where class representatives alleged personal well-being was affected by exposure to radioactive materials and that property interests were damaged by contamination); *Cook v. Rockwell Int’l Corp.*, 151 F.R.D. 378, 382 (D. Col. 1993) (certifying class defined by geographic boundaries based on dose or exposure contours of radioactive and non-radioactive materials)

B. Rule 23(b)(3) Inquiry: Predominance

The predominance inquiry is more demanding than the commonality requirement of Rule 23(a) and requires courts to consider how a trial on the merits would be conducted if a class were certified. This, in turn, entails identifying the substantive issues that will control the outcome, assessing which issues will predominate, and then determining whether the issues are common to the class, a process that ultimately prevents the class from degenerating into a series of individual trials. *Madison v. Chalmette Refining, LLC*, 637 F.3d 551 (5th Cir. 2011).

Whether common issues predominate and whether the class action is a superior method to resolve the controversy requires an understanding of the relevant claims, defenses, facts and substantial law presented in the case. This requirement, though reminiscent of the commonality requirement of Rule 23(a), is “far more demanding” because it “tests whether proposed class is sufficiently cohesive to warrant adjudication by representation.” *Unger v. Amedisys, Inc.*, 401 F.3d 316, 320 (5th Cir. 2005). Under this standard, the issues in the class action that are subject to generalized proof, and thus applicable to the class as a whole, must predominate over those issues that are subject only to individualized proof. Common issues can predominate only if they have a direct impact on every class member’s effort to establish liability that is more substantial than the impact of individual issues in resolving the claims of each class member.

Plaintiffs rely primarily on the expert report and opinion of Dr. John Kilpatrick, Ph.D., MAI, FRICS, to establish predominance regarding property damages. Dr. Kilpatrick is an expert in real estate appraisal, and his expert report describes the method by which he proposes to calculate class-wide stigma damages for the estimated 18,000 properties located in the proposed class area. He recommends a mass appraisal technique because this method would achieve

economies of scale in calculating property values before and after news of environmental contamination allegedly generated from Pratt & Whitney became public.²⁰

In his direct testimony affidavit, Kilpatrick opines: “My opinion remains that the Acreage neighborhood, was and remained diminished because the brain cancer cluster increased awareness of the historical contamination at the UTC campus and its connectivity to the Acreage potable water supply, a surficial aquifer, such that the area suffers a stigma that has reduced property value.” [DE 363-15].

The Defendant has moved to exclude the testimony of Dr. Kilpatrick under *Daubert*, and has proffered the testimony of John Hauser, Sc.D, in rebuttal. Plaintiffs have likewise moved to exclude testimony of Hauser. These *Daubert* challenges are assessed in the discussion which follows.

1. Standard of Review

Federal Rule of Evidence 702 provides that courts may admit expert testimony if it is both relevant and reliable:

If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion or otherwise 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.

See also Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 592 n. 10, 113 S. Ct. 2786, 125 L.Ed.2d 469 (1993) (proponent of expert testimony must prove admissibility by a preponderance

²⁰ Dr. Kilpatrick used six different methodologies to provide what he calls a “mass appraisal” of property value diminution in the proposed class area. He purports to have drawn his opinions from hedonic regression modeling, survey research, sales trend or transactional evidence, meta-analysis, literature review and case studies. He uses each of these six methodologies to conclude that the value of the 18,000 parcels in the proposed class area has uniformly diminished between 25% and 40% as a result of “stigma” caused by the properties’ proximity to environmental contamination caused by Pratt & Whitney.

of the evidence). The Third Circuit has described Rule 702 as the embodiment of “a trilogy of restrictions” that expert testimony must meet for admissibility: qualification, reliability and fit. *Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 404 (3d Cir. 2003).

In considering reliability, a court may consider an expert’s failure to account for obvious alternative explanations.” *Munoz v Orr*, 200 F.3d 291 (5th Cir. 2000); *Blomkest Fertilizer, Inc. v Potash Corp. of Saskatchewan*, 203 F.3d 1028 (8th Cir. 2000). The issue on “fit,” in turn, goes to “whether expert testimony proffered ... is sufficiently tied to the facts of the case [so] that it will aid the jury in resolving a factual dispute.” *Daubert*, 509 U.S. at 592 (quoting *United States v Downing*, 753 F.2d 1224, 1242 (3d Cir. 1985). Fit requires a “connection between the scientific research or test result to be presented and particular disputed factual issues in the case.” *In re Paioli R.R. Yard PCB Litigation*, 35 F.3d 717, 743 (3d Cir. 1994). The standard for fit is “not that high,” although it is “higher than bare relevance.” *Id.* at 745.

To determine whether an expert’s proposed testimony is reliable, a trial judge may consider (1) whether it can be tested or whether it is purely subjective; (2) whether it has been subject to peer review and publication; (3) the known or potential rate of error; (4) the existence and maintenance of controls, and (5) whether the method it has been generally accepted in the scientific community. *See Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 149-50, 119 S. Ct. 1167, 143 L.Ed.2d 238 (1999). Under these factors, experts are not allowed to engage in haphazard, intuitive inquiry, and they must explain the research and methodology they employed in sufficient detail in order to allow the other party’s expert to test that hypothesis. *Oddi v. Ford Motor Co.*, 234 F.3d 136 (3d Cir. 2000).

With these precepts in mind, the analysis turns to the admissibility of testimony from John Kilpatrick, Ph.D., Plaintiffs’ damage expert in the calculation of class-wide damages.

2. Dr. John Kilpatrick

Dr. Kilpatrick attempted to calculate the effect that “increased awareness of the historical contamination at the UTC campus” has had on the present market value of the putative class members’ homes. He opined that it is feasible to perform a class-wide “mass appraisal” approach to determine the diminished value of the properties due to this environmental stigma. As defined by Kilpatrick, a mass appraisal model is a method of simultaneously and systematically valuing a large number of properties. He states that the majority of properties in the Acreage community are either single family detached residences, or vacant residential land, and contends that “[t]his extraordinary degree of homogeneity is further evidence of the applicability of a mass appraisal model” in this case [DE 363-15].

Kilpatrick’s damage calculation is based on a simple formula: (1) unimpaired value of the property, minus (2) impaired value of the property, equals diminution in value.

Kilpatrick derives his unimpaired value from sales trend data which existed as of February 10, 2010, a date which coincides with the Palm Beach County Health Department’s announcement of a cancer cluster in designated neighborhoods within the loose association of communities known as “The Acreage.”

Kilpatrick’s method for determining impaired value is more involved, deriving from six methodologies: sales trend data analysis; contingent valuation analysis; academic literature review; case study review; informal survey research of market participants (local residents, real estate brokers and lending institutions) and a meta-analysis.

Beginning with the sales trend analysis, Kilpatrick explains that he compared sales trends in the Acreage with those in “similar, unaffected control” areas supposedly similar in buyer-appeal (Palm Beach Country Estates, Jupiter Farms) to see if home property values moved in the

same direction in the same degrees, beginning with sales data from the end of 2008 and continuing up through 2016.

As to valuation dips occurring before the cluster was announced in February 2010, Kilpatrick explains away this occurrence as due to “information leakage,” i.e. the market’s reaction to word-of-mouth health care concerns circulating throughout the Acreage before the government announced the cluster. And, while his original report referenced a precipitous falling off in values as a reflection of public concern attending the “cancer cluster” designation; in his direct testimony affidavit and hearing testimony presented at the class certification hearing, he shifted away from this verbiage, now stating that the drop reflected the market’s reaction to environmental stigma associated with Pratt & Whitney’s nearby industrial operations. Attempting to explain this shift, Kilpatrick contends that his earlier reference to a “cancer cluster” was simply mnemonic or “shorthand” for “fear of contamination” – what he now claims drove the drop in real estate values after February 2010.

Kilpatrick conducted a single web-based (online) contingent valuation survey, administered through an independent firm which purchased email addresses for residents of Palm Beach County living outside the three zip codes covered the area known as the Acreage. He invited recipients to respond through an email containing a link to the web-based survey. After receiving 600 responses, the survey was closed and the data delivered to another firm retained to collect and process the data (Wilkins Research Services LLC) in Chattanooga, Tennessee.

In a contingent valuation survey, market participants are asked what they would be willing to pay for something contingent on a certain factor. Kilpatrick describes it as “a way to determine the value of a condition by asking people questions about that condition” [DE 363-15

p. 7]. In this case, Kilpatrick asked survey participants how much they would be willing to pay for a house that was in a neighborhood declared a “cancer cluster” zone by the Florida Department of Health due to high rates of pediatric brain cancer in the area, a phenomenon that “some local residents” suspected was due to contamination from the nearby Pratt & Whitney facility.

He provided survey participants with a “Fact Card” stating that Pratt Whitney has been the focal point of “cleanup activities” since early 1980s, including “clean up chemicals, hazardous wastes, including cancer causing agents, oil, sodium cyanide, asbestos and mercury.” [DE 373-1, p. 10]. The Card recites that “spills and leaks at the site caused chemicals and wastes to seep into the soil and groundwater at the Pratt & Whitney property, and that the chemicals eventually migrated off-site, to the Corbett Wildlife Refuge and The Acreage neighborhood. The Card states that Florida Department of Environmental Protection initially suspected the presence of 24 contaminants in the area and did “some limited testing” in early 2010, but ultimately reported that they did not find carcinogen levels that would cause pediatric brain cancer. It added that the Center for Disease Control explained, in a letter to Acreage residents, that it is not easy to make an association between cancer and environmental exposures due to factors of origin and long induction periods for most cancers.

The respondents overwhelmingly reported a very low “willingness to pay” as tabulated in Dr. Kilpatrick’s schedule. For example, of the respondents asked if they would purchase a residence in the Acreage for 15 percent of the value of their current residence, only 10 percent of respondents answered “yes,” meaning 90% would presumably refuse an opportunity to buy a residence similar to their own in the Acreage at an 85 percent discount.

After weighing the results from the contingent value survey, informal interviews, sales trend analysis and other methodologies employed, Dr. Kilpatrick ultimately identified an “estimate[d]” diminution in value in the range of 25% to 40%” for all Acreage homes, a calculation he finds “within a reasonable degree of appraisal certainty “and correlates to the market’s perception and fears of environmental contamination posed by living in proximity to industrial operations at the nearby Pratt & Whitney site. In his direct testimony affidavit, he expressed an intent to later produce these values on a “property by property basis” within the class area as the case moves forward [DE 363-15 pp. 2-3], and at the class certification hearing, he similarly testified he plans to perform additional survey research to validate his diminished value calculations, looking at specific pricing and transactional data for homes in the proposed class area. He further explained that he has not yet run this model because he is waiting for the Court’s determination of the class boundaries and ownership cut-off date in order to focus his efforts on the actual absent class members.

Defendant challenges the reliability of all of Kilpatrick’s methodologies. To rebut Kilpatrick’s proffered damage calculations, Defendant tendered the testimony of John Hauser, Sc.D., a Professor of Marketing at the Massachusetts Institute of Technology of (“MIT”) Sloan School of Management [DE 373-1], proficient in the evaluation of consumer decision-making processes across a wide range of industries, products and services. Hauser is a pioneer and recognized expert in the evolution of “conjoint analysis” (“CA”), a survey tool which asks consumers multiple choice questions in context, a presentation designed to minimize respondent bias. He explains that “contingent valuation” (“CV”) surveys, such as that used by Dr. Kilpatrick in this case, instead ask a consumer a single choice question based on a “Fact Card,”

and that Kilpatrick's CV methodology is in essence a "much-simplified and outdated version of choice-based CA [conjoint analysis] methodology" [DE 373-1].

Dr. Hauser's direct testimony affidavit more specifically challenges the reliability of Kilpatrick's contingent value survey on grounds that: (1) the fact card is inaccurate (recites matters not fitting facts of the case); (2) the fact card is misleading, presenting respondents with only negative information about the community, without mentioning any of the positive attributes that draw buyers to semi-rural communities of this kind; (3) Kilpatrick sampled the wrong population – i.e. he drew respondents from a wealthier, more educated and older population than the proposed class of Acreage residents who likely live in locations which differ from the Acreage in fundamental ways unrelated to the present allegations --- and the sample is therefore not representative of potential home buyers in the proposed class area; (4) Kilpatrick used the incorrect formula to estimate average "willingness-to-pay" and he failed to follow established protocol established by the authority (Hanemann paper) on which he supposedly relied in making those calculations. Under application of the correct formula, following the Hanemann paper, Hauser contends the CV survey conducted by Kilpatrick would suggest a diminution estimate of roughly 203 percent of property value (meaning a buyer would need to be handed an Acreage house for free, plus a substantial cash lump sum payment, before agreeing to live in the Acreage), which, Hauser contends, is nonsensical; (5) the CV survey fails to consider demand and supply in a competitive market, resulting in an exaggerated diminution estimate; (6) Kilpatrick failed to conduct a "pre-test" of his Fact Card to eliminate or minimize introduction of bias or confusion in the survey design.

Plaintiffs, in turn, challenge the admissibility of Hauser's opinions under *Daubert*, contending Hauser lacks the requisite qualifications to opine about real estate appraisal matters

because, unlike Kilpatrick, Hauser is not a certified real estate appraiser and he has no background in conducting consumer research in real estate or environmental damage contexts.

The Court begins with the *Daubert* challenge addressed to Hauser. First, none of the opinions offered by Hauser relate to real estate financial transactions, and his lack of background in appraisal activity does not necessarily defeat his qualifications to comment on the validity of Kilpatrick's survey methodology. He is a well-recognized expert in marketing science and research, specializing in the study of human judgment and decision-making in the consumer context [DE 373-1, 373-2], and with this background is well-qualified to testify as an expert regarding the validity of the contingent valuation survey that is the lynchpin of Kilpatrick's diminution opinion.

Given Dr. Hauser's expertise and extensive experience in consumer decision-making and opinion research, including the design, implementation and performance of consumer surveys, the Court finds his lack of real estate appraisal credentials to go to the weight, not to the admissibility of his testimony, and finds him fully qualified to comment on the reliability and validity of the methodology employed by Plaintiff's damage expert in conducting the contingent valuation survey underpinning his calculations. The Court therefore concludes, by a preponderance of the evidence, that Hauser has the requisite knowledge and experience to opine about the consumer-choice survey methodology used by Kilpatrick in this case, and denies Plaintiffs' motion to exclude his testimony under *Daubert*.

The Court next proceeds to consider Hauser's specific critiques of Dr. Kilpatrick "CV" survey methodology, as detailed below, and finding his opinions persuasive, shall grant Defendant's motion to strike Kilpatrick's testimony.

Dr. Kilpatrick's Fact Card, designed to elicit and gauge consumer response to environmental issues attending Acreage properties, consisted of four paragraphs and included a statement purporting to describe "a situation that is affecting a community in Florida." The card featured an aerial photograph of Pratt & Whitney's plant, even though the facility is not visible from any vantage point within the Acreage. The card mentions cancer repeatedly, and asserts that Pratt & Whitney contaminated the Acreage with various "cancer-causing agents." In the 19 sentences employed, the Card makes ten references to "cancer" or a "cancer cluster," and one reference to "carcinogens."²¹ The card also supplied information not publicly available to actual buyers; it mentions the county government investigation into a cancer cluster in the area, stating that the investigation was based on a "limited" study and did not result in finding of a causal link. The card also did not include language from the FDOH final report describing the Acreage as a "safe place to live" with water quality that is "generally good."

Further, Kilpatrick's Fact Card mentioned several chemicals and hazardous waste materials allegedly present in Acreage, which *are not* consistent with Plaintiffs' allegations or expert testimony, or the actual facts of the case, such as "oil, sodium cyanide, asbestos and mercury and petroleum." These are *not* CCOCs that Plaintiffs allege were generated by Pratt & Whitney and migrated to the Acreage.

Hauser opines that the cumulative effect of Dr. Kilpatrick's erroneous statements and negative representation of the Acreage in the Fact Card was likely to create "demand artifacts"

²¹ Years after conducting the CV survey (2011), Kilpatrick testified, in his April 2016 deposition given in this case, that he could remove the "cancer cluster" reference in the FACT Card without affecting the respondents' answers, because this expression was essentially mnemonic, or synonymous, with environmental contamination. In direct testimony given in support of the class certification motion, he similarly shifted the slant, stating that cancer cluster effectively increased public awareness of the historical contamination at the UTC campus and the relation of that contamination to the Acreage water supply. The Court views Kilpatrick's assumptions about import of "cancer cluster" phraseology as entirely speculative and assigns no merit to them here. His proposed "mnemonic" interchange of "cancer cluster" for "environmental contamination" is rejected as patently not equivalent.

that skewed responses by revealing or hinting at the objective of the survey to the respondents. That is, by misrepresenting the history of the FDEP investigation, underplaying the conclusions of the FDOH, and making repeated reference to cancer, cancer clusters, and carcinogens, the Fact Card implies that Pratt & Whitney caused the cancer cluster designation, a negative implication reinforced by reference to contaminants that Plaintiffs never alleged were present at the Acreage. And with the use of an aerial photograph of the Pratt & Whitney plant – these all provide “non-subtle hints” to the respondents that they were expected to have a negative view of the Acreage properties. Thus, these “demand artifacts” likely encouraged respondents to express extremely negative views of Acreage properties and skewed the results.

The Court agrees that these defects in the design and implementation of Kilpatrick’s CV survey are fundamental flaws which render the survey incapable of generating a reliable estimate of any alleged diminution in Acreage property values,²² and finds Kilpatrick’s diminution in value opinion, heavily relying on this research, inadmissible under *Daubert* and Rule 702.

The Court also finds the secondary foundation of Kilpatrick’s diminution opinion – the sales trend analysis -- to be fundamentally flawed. Kilpatrick admits his methodology for calculating “impaired values” from sales trend data in this area is not statistically rigorous or reliable, and admits there are ways to validate such an analysis that he did not perform in this case. His methodology oversimplifies the complex factors that influence home pricing trends, as it makes no accommodation for consideration of important individual variables that typically

²² Kilpatrick’s effort at validating the results with “informal surveys” of real estate agents, residents of the Acreage and local residents of Palm Beach County do not cure or avoid these fundamental flaws. In 2011, his team recorded local interviews revealing a stated concern about the impact of the cancer cluster designation in the Acreage. In later reports prepared in anticipation of the instant proceeding, Kilpatrick changed the characterization of what the interviewee reported, saying they expressed a more general concern about Pratt & Whitney contamination of groundwater north of the Acreage. He made these changes without speaking to the staff that conducted the interviews, and defended the changes on his earlier-expressed and rejected rationale: that the words “cancer cluster” are merely a “mnemonic” device and are effectively understood to mean “environmental contamination” caused by the Pratt & Whitney industrial neighbor to the community.

influence home values, such as age, size, condition or property uses. Nor did Kilpatrick explain a logical basis for drawing a causal inference from any perceived price trends in the time frame examined. Kilpatrick admits a “widening gap” in average price per square foot started to occur in the Acreage as early as 2007 or 2008, when a sudden economic downturn in the real estate market had an undisputed effect on Florida real estate markets state-wide, and he recognized that this event preceded the proposed class cut-off dates employed in his analysis.

Thus, the Court agrees that Kilpatrick cannot reliably use sales trend analysis to determine a single percentage diminution for the entire proposed class area, containing almost 18,000 properties (15,000 under the secondary definition proposed), and that the mass appraisal methodology proposed by him simply does not fit under the facts of this case. The affected community is not remarkably homogeneous, as he originally claimed, but rather includes a wide variety and scale of homes (equestrian farms, up-scale villas, simple ranch houses) of various ages, sizes and conditions – diverse properties which are not logically impacted in the same way by the alleged environmental stigma which Plaintiffs contend attaches by virtue of their general proximity to contaminated properties at the UTC site or at localized areas within the Acreage.

Due to the scientific unreliability of Kilpatrick’s sales trend analysis and CV survey results, the Court grants UTC’s motion to exclude Kilpatrick’s proffered testimony on class-wide diminution in property values. Without this testimony, Plaintiffs are unable to satisfy the predominance element of Rule 23(b), compelling defeat of their current motion for class certification.

3. Even assuming, *arguendo*, the admissibility of Kilpatrick’s testimony, Plaintiffs cannot satisfy the predominance element.

Even if the Court has erred in any aspect of its *Daubert* analysis of Kilpatrick’s testimony, and assuming the admissibility of Dr. Kilpatrick’s testimony and opinion that a 25-

40% diminution in property values is appropriately applied uniformly across the proposed class, his mass appraisal methods are riddled with individual inquiries that would in any event defeat the predominance element of Rule 23(b)(3). Dr. Kilpatrick's opinion is predicated on the implicit assumption that each home in the proposed class was similarly damaged by actual contamination, or proximity to contaminant detections at the Pratt & Whitney site or within the Acreage itself, which the record does not support: Even the Plaintiffs recognize that not every home is confronted with the same or similar health risks due to CCOC exposure or proximity to CCOC exposure within the Acreage.

Further, Dr. Kilpatrick's common method for mass appraisal will need to account for numerous individual characteristics of the homes and surrounding neighborhoods, which are not uniform throughout the proposed class, as discussed above. And, because he has not yet run his contemplated individual sales trend data, based on real-world market evidence, even for the class representatives, there is no evidence that any home in the proposed class area has suffered a diminution in property value in this case, much less a class-wide diminution in values.

Thus, even assuming that Plaintiffs can prove the common question that negligence or other actionable conduct occurred at the Pratt & Whitney campus and caused off-site migration of CCOCs which pose a health risk to Acreage residents, proof of any Plaintiff's claim will require distinctly case-by-case inquiries into whether the migration resulted in a contaminant detection causing a dangerous exposure at his or her individual property, as well as an individual assessment into the type and extent of damage caused by any such exposure. The degree of damage will depend on whether a particular Plaintiff claims actual or threatened contamination, or proximity to such contamination in a degree likely to pose health risks to persons living on the property; the source and level of such contamination, the cause and timing of the contamination,

and the resulting damage, measured in diminution of property value. These are all questions requiring plaintiff-by-plaintiff scrutiny. *LaBauve v. Olin Corp.*, 231 F.R.D. 632 (S.D. Ala. 2005). This will necessitate testing each home individually to determine exposure and dose levels at each location in order to assess the magnitude of any damages attributable to conduct of Pratt & Whitney.

To be clear, Plaintiffs do not need to prove actual contamination of individual properties to sustain their claims – but this does not eliminate individual assessments on damages. It only transports them to individualized inquiries, with all the same variables contributing to a determination on the extent of actual damages. The geographic variations in this case are numerous and involved.

This case will involve measurements of intangible “environmental stigma” damage that can vary significantly parcel to parcel, block to block, depending on the presence of actual or threatened contamination, or proximity to dangerous does of contamination on nearby properties (UTC or other Acreage homes), relevant exposure and dose levels, the type and extent of contamination (radioactive/non-radioactive, above or below background levels), individual soil testing and individual water testing results. In addition to these variables, all impacting the magnitude of “stigma” attaching to any one property, the individual measurement of damages on any given property will depend on construction materials, architectural style, neighborhood location, size and condition of property, as well as any unique structures present which deserve individual evaluation.

Further, individual proximate cause issues will permeate a diminution in value analysis because of the many diverse communities encompassed within the proposed class area. One neighborhood may experience less of a drop in value because the unimpaired values are

significantly higher than other neighborhoods, and one community may experience more pronounced drops due to closer proximity to dangerous exposure levels. In addition, some communities may experience a drop in real estate value due to factors unrelated to Pratt & Whitney's operations.

Plaintiffs have not demonstrated how common issues will predominate over these very individual inquiries. Therefore, class certification will be denied for failure to fulfill Rule 23(b)'s predominance requirement.²³ *See generally Corley v. Orangefield Independent School Dist.*, 152 Fed. Appx. 350 (5th Cir. 2005) (unpub) (under rule permitting certification only if damages are capable of computation by means of objective standards, not dependent on intangible subjective differences of each class members' circumstances, district court did not err in declining to certify class, where geographic variations among property-owners would render some parcels more valuable than others, precluding any mechanical calculation of damages); *Fisher v. Ciba Specialty Chem. Corp.*, 238 F.R.D. 273 (S.D. Ala. 2006).

C. Rule 23(b)(3) Inquiry: Superiority

Rule 23(b)(3) also requires that the Court make a finding that a class action is "superior to other available methods for fairly and efficiently adjudicating the controversy." Fed. R. Civ. P. 23(b)(3). For many of the same reasons this class fails the predominance requirement, it also fails the superiority requirement.

In weighing this proposed class action as a whole, the Court concludes that the class action device is not the superior method to adjudicate the claims. A class action could be

²³ Rule 23(b)(3)'s predominance and superiority requirements are not met if, after adjudication of the class-wide issues, Plaintiffs must still introduce a great deal of individualized proofs or argue a number of individualized legal points to establish most or all of the elements of their individual claims. *Vega v. T-Mobile USA, Inc.*, 564 F.3d 1256, 1270 (11th Cir. 2009). Thus, a plaintiff cannot satisfy the predominance requirement if, as a practical matter, "the resolution of an overarching common issue breaks down into an unmanageable variety of individual legal and factual issues." *Babineau v. Federal Express Corp.*, 576 F.3d 1183 (11th Cir. 2009).

desirable because the legal theories at hand are not particularly novel, and proving liability could require complex proof regarding transport mechanisms. These issues are common to the proposed class, suggesting it should be beneficial to Plaintiffs to join as a class to prosecute this action. Yet, Plaintiffs must individually prove causation and damages after establishing liability, and varying kinds and amounts of “stigma” will attach to any given property, depending on the presence of actual or threatened contamination, varying kinds and amounts of contamination and proximity to it, making a class action a particularly inappropriate vehicle for this litigation.

Because plaintiffs do not satisfy the predominance or superiority requirements of Rule 23(b)(3), the Court finds it unnecessary to address Defendant’s other grounds of opposition to the request for class certification.

V. CONCLUSION

All of Plaintiffs’ tort claims are anchored in the contention that contamination from the Pratt & Whitney facility has created an “environmental stigma” which clouds their properties and impairs their property values. These claims certainly rely on some measure of common proof for all Plaintiffs, including: (1) Pratt & Whitney’s history of aerospace manufacturing at the Pratt & Whitney facility from the 1950’s going forward, and use of licensed nuclear materials at that site in conjunction with various defense projects; (2) the chemical properties, hazards and toxicity of contaminants released into groundwater and air and soil at the Pratt & Whitney facility; (3) Pratt & Whitney’s waste disposal practices relating to CCOCs, and (4) the potential that such disposal practices would cause off-site migration of CCOCs, resulting in contamination of surrounding properties five to fifteen miles away, many years after Pratt & Whitney remediated the property and ceased the alleged improper disposal practices. Most of these common matters may be classified as background facts -- a shared fact background that

necessarily exists whenever multiple individuals pursue similar claims against the same defendant.

Regardless of how these common questions are resolved, the existence and degree of Pratt & Whitney's liability to a particular Plaintiff will turn on the following individual-specific questions: (1) whether that Plaintiff's property is actually contaminated or threatened with contamination of radionuclides or other CCOCs – or whether it is in proximity to a contamination detection which poses an objectively-measured health risk to occupants of the property; (2) whether the source of those contaminants is Pratt & Whitney, or whether there is a property-specific alternative source that better explains the detected contamination; (3) whether the contamination is sufficiently severe to reduce the property's value, and if so, the extent of that diminution in value; (4) whether the property is contaminated by toxins other than those released by Pratt & Whitney, and if so, the extent to which any diminution in property value may be attributed to such other toxins; (5) whether each Plaintiff acquired his or her property before or after the alleged diminution in value occurred, and (6) when each Plaintiff was first on notice of the contamination and whether the timing of that notice renders his or her claims time-barred.

So, while there will be some common methods of proof, such as Defendant's disposal practices, migration pathways, and properties of released contaminants, it is likely common liability issues will not predominate in this case because the existence and degree of liability (measured by magnitude of damages owed) to a particular Plaintiff will turn on all of the individual inquiries outlined above.

Plaintiffs have not met their burden proving a class action is appropriate. Their proposed class definition is overbroad, and they do not show, by a preponderance of the evidence, satisfaction of Rule 23(b)'s predominance and superiority requirements.


It is accordingly **ORDERED AND ADJUDGED**:

1. The Plaintiffs' Daubert motion to exclude testimony of John Hauser [DE 237] is **DENIED** and the Defendant's motion to exclude testimony of John Kilpatrick [DE 241] is **GRANTED**.
2. All other pending *Daubert* (motions *in limine*) [DE 236, 238-239, 242-248, 251] are **DENIED AS MOOT**. This order is without prejudice for either side to renew any relevant *Daubert* challenge at a later stage of this proceeding.
3. The Plaintiffs' Motion to Certify a Litigation Class as against Defendant United Technologies Corporation [DE 265] is **DENIED**.
4. Plaintiffs' and Defendant Palm Beach Aggregates, LLC's Joint Motion to Certify a Settlement Class as against Defendant Palm Beach Aggregates LLC [DE 253] is **DENIED** for failure to establish ascertainability of the settlement class,²⁴ based on the essential defects attending the proposed definition of the litigation class as more specifically identified in this Order.
5. This case will proceed on behalf of the individually named Plaintiffs.
6. The parties are directed to submit a joint scheduling report within **TWENTY (20) DAYS** advising as to their discovery and scheduling needs, including a proposed trial date, going forward without the class action allegations.
7. In light of the foregoing, Defendant's motion to strike untimely disclosures re: expert Lawrence Wylie [DE 337], Defendant's motion to strike Plaintiffs' direct testimony

²⁴ Plaintiffs and PBA define the proposed settlement class as "[a]ll Persons who own or have owned real property in the Acreage at any time since August 24, 2009 until August 16, 2013, the date of filing and who did not request exclusion from this lawsuit..." [DE 253, p. 11]. The parties' proposed notice to the settlement class attached to the joint motion [DE 253-2] inexplicably broadens this definition, providing: "You are a PBA Settlement Class Member *if you currently own property* in the Acreage area of Western Palm Beach County, Florida *or* if you owned property in the Acreage at any time on or after August 24, 2009 and before August 13, 2013." (emphasis added)

affidavit of Brian Moore [DE 379] and Plaintiff's motion to file a sur-reply to Defendant's motion to strike Moore direct testimony [DE 395] are **DENIED AS MOOT**. Plaintiffs' motion to expedite consideration of the motion to extend fact discovery [DE 333] is also **DENIED AS MOOT**.

DONE AND ORDERED in Chambers at West Palm Beach, Florida this 2nd day of May, 2018.



KENNETH A. MARRA
United States District Judge