
The “officially released” date that appears near the beginning of each opinion is the date the opinion will be published in the Connecticut Law Journal or the date it was released as a slip opinion. The operative date for the beginning of all time periods for filing postopinion motions and petitions for certification is the “officially released” date appearing in the opinion.

All opinions are subject to modification and technical correction prior to official publication in the Connecticut Reports and Connecticut Appellate Reports. In the event of discrepancies between the advance release version of an opinion and the latest version appearing in the Connecticut Law Journal and subsequently in the Connecticut Reports or Connecticut Appellate Reports, the latest version is to be considered authoritative.

The syllabus and procedural history accompanying the opinion as it appears in the Connecticut Law Journal and bound volumes of official reports are copyrighted by the Secretary of the State, State of Connecticut, and may not be reproduced and distributed without the express written permission of the Commission on Official Legal Publications, Judicial Branch, State of Connecticut.

DAVID CROUZET *v.* FIRST BAPTIST CHURCH
OF STONINGTON ET AL.
(AC 42069)

Lavine, Prescott and Bright, Js.*

Syllabus

The plaintiff property owner sought to recover damages from the defendants, two churches, for alleged oil contamination of his property. Inspections by the Department of Energy and Environmental Protection revealed the presence of fuel oil in the soil and in the groundwater of the plaintiff's property. The department's report further indicated that the source of the fuel oil originated from an underground oil tank that had been removed from the defendants' property, but the report could not rule out a secondary source of oil contamination originating from the plaintiff's property. Although the defendants paid for some environmental remediation of the plaintiff's property pursuant to a contract, they declined to pay for additional remediation, despite recommendations by the department and the plaintiff's consultant that such additional remediation was necessary. During a trial to the court, the plaintiff and the defendants offered competing expert testimony as to the cause of the oil contamination that existed on the plaintiff's property, including potential sources of the contamination other than the defendants' underground storage tank. The trial court expressly rejected the testimony of several expert witnesses as not credible. The trial court subsequently concluded that the defendants demonstrated that there was a secondary source of the oil contamination of the plaintiff's property and, therefore, the plaintiff failed to prove his allegations that the defendants caused the pollution beneath the plaintiff's residence. The trial court rendered judgment in favor of the defendants, and the plaintiff appealed to this court, claiming that the court's determination that there was a secondary source of oil contamination in his basement was clearly erroneous and that the court's decision was based on speculation and was legally unsound. *Held* that the trial court improperly rendered judgment in favor of the defendants, as there was no credible evidence to support the court's finding that the defendants had established that there was a secondary source of the contamination on the plaintiff's property that emanated from beneath his basement, there was no expert who testified, with a reasonable degree of probability, that a secondary source of oil contamination existed in or beneath the plaintiff's basement, or that possible secondary sources identified by witnesses during the trial were likely the cause of the oil contamination on the plaintiff's property, and, therefore, that finding was clearly erroneous, and, accordingly, a new trial was ordered; even if there was some evidentiary basis for the court's secondary source finding, such finding did not legally and logically support the court's ultimate conclusion that the plaintiff failed to prove that the defendants caused contamination beneath his house, as the existence of a secondary source of contamination in the plaintiff's basement was wholly unrelated to the question of whether the plaintiff had proven that the defendants were an additional source or the primary source of the contamination, and there no support in the record for the determination that the defendants had no responsibility for any contamination in the present case, the court's reliance on its secondary source finding as the basis for its conclusion that the plaintiff failed to meet his burden of proof was illogical and deprived the court's judgment of a sufficient legal foundation, as the existence of a secondary source of contamination may have impacted the damages to which the plaintiff may be entitled, but it did not mean that the plaintiff had failed to prove that the defendants were also a source of the contamination, as the questions of damages and causation, while related, are different, involve separate burdens of proof, and require independent analysis.

(One judge dissenting)

Argued December 4, 2019—officially released August 18, 2020

Action to recover damages for environmental contamination of certain of the plaintiff's real property, and for other relief, brought to the Superior Court in the judicial district of New London, and tried to the court, *Hon. Joseph Q. Koletsky*, judge trial referee; judgment for the defendants, from which the plaintiff appealed to this court. *Reversed; new trial.*

Eric J. Garofano, for the appellant (plaintiff).

Benjamin H. Nissim, with whom were *Proloy K. Das* and, on the brief, *Leonard M. Isaac* and *James J. Nugent*, for the appellees (defendants).

Opinion

BRIGHT, J. The plaintiff, David Crouzet, appeals from the judgment of the trial court rendered in favor of the defendants, First Baptist Church of Stonington and Second Congregational Church of Stonington, following a trial to the court in a factually complex case involving environmental contamination. The question underlying all of the plaintiff's claims on appeal is what was the cause of the oil contamination in and around the plaintiff's residence and, in particular, to what extent fuel oil that leaked from the underground storage tank on the defendants' property migrated onto the plaintiff's property and infiltrated the plaintiff's basement. On appeal, the plaintiff claims that the court's finding of a secondary source of contamination in his basement is clearly erroneous and that the court's decision is based on speculation and is legally unsound. We agree and, accordingly, reverse the judgment of the trial court.

The following facts were presented to the trial court. The plaintiff owns property located at 50 Trumbull Avenue in Stonington (plaintiff's property), which he purchased in 2004. In preparation for his purchase, Coastal Home Inspection, LLC, performed a home inspection. In the report prepared following the inspection, the inspector noted, in relevant part, that there was minor oil seepage from the oil tank in the plaintiff's basement, coming from the filter and on top of the tank, that there was a strong odor of fuel oil, and that the oil line was unprotected.

The defendants, since 1951, have jointly owned the abutting property located at 48 Trumbull Avenue (defendants' property), on which their parsonage is located. The plaintiff's property is west and southwest of the defendants' property. In January, 2006, the defendants had a 550 gallon underground oil tank, which had been located approximately four feet from the plaintiff's property, removed, and they replaced it with a 275 gallon steel aboveground tank, which was placed in their basement.

After heavy rains in the spring of 2009, a neighbor noticed oil coming from a pipe that carried excess water from the plaintiff's basement sump pump to the walkway in front of the plaintiff's house, and he called the fire department, which then shut off the sump pump. Eventually, the Department of Energy and Environmental Protection (department) became involved, and William Warzecha, the supervising environmental analyst for the department's remediation division, conducted an investigation of potential contamination at 48 and 50 Trumbull Street (properties). On May 23, 2011, Timothy Baird, an environmental analyst at the department, completed a limited subsurface investigation report, which was reviewed and approved by his supervisor, Aaron

Green. In the report, Baird concluded that the department had found the presence of fuel oil in the soil and in the groundwater of the properties. The report posited that the oil being released from the sump pump in the plaintiff's basement originated from the underground oil tank that had been removed from the defendants' property. The report also provided that it could not rule out a secondary source for the soil contamination in the plaintiff's basement. Additionally, the report provided that a representative of the defendants had stated that, in early December, 2010, the defendants removed contaminated sand and gravel from their sump pit and used that material to fill in a hole on the property. The department requested that the defendants retain an environmental consultant to assist in further investigation and remediation of contamination on the properties.

The defendants hired Kropp Environmental Contractors (Kropp) to excavate the area where the underground storage tank had been located. In December, 2011, Kropp removed approximately ten tons of contaminated soil and placed it under a polyethylene cover on the paved driveway of the plaintiff's property. The defendants also hired Paul Burgess, LLC (Burgess), to investigate the properties and to develop a remediation plan. The plaintiff hired a senior licensed environmental professional, Martin Brogie, who worked for GEI Consultants, Inc. The defendants agreed to pay Brogie to analyze the site and the environmental remediation activities.

After Burgess prepared its soil remediation plan, the plaintiff and the defendants entered into a contract, dated September 26, 2012, giving the defendants the authority to perform remediation work on the plaintiff's property in accordance with the soil remediation plan. The contract stated that the soil remediation plan required "the disturbance of both the surface and subsurface of the [properties] and include[d] the further investigation, excavation and replacement of an undetermined amount of contaminated soil and other associated remediation activities . . . [and that the defendants were] prepared to proceed with the [r]emediation [w]ork in accordance with the [s]oil [r]emediation [p]lan"

In the contract, the parties acknowledged that their written agreement did not include remediation of the soil beneath the plaintiff's home, but it provided that they agreed "to continue to pursue in good faith further environmental assessment of the [plaintiff's property] as may be required by the [department]" The contract also addressed secondary sources, providing: "In the event that a secondary source of subsurface soil contamination is discovered during the course of the [r]emediation [w]ork, the [defendants] shall notify [the plaintiff] immediately in writing. If said secondary

source is located on or beneath the [plaintiff's property], the [defendants] shall allow [the plaintiff] or his contractors or agents to inspect, confirm and remediate such findings, prior to completing its obligations hereunder. The [defendants] shall have no obligation whatsoever to remediate any soil impacted by a secondary source originating on or beneath the [plaintiff's property] or on or beneath any land other than the [defendants' property].”

The defendants hired Service Station Equipment, the company that had removed their underground tank, to remediate the contaminated soil. Service Station Equipment excavated soil from October 8 through 12, 2012, to a depth of approximately eight feet, beginning at the location of the former oil tank, extending slightly east toward the parsonage, extending north to approximately three feet from the plaintiff's garage and west to approximately three feet from the plaintiff's home, then extending south along the length of both the plaintiff's home and the parsonage toward the street sidewalk, in the form of a large rectangle that ran between and along the two properties.¹ The approximate distance between the location of the former underground tank and the east wall of the plaintiff's home is between sixteen and twenty feet. Due to concerns about the structural integrity of the foundations of the plaintiff's home and garage, as well as the sidewalk, the excavation was not extended closer to those structures. Evidence of soil contamination, including odors and elevated organic vapor readings, was noted from approximately five and one-half feet to eight feet below the ground throughout the excavation area. No oil product was observed on the soils or in the groundwater at the time of excavation.

Soil samples were collected, however, and testing of the samples confirmed the existence of contamination that exceeded the department remediation criteria. A hydrocarbon fingerprint analysis also was conducted on several samples, all of which indicated the presence of No. 2 fuel oil. Approximately 122 tons of excavated contaminated soil were taken from the properties to Phoenix Soil in Waterbury for thermal treatment. Portions of the properties, however, still contained contaminated soil because excavation did not extend closer to the plaintiff's home or the garage, or to the sidewalk, due to concerns about structural integrity.

Brogie, the plaintiff's licensed environmental professional, produced a report for the plaintiff and the defendants on January 7, 2014, following the conclusion of the defendants' remediation efforts. In his report, Brogie discussed the reports and findings of the department and Burgess, and he presented the results of his later inspection and testing of the plaintiff's basement and the areas adjacent to the plaintiff's home foundation and garage, which had not been remediated. Brogie

concluded that there remained significant concentrations of petroleum in the soil near the home and the garage and that the fuel oil impacts below the home were consistent with the exterior release of petroleum.

In the report, Brogie concluded that the source of the contamination under the home and in the soil adjacent to the home and garage was the defendants' former underground oil tank. The report also provided that "[s]ome contributory source from the previous fuel oil aboveground tank/line within the [plaintiff's home] cannot be completely ruled out. However, significant releases from these aboveground systems are rare and, given the significant nature and extent of the known release, a potential subject site source/release would be relatively inconsequential" Brogie suggested that the recommendations from the department be completed; these included connecting the plaintiff's sump pump discharge to a filtration system or to the sanitary sewer system, provided the town was amenable, and enhancing the ventilation in the basement of the home to eliminate the odors. Brogie also opined that the petroleum would degrade over time, but that it would take tens of years for the petroleum to be at a safe level. He further opined that the cost of excavation and disposal of the remaining contaminated soil could exceed the value of the plaintiff's property. The defendants declined to pay for any additional remediation costs, including those recommended by the department. The plaintiff testified that during periods of heavy rains, when the water table rises, he continues to see signs of fuel oil contaminated groundwater coming up through the soil beneath the basement floor, into the sump pump area, causing significant odors.

The plaintiff commenced the action against the defendants on March 8, 2016. In an amended complaint, filed on August 6, 2018, the plaintiff alleged ten causes of action, five against each defendant for the ongoing contamination of the soil, groundwater, and the basement on the plaintiff's property: liability pursuant to General Statutes § 22a-16,² trespass, private nuisance, liability under General Statutes § 22a-452,³ and breach of contract. The evidentiary portion of the trial before the court was held over four days, beginning on August 21, 2018, and concluding on August 24, 2018, with final arguments on August 28, 2018.

During the trial, the plaintiff testified that when he was considering the purchase of 50 Trumbull Avenue, he became aware, from the inspection report, that there was a small fuel oil leak at the top of the oil tank in the basement and that the oil line was on the dirt floor, which was improper. The report also indicated a strong odor of fuel oil. The plaintiff stated that he did not recall seeing any oil or smelling it during his own walk through of the house and basement. He stated that, after he purchased 50 Trumbull Avenue in 2004, he

renovated the house and changed the heating system, installing a new boiler in the basement on a raised concrete pad, and that he had temporarily used the old oil tank and fuel line, but later installed a new tank. He also stated that he removed the old boiler from that raised concrete pad, temporarily leaving it on the dirt floor in the basement. He testified that, in 2005, he also hired a contractor to lower the basement floor to allow for more headroom, and to build a new concrete basement floor. The plaintiff stated that, during the renovation in 2005, he noticed that, after a significant rainfall, there was a black oil film on top of water in the basement, which remained on the floor once the water had receded.⁴ The plaintiff stated that he called his contractor, who informed him that he would take care of it, and the contractor pumped out the water from the basement into the backyard before installing the concrete floor. The plaintiff also had a sump pit and pump installed in the basement. The plaintiff testified that much of the soil that had been removed from the basement during the 2005 renovation was put into dumpsters, and the rest of it was spread behind the garage. He also stated that the basement frequently smelled like oil, especially after a substantial rain, and that he would see stains appearing on the new concrete floor. He would also see drops of water coming through the stone foundation in the basement, but he did not see oil in those drops. In 2009, after moving to California, the plaintiff rented out 50 Trumbull Avenue. The plaintiff further stated that it was in 2009 that a neighbor saw oily water coming from the discharge from the plaintiff's sump pump, and the neighbor called the fire department; the plaintiff, thereafter, hired someone to investigate the cause of the oily water.

Brogie, the plaintiff's licensed environmental professional, also testified at the trial. He testified that he has been investigating contaminated sites in Connecticut for approximately twenty-eight years, and that he first was engaged to provide services to the plaintiff early in 2012 to develop a remediation plan. He explained that, in this case, there is a very close distance between the plaintiff's house and the parsonage, and that the slow moving groundwater flows in a southwesterly direction on the parcels, traveling from the defendants' former underground oil tank to the plaintiff's house. He also stated that because the groundwater table on the properties has only a very shallow slope, the contaminants move very slowly and tend to spread out broadly. Specifically, he stated that "the oil move[s] through [the] sandy, gravelly material in the direction of the groundwater flow and spread out pretty broadly and extended from the street all the way back to the [plaintiff's] garage and then right directly to the their house and underneath it." Brogie stated that he reviewed various reports, including the department's, and that they "all seemed to be in agreement [with]

what had happened, that there was a release from the former underground storage tank at the [defendants' property] and that it had moved across the driveway and impacted the [plaintiff's] property." Brogie was asked whether he had observed any evidence of contamination coming from the plaintiff's garage or his home, to which he responded, "No." Brogie further testified about a visit to the properties he made in the spring of 2017 and some associated photographs that had been taken and also about additional soil testing of the properties that he had completed in May, 2017.⁵

When asked if he had reached a conclusion on the basis of this additional testing, Brogie responded in the affirmative and explained that his conclusion was "that there was a release of heating oil adjacent to the northwest corner of the 48 Trumbull residential property; that the contamination traveled in the direction of groundwater, generally southwest and west-southwest, toward the [plaintiff's] residence at number 50 and down toward the street and beyond; and the contamination went under the [plaintiff's] residence, at least three quarters of it, the eastern side and the southern half, perhaps; and that, during periods of very heavy rain and certainly during the spring, groundwater comes up, makes contact with that slab, and produces oil inside the building, and it's responsible for the significant odors inside the building as well." Brogie also acknowledged that he had reported that "[s]ome contributing source from previous fuel oil aboveground tank, flash-line within . . . residence cannot be completely ruled out." He then went on to explain the meaning of that statement: "Well, the fact that there was a fuel oil delivery system in that basement means that there was oil in that basement at—and for a period of time. There hasn't been any evidence that there was any kind of a significant release in there, and I felt it only fair and scientifically appropriate to indicate that we can't completely rule out that there might be, you know, some oil in that basement floor as a result of that system even though we haven't really found any evidence of it yet, in my opinion."

Brogie then was asked if he could opine to a "reasonable degree of certainty" whether there had been a spill at the plaintiff's home, and he responded: "Certainly. Since the time of this report and with the information that I've come into contact with over the last couple of weeks, absolutely I say with a reasonable degree of certainty there was no kind of any—any kind of significant release from that system whatsoever in the basement, if any at all, to the dirt."

Brogie also rendered an opinion on the parsonage, stating: "[B]ased on testing that I've recently come to understand from the defendants' expert, some very, very high concentrations indicating pure product are present beneath that building and immediately outside

of it. So I would hope that that contamination would get remediated in addition to [the plaintiff's] property.” He then explained that if this additional remediate did not occur, the contamination would continue to migrate to the plaintiff's property.

Warzecha, a supervising environmental analyst for the department's remediation division, testified that he has taken part in thousands of fuel oil release investigations, and he discussed in detail the department's investigation and report. He explained that the department took soil borings from many locations on the properties, including below the plaintiff's basement floor and from the plaintiff's and the defendants' sump pumps, and that its investigation concluded that “there was a significant source of fuel oil contamination on and emanating from 48 Trumbull Avenue in Stonington.” He stated that the department opined that this was the source of the contamination under 50 Trumbull Avenue, and he explained the several factors that led to that conclusion, including: the groundwater flow direction from northeast to southwest, with the highest point being at the defendants' property flowing down to its lower point at the plaintiff's property; the significant concentration of fuel oil detected in the groundwater; the presence of free-floating fuel oil that was found on the water table near the former underground storage tank location; and the concentration of contamination in the soil at that site. Warzecha acknowledged that the department was aware of a previous report by the plaintiff of possible “purple” oil discharging into the east side of the plaintiff's basement in 2005. He also acknowledged that he was aware of the home inspection report prepared for the plaintiff before the plaintiff purchased 50 Trumbull Avenue, and he testified that the report did not change the department's opinion about the source of the contamination. Warzecha further acknowledged that he was aware of a letter sent by the defendants to Service Station Equipment, with a copy to the department, in which the defendants conceded that “we know we were responsible for causing the leak.”

Ross Aiello, whose great-grandfather built 48 Trumbull Avenue and whose family lived there at the time he was born, testified that Harold Reynolds owned 50 Trumbull Avenue pre-World War II, and that Reynolds worked on automobiles as a hobby, specifically his 1936 Ford sedan. He further testified that, after World War II, Reynolds would change his oil in the dirt driveway and that “[it] seem[ed] to him that when [he] pulled the plug, [he] just drained it onto the ground. And, you, know, they didn't use containers, I don't recall, back in that time.”

Keith Filban, the husband of the parson at 48 Trumbull Avenue, testified that the Sollenbergers were the previous tenants of 50 Trumbull Avenue, and that, when Paul Sollenberger needed help getting his washing

machine out of the basement, he assisted him. Filban stated that when he went into the basement, he noticed a puddle of oil on the dirt floor, which was approximately two and one-half feet in diameter, and a stream of oil coming from a fitting on the boiler that appeared clear in color. When asked when this occurred, Filban stated that he thought it was October, 2015.

John Babin, a former tenant of 50 Trumbull Avenue in the late 1980s or 1990, testified that, on a number of occasions, he saw the pipe to the oil tank “backflush” when it was being filled, causing fuel oil to spill all over the ground. He acknowledged, however, that he never told the homeowner about this, that he had a problem with alcohol during this period of his life, and that he was home only “once every two months.”

Paul Burgess, the defendants’ expert, testified that he was contacted by the defendants to develop a remediation plan, as had been requested by the department, and that he oversaw the implementation of that plan. He stated that he also had reviewed the report by Brogie and that he disagreed with some of the conclusions in the report. Burgess testified that he had received information that suggested to him the existence of an alternative source of contamination at 50 Trumbull Avenue. He explained that Brogie had told him that the plaintiff’s contractor, who had been working on the basement, had observed a purple oil flowing into the basement that looked fresh. Burgess further explained that the dyeing of oil took place after 1993, so that information was interesting to him. He further explained, however, that “as the project developed, I—and we actually conducted the remediation on number 48 and 50 on the exterior part, I didn’t observe any oil or any—also—nor oil that had that dye in it during the excavation. . . . [Therefore] it indicated the potential for a secondary source that could have occurred on the [plaintiff’s] property based on that observation and others—other facts.” Burgess acknowledged that Warzecha, from the department, had concluded in an e-mail that “[he] ha[d] not seen any information to date suggesting there’s a secondary source of pollution originating from [the plaintiff’s] own property.”

Burgess then addressed his March 14, 2012 remediation plan. He explained that when he first became involved with this project, Kropp already had dug a test pit in the area where the underground tank had been located, and that “they reported they had . . . indication of contaminated soil and stopped, and then they asked for my involvement going forward.” Burgess further explained that “you have on the surface—or, you know, starting from ground level downward to a certain depth, you have clean soil that is not impacted, and that soil would be excavated, stockpiled separately, and not have to be disposed.” He also explained that indicators of contamination include, “[f]uel oil odors,

organic vapor analyzer meter . . . [which detects] volatile organic vapors . . . [and] in this case, you [could] see stained soil,” which “was a grey, darkish color layer . . . approximately five and a half to eight feet below ground surface [and] had an odor to it.”

Burgess was asked about his written preliminary draft review of Brogie’s January 7, 2014 report in which Brogie had stated, in part, that there was fuel oil contamination immediately below the basement floor, which could have come from several sources, including possible releases interior to the building. The defendants’ attorney pointed out that, on the court exhibit of Burgess’ draft, there was a handwritten notation that said “location of the oil tank and oil supply line at 50.” Burgess was asked whether the location of the old oil tank and supply line would be a consideration as an alternative source of contamination in the plaintiff’s basement, to which Burgess responded, “Yes.” Burgess then testified that the department had performed oil and groundwater testing in the basement near where the old oil tank had been located, and that he believed that the report revealed that “the groundwater at the designation . . . BB (1) . . . had the—by far the highest levels of total petroleum hydrocarbons anywhere else on the site, including the location of the former tank at the parsonage property at 48 Trumbull . . . [and that this] amongst other facts suggested to [him] that there was likely a secondary source near that location.”

Burgess contradicted Brogie’s conclusion that significant releases of oil from aboveground systems are rare, by stating that they happen “a lot.” He also testified that the Extractable Total Petroleum Hydrocarbons (ETPH) concentration levels “were consistently less in the soil, the remaining soil, that had been excavated on the exterior portion of the foundation wall. They were less than what Martin Brogie . . . had found when he did his sampling below the basement floor of the [plaintiff’s] property, and that didn’t make sense to me from the perspective of the source originating only from the parsonage property . . . [b]ecause I would not expect the soils below the basement floor to be that substantially higher than on the outside if they originated—if the oil originated from the outside.” When asked why that was significant, Burgess stated: “Because we did sampling near the former tank at the parsonage and that—and then the concentrations of ETPH decrease in the direction of the [plaintiff’s] property to outside and near the basement wall and then increased substantially below the floor. And to me, that was one factor that suggested there was a secondary source in his basement as opposed to contributing from the [defendants’] property.”

Burgess also explained that he “looked at the aromatic volatile organic compounds [(AVOC)] as another

indicator of what the ETPH data was showing, and they can be—they are minor constituents of fuel oil. And the AVOC data showed the trends consistent with the total petroleum hydrocarbon data. In other words, the levels were higher near the original parsonage tank; they reduced to levels outside the [plaintiff's] basement wall, then some of the samples below the basement slab shot back up and were higher than outside. So I was trying—I was looking to see if there was a consistent trend, and there was.”

When Burgess was asked by the defendants’ attorney whether he had come to a conclusion about the origin of the contamination underneath the plaintiff’s basement he responded: “I came to a conclusion about the—some—I came to some conclusions about the oil that was observed coming through his basement walls, yes. . . . For various facts, it did not make sense to me that that material, that oil, originated from the parsonage property.” He then was asked whether he had made a determination from where that contamination came, and he responded: “No.”

During cross-examination, Burgess agreed that fuel oil is dyed red, not purple. He also agreed: the report of purple oil was from 2005; the defendants removed their underground storage tank in January, 2006; the first time he was on-site was in 2012, which was seven years after the report of purple oil and six years after the tank was removed from the church property; the groundwater flow in this area is generally southwest going from 48 toward 50; both properties are contaminated; the contamination levels of both properties exceed the department’s criteria, the department found free oil product underneath the former storage tank grave at the church property; and that the department had determined that the source of the contamination at 50 Trumbull was the underground storage tank at 48 Trumbull. Burgess did state, however, that he thought that the department also had stated that it could not rule out a secondary source. Burgess acknowledged that the last time he was at the site was 2013, and that his last report about the site was February, 2014. Burgess also acknowledged that he concluded only that it was possible that there had been a fuel oil release at 50 Trumbull and that there potentially was a secondary source of contamination at 50 Trumbull. Burgess also acknowledged that he was unaware that Brogie later had done additional testing for contamination around the plaintiff’s garage.

Plato Doundoulakis, a licensed environmental professional and principal scientist from Atlas Environmental Company, also called as an expert witness by the defendants, testified that he believed that the contamination of the plaintiff’s basement came from the plaintiff’s basement and that he did not think that “it was possible for the contamination to have originated at the parson-

age, the contamination in the basement.” He stated that he came to this conclusion because, “[i]n order for the contamination to get from the parsonage . . . to the [plaintiff’s] basement, you’d need a—some way, some migration pathway. The only migration pathway that’s been identified there is the surface of the groundwater table. The groundwater table would have to rise up and intersect with the [plaintiff’s] basement in order for that oil to be pushed into the basement, and that does not occur.”

Doundoulakis also opined that the fuel oil contaminants found in the plaintiff’s basement were different from the contaminants found on the defendants’ property. He explained that he examined the range of carbon from those samples, which showed that the sample from the plaintiff’s basement showed a No. 4 fuel oil, and the sample from the defendants’ property showed a No. 2 fuel oil. He also stated that another basis for his opinion that the contamination in the basement originated therein was that “[t]here was free product found underneath the parsonage’s underground storage tank, or near it, and there was free product found in [the plaintiff’s] basement, but none in between. There was a disconnection between those two release areas.”⁶

During cross-examination, Doundoulakis admitted that he had stated in his deposition, taken only one week earlier, that he had taken only one measurement and did not know the seasonal high groundwater elevation under the plaintiff’s property. He also admitted that, although he had tested the age of the oil under the defendants’ basement, he had not tested the age of the oil under the plaintiff’s basement. Additionally, Doundoulakis admitted that he had sent an e-mail to someone that stated that he did not test any of the samples under the plaintiff’s basement because he already had good data and did not want to give the other side anything it could use. Last, Doundoulakis acknowledged that during his deposition he had admitted that he did not know where the release of oil in the plaintiff’s basement actually occurred, and he did not know the cause of that release.

Following Doundoulakis’ testimony, the plaintiff recalled Brogie to the witness stand. Brogie explained in detail the pathways for the contaminant migration on the properties: “In terms of pathways for contaminant migration at this particular site, the primary pathway is through the coarse sand and gravel material that’s found five feet below the surface; four and a half feet to five feet below the surface is where it starts. And being coarse material, it’s easy for groundwater to move through it rapidly and certainly easy for a product such as heating oil to move through that material rather rapidly and without any abatement until it reaches some kind of a structure. And in this particular case, groundwater is an important component to the pathway and

the migration of those materials as well. . . . [O]n the perimeter of the Burgess excavation from 2012 there's a very, very high concentration indicative of pure product on the north wall of his excavation, 17,200 at eight feet, just two feet, seven inches, from the garage. Not much further away, about eight feet from the northwest corner of the excavation, [is] boring GEI 100 that I installed myself back in 2017 and at a depth of seven to eight feet where in my profile I encountered the highest concentration—I had a concentration of fifty-nine hundred parts per million. There were odors of fuel oil there. My photoionizing detector indicated elevated volatile organic readings. And I felt very comfortable that I was in the fuel oil plume that originated from the parsonage given the material that it was in, the sand and gravel; the depth at which I encountered; and the odors which I noted.

“Further, I did an additional boring further to the northwest. I didn't find anything, so I felt very confident that I delineated the edge of the contamination. Given . . . Burgess' very high concentration on the north side of the excavation and my findings north of the house, it was very apparent that that plume came down to the back of the residence of [the plaintiff], that there's petroleum contamination behind the house that—resulting from the release of the heating oil UST over at the parsonage. And based on the observations, along that west wall, it appears that the heating oil contamination from the parsonage extends from north of [the plaintiff's] house, all along the east wall of [the plaintiff's] house, and continuing south.”

On August 28, 2018, following closing arguments, the court issued a brief oral decision in which it rendered judgment in favor of the defendants. Specifically, the court's entire ruling was as follows: “Both—. . . Doundoulakis and . . . Brogie . . . were both such partisan advocates—now, this court has had experience with many experts who, no matter how partisan they may be, at least manage to project at least a veneer of impartiality. So the court intends to disregard both the testimony of . . . Doundoulakis and the testimony of . . . Brogie . . . which the court expressly rejects. That leaves—the only credible witnesses are Warzecha and Burgess. While . . . Warzecha was credible, his data was outdated and outweighed by . . . Burgess' testimony, but even that does not overcome the fact that the defense has shown a secondary source exists beneath the basement property owned by the plaintiff, and therefore [the court] finds the plaintiff has failed to prove the allegations that defendant has caused the pollution beneath his house.

“It is therefore unnecessary to reach the defendant's special defenses. Judgment will enter for defendants—defendant on all counts.”

The plaintiff thereafter filed a motion for articulation,

requesting specifically that the court explain what data from Warzecha was outdated and specifically arguing that Warzecha had testified that he had read all the reports produced up to the present time, including new evidence that had been revealed to him only one week before trial, and that Burgess had not testified to having seen this information. The court responded: “The court’s reference to . . . Warzecha’s testimony as ‘outdated’ was solely a reference to his credibility. Since he was taken out of turn with an attorney general present who had filed an appearance moments before . . . Warzecha’s testimony. Immediately after his testimony, he and the [assistant attorney general] departed and they were not in the courtroom when evidence was presented, which the court credited in finding that the existing contamination beneath the plaintiff’s property was there long before the plaintiff purchased his property.”⁷ This appeal followed.

On appeal, the plaintiff claims that the court’s finding of a secondary source of contamination in his basement is clearly erroneous and that the court’s decision is based on speculation and is legally unsound. He argues, first, that there was no expert testimony to support the court’s finding that the defendants had proven the existence of a secondary source of the contamination, originating in the plaintiff’s basement. Second, he argues, even if an expert sufficiently opined that a secondary source existed in the plaintiff’s basement, there was no testimony that identified that source. Third, he argues that the existence of a secondary source necessarily means that there exists a primary source, and the relevant experts were in agreement that the primary source of contamination on the properties originated from the underground oil tank that had been removed from the defendants’ property. Fourth, the plaintiff argues, regardless of the other arguments, the court’s decision is legally unsound because proving the existence of a secondary source would not establish that the plaintiff “therefore” failed to prove that the defendants were the primary source of the contamination that remained on his property, both under his home and in the soil outside of his home. We agree that the court’s finding of a secondary source being responsible for the subject contamination is clearly erroneous and that its conclusion is legally unsound, requiring a remand for a new trial. See *O’Connor v. Larocque*, 302 Conn. 562, 578 n.12, 31 A.3d 1 (2011) (judgment may be reversed if it is legally or logically inconsistent with facts found, or is so illogical or unsound, or so violative of the plain rules of reason, as to be unwarranted in law); *Buckley v. Webb*, 143 Conn 309, 315, 122 A.2d 220 (1956) (it is impossible for appellate court to sustain judgment that is illogical).

“The scope of our appellate review depends upon the proper characterization of the rulings made by the trial court. To the extent that the trial court has made

findings of fact, our review is limited to deciding whether such findings were clearly erroneous. When, however, the trial court draws conclusions of law, our review is plenary and we must decide whether its conclusions are legally and logically correct and find support in the facts that appear in the record. . . . Therefore, the trial court's conclusions must stand unless they are legally or logically inconsistent with the facts found or unless they involve the application of some erroneous rule of law material to the case." (Citations omitted; internal quotation marks omitted.) *MSO, LLC v. DeSimone*, 313 Conn. 54, 62, 94 A.3d 1189 (2014); see also *Zaniewski v. Zaniewski*, 190 Conn. App. 386, 395, 210 A.3d 620 (2019) ("[t]he trial court's decision must be based on logic applied to facts correctly interpreted" (emphasis omitted)).

First, we agree with the plaintiff that the court's finding that the defendants have "shown a secondary source exists beneath the basement property owned by the plaintiff" is clearly erroneous because there was no expert who testified, with a reasonable degree of probability, that a secondary source of fuel oil contamination existed in or beneath the plaintiff's basement, or that the possible secondary sources identified by witnesses during the trial are likely the cause of the oil contamination on the plaintiff's property.

As stated previously in this opinion, the question underlying all of the plaintiff's claims is what was the cause of the oil contamination in and around the plaintiff's residence and, in particular, to what extent fuel oil that leaked from the underground storage tank on the defendants' property migrated onto the plaintiff's property and infiltrated the plaintiff's basement. Because contamination cases such as the present case generally involve issues that go "beyond the field of ordinary knowledge and experience of the trier of fact," expert testimony typically is required to establish the cause or causes of contamination claimed by a plaintiff. *Fort Trumbull Conservancy, LLC v. New London*, 135 Conn. App. 167, 183 n.11, 43 A.3d 679, cert. denied, 307 Conn. 905, 53 A.3d 220 (2012).⁸ Recognizing this requirement, the parties offered competing expert testimony as to the cause of the oil contamination that exists on the plaintiff's property. In addition, the defendants offered evidence of potential sources of the contamination other than the defendants' underground storage tank, including the spilling of motor oil on the ground after World War II, occasional spilling of heating oil during tank fillings on the plaintiff's property in the late 1980s or 1990, leaking of oil from the top of the plaintiff's oil tank when he purchased the property, and the leaking of oil from a fitting on the boiler in the plaintiff's basement in or around October, 2015. The question for us is whether the court's factual finding that the defendants had shown that a secondary source of the contamination on the plaintiff's property existed below

the basement of his residence is clearly erroneous in light of the expert testimony and the factual bases for such testimony.

In answering this question we bear in mind that “[e]xpert opinions must be based upon reasonable probabilities rather than mere speculation or conjecture if they are to be admissible in establishing causation. . . . To be reasonably probable, a conclusion must be more likely than not. . . . Whether an expert’s testimony is expressed in terms of a reasonable probability . . . does not depend upon the semantics of the expert or his use of any particular term or phrase, but rather, is determined by looking at the entire substance of the expert’s testimony.” (Internal quotation marks omitted.) *Weaver v. McKnight*, 313 Conn. 393, 421–22, 97 A.3d 920 (2014); see *Struckman v. Burns*, 205 Conn. 542, 554–55, 534 A.2d 888 (1987).

In the present case, the only expert fully credited by the trial court was Burgess.⁹ He testified in relevant part that Brogie had told him that the plaintiff’s contractor, who previously had been working on the basement, had observed a purple oil flowing into the basement that looked fresh. Burgess stated that this information was interesting because the dyeing of oil took place after 1993. He further explained that he did not observe any oil that had that dye during the excavation. This, he stated, “indicated the *potential* for a secondary source that could have occurred on the [plaintiff’s] property” (Emphasis added.) Burgess was asked whether the location of the old oil tank and supply line in the plaintiff’s basement *would be a consideration* as an alternative source of contamination, and he responded, “Yes.” Burgess testified that the department had performed oil and groundwater testing in the basement near where the old oil tank had been located, and that he believed the report revealed that “the groundwater at the designation . . . had the—by far the highest levels of total petroleum hydrocarbons anywhere else on the site, including the location of the former tank at the parsonage property at 48 Trumbull . . . [and that this] amongst other facts *suggested to [him] that there was likely a secondary source near that location.*” (Emphasis added.) He also stated that the higher level of contaminants in the basement “was one factor *that suggested* there was a secondary source in [the] basement as opposed to contributing from the parsonage property.” (Emphasis added.) When Burgess was asked by the defendants’ attorney whether he had come to a conclusion about the origin of the contamination under the plaintiff’s basement, he responded: “I came to some conclusions about the oil that was observed coming through his basement walls, yes. . . . For various facts, it did not make sense to me that that material, that oil, originated from the parsonage property.” He then was asked whether he had made a determination from where that contamination came, and he

responded: “No.” Furthermore, Burgess did not opine that any spillage of motor oil after World War II, backwash from filling the tank on the plaintiff’s property in the late 1980s, leakage from the top of the plaintiff’s boiler when he purchased the property or from a fitting on the plaintiff’s boiler in 2015 were likely the cause of the oil contamination on the plaintiff’s property.

Much of Burgess’ testimony involving a secondary source of contamination in the plaintiff’s basement clearly is speculative and based on conjecture. A close review of that testimony, however, reveals that he did opine that the high level of contaminants found beneath the plaintiff’s basement “suggested” to him that there was “*likely* a secondary source near that location.” (Emphasis added.) Burgess admitted, however, that he could not identify that source or from where it originated. At no time did Burgess testify to a reasonable degree of probability, or words to that effect, that the contamination in the plaintiff’s basement was caused by a source other than the defendants’ underground storage tank. Our law regarding expert opinion is clear: “An expert’s opinion may not be based on surmise or conjecture.” *Weaver v. McKnight*, supra, 313 Conn. 410. Testimony that certain facts suggested to the expert a likely secondary or additional cause of contamination that the expert could not identify does not clear this hurdle. We conclude that the only credited expert who opined with even a modicum of specificity that there *may have been* a secondary source of contamination in the plaintiff’s basement relied on speculation and conjecture, not rendering a properly supported conclusion or a specific finding about this potential secondary source. Consequently, there was no credible evidence to support the court’s finding that the defendants had established that there was a secondary source of the contamination on the plaintiff’s property that emanated from beneath his basement, and, therefore, that finding was clearly erroneous.

Additionally, we agree with the plaintiff that, even if there was some evidentiary basis for the court’s secondary source finding, such finding does not legally and logically support the court’s ultimate conclusion that the plaintiff failed to prove that the defendants caused the contamination beneath his house. First, there is no doubt that the court premised its conclusion that the plaintiff failed to prove causation on its secondary source finding. The court specifically held that “the defense has shown a secondary source exists beneath the basement property owned by the plaintiff, *and [the court] therefore finds* the plaintiff has failed to prove the allegations that [the] defendant has caused the pollution beneath his house.” (Emphasis added.) The problem with this finding and conclusion is that the existence of a *secondary* source of contamination in the plaintiff’s basement wholly is unrelated to the question of whether the plaintiff has proven that the defendants was an

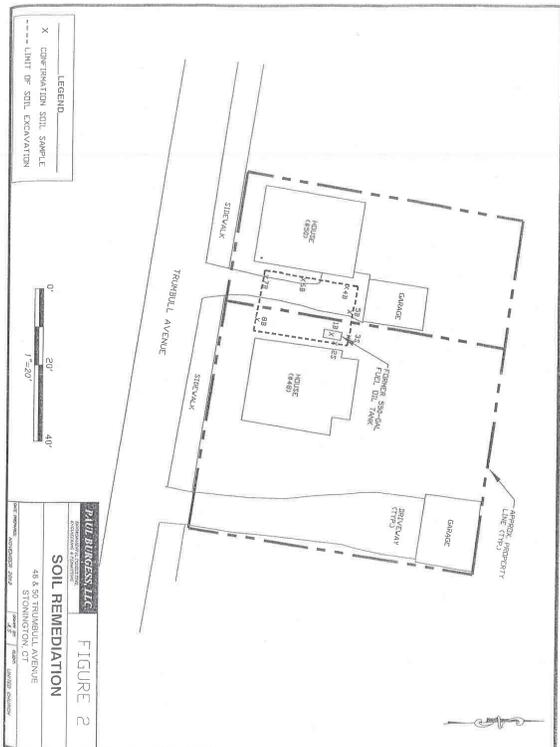
additional source or the primary source of such contamination.¹⁰ The existence of a secondary source necessarily means that there exists a primary source. There was not one expert, credited or otherwise, who opined that the defendants had no responsibility for any contamination in this matter. In fact, it was Burgess who developed the remediation plan that was premised on oil migrating from the site of the defendants' removed underground storage tank onto the plaintiff's property. The court's reliance on its secondary source finding as the basis for its conclusion that the plaintiff failed to meet his burden of proof is illogical and deprives the court's judgment of a sufficient legal foundation. The existence of a secondary or additional source of contamination in the plaintiff's basement may impact the damages to which the plaintiff may be entitled, but it does not mean that the plaintiff has failed to prove that the defendants were *also* a source of the contamination. The questions of damages and causation, although related, are different, involve separate burdens of proof, and require independent analysis. The court improperly conflated the analyses of these elements to reach a legally improper conclusion. Put another way, the court's decision that "the defendant[s] ha[ve] shown a secondary source exists beneath the basement property owned by the plaintiff, and therefore finds the plaintiff has failed to prove the allegations that defendant[s] ha[ve] caused the pollution beneath his house" amounts to logical fallacy; it is a non sequitur.¹¹

Finally, the court's finding that the defendants proved a secondary source of the pollution *in the plaintiff's basement*, has no bearing on the allegations of the plaintiff's complaint regarding the pollution that continues to exist outside of his basement, in the areas that the defendants declined to remediate because of concerns about the structural integrity of the plaintiff's home foundation and his garage. For all of these reasons, we conclude that the court improperly rendered judgment in favor of the defendants.

The judgment is reversed and the case is remanded for a new trial.

In this opinion LAVINE, J., concurred.

* The listing of judges reflects their seniority status on this court as of the date of oral argument.



² General Statutes § 22a-16 provides: “The Attorney General, any political subdivision of the state, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity may maintain an action in the superior court for the judicial district wherein the defendant is located, resides or conducts business, except that where the state is the defendant, such action shall be brought in the judicial district of Hartford, for declaratory and equitable relief against the state, any political subdivision thereof, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity, acting alone, or in combination with others, for the protection of the public trust in the air, water and other natural resources of the state from unreasonable pollution, impairment or destruction provided no such action shall be maintained against the state for pollution of real property acquired by the state under subsection (e) of section 22a-133m, where the spill or discharge which caused the pollution occurred prior to the acquisition of the property by the state.”

³ General Statutes § 22a-452 provides: “(a) Any person, firm, corporation or municipality which contains or removes or otherwise mitigates the effects of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes resulting from any discharge, spillage, uncontrolled loss, seepage or filtration of such substance or material or waste shall be entitled to reimbursement from any person, firm or corporation for the reasonable costs expended for such containment, removal, or mitigation, if such oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes pollution or contamination or other emergency resulted from the negligence or other actions of such person, firm or corporation. When such pollution or contamination or emergency results from the joint negligence or other actions of two or more persons, firms or corporations, each shall be liable to the others for a pro rata share of the costs of containing, and removing or otherwise mitigating the effects of the same and for all damage caused thereby.

“(b) No person, firm or corporation which renders assistance or advice in mitigating or attempting to mitigate the effects of an actual or threatened discharge of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous materials, other than a discharge of oil as defined in section 22a-457b, to the surface waters of the state, or which assists in preventing, cleaning-up or disposing of any such discharge shall be held liable, notwithstanding any other provision of law, for civil damages as a result of any act or omission by him in rendering such assistance or advice.

except acts or omissions amounting to gross negligence or wilful or wanton misconduct, unless he is compensated for such assistance or advice for more than actual expenses. For the purpose of this subsection, ‘discharge’ means spillage, uncontrolled loss, seepage or filtration and ‘hazardous materials’ means any material or substance designated as such by any state or federal law or regulation.

“(c) The immunity provided in this section shall not apply to (1) any person, firm or corporation responsible for such discharge, or under a duty to mitigate the effects of such discharge, (2) any agency or instrumentality of such person, firm or corporation or (3) negligence in the operation of a motor vehicle.”

⁴ The plaintiff conceded that, in 2009, he had stated that the oil color had been purple, but that the photograph that he viewed during his testimony had clearly showed that it was black.

⁵ Because the only expert the court found persuasive was Burgess, we have provided summaries of the testimony of the other experts for context, but have given a detailed exposition of Burgess’ testimony.

⁶ The plaintiff’s attorney objected to some of Doundoulakis’ testimony, arguing that it was new information that he had not seen or heard previously and that had not been disclosed. Doundoulakis admitted at this time that he had not prepared a report. The court then stated that it would limit his testimony to what he had discussed during his deposition. Ultimately, the court rejected Doundoulakis’ testimony in its entirety.

⁷ We find the court’s articulation puzzling. The order of the witnesses should have no bearing on their credibility, neither should the fact that they did not remain in the courtroom to hear other witnesses’ testimony.

⁸ In setting forth the parties’ respective burdens of proof for statutory environmental claims, our Supreme Court has suggested that expert testimony, at a minimum, is required to rebut a plaintiff’s prima facie showing of pollution attributable to the defendant. “Statutes such as the [Environmental Protection Act, General Statutes §§ 22a-14 through 22a-20] are remedial in nature and should be liberally construed to accomplish their purpose. . . . Although the ultimate burden of proof never shifts from the plaintiff, the [Environmental Protection Act] contemplates a shifting of the burden of production. . . . The plaintiff must first make a prima facie showing that the conduct of the defendant, acting alone, or in combination with others, has, or is reasonably likely unreasonably to pollute, impair, or destroy the public trust in the air, water or other natural resources of the state” (Citation omitted; footnote omitted; internal quotation marks omitted.) *Manchester Environment Coalition v. Stockton*, 184 Conn. 51, 57–58, 441 A.2d 68 (1981), overruled in part on other grounds by *Waterbury v. Washington*, 260 Conn. 506, 556, 800 A.2d 1102 (2002).

“Once a prima facie case is shown, the burden of production shifts to the defendant. Under § 22a-17, the defendant may rebut the prima facie showing by the submission of evidence to the contrary. . . . [T]he nature of the evidence necessary to rebut [the] plaintiff’s showing will vary with the type of environmental pollution, impairment or destruction alleged and with the nature and amount of the evidence proffered by the plaintiff. In some cases, no doubt, testimony by expert witnesses may be sufficient to rebut [the] plaintiff’s prima facie showing. While in other actions the defendant may find it necessary to bring forward field studies, actual tests, and analyses which support his contention that the environment has not or will not be polluted, impaired or destroyed by his conduct. Such proofs become necessary when the impact upon the environment resulting from the defendants’ conduct cannot be ascertained with any degree of reasonable certainty absent empirical studies or tests.” (Citation omitted; internal quotation marks omitted.) *Id.*, 60.

⁹ As noted previously in this opinion, the court rejected fully the expert testimonies of Brogie and Doundoulakis. Although the court found Warzecha to be credible, it found his opinions “outdated,” apparently because he testified before Burgess. In any event, the court’s finding that there was a secondary source of pollution beneath the plaintiff’s basement could not have been based on Warzecha’s testimony because his opinion was that the pollution emanated from the defendants’ property. Furthermore, although Warzecha acknowledged that Burgess had raised the possibility of a second source, he had not identified any such source.

¹⁰ The dissent in the present case specifically states that the trial court “appears to have explicitly concluded that ‘the plaintiff has failed to prove the allegations that [the] defendant caused the pollution beneath his house.’ The court, however, muddied the waters by stating that a ‘secondary source

exists beneath the basement property owned by the plaintiff.’ ” We disagree with the dissent’s conclusion that the court’s use of the phrase “secondary source” somehow “muddied the waters” because it was unclear or ambiguous. The trial court first set forth its secondary source finding and then it explicitly stated “*therefore* . . . the plaintiff has failed to prove the allegations that defendant has caused the pollution beneath his house.” (Emphasis added.) In light of the clear link the court explicitly set forth between its finding of a secondary source and its conclusion that the plaintiff “therefore” failed to prove his case, we simply cannot conclude, as the dissent does, that there is anything unclear or ambiguous in the court’s brief explanation of its analysis.

The dissent goes on to suggest that the plaintiff should have requested that the trial court articulate what it meant by the term “secondary source” of contamination. We disagree that the plaintiff should have seen an ambiguity in the clear language of the court’s findings that required some articulation. The words “secondary source” have a plain meaning, both generally and in the specific context of this case.

In this case, Burgess, the expert credited by the trial court, defined a secondary source as “an *additional* source other than what was identified on the parsonage property.” (Emphasis added.) This definition is consistent with the common definitions provided by various dictionaries. For example, Merriam-Webster’s Collegiate Dictionary defines secondary as “of second rank, importance, or value,” and “not first in order of occurrence or development.” Merriam-Webster’s Collegiate Dictionary (11th Ed. 2012) p. 1121. The American Heritage College Dictionary defines secondary as “[o]f the second rank; not primary,” “[i]nferior,” “[m]inor; lessor.” American Heritage College Dictionary (2d Ed. 1985) p. 1107. Black’s Law Dictionary defines secondary as, “[o]f a subsequent, subordinate, or inferior kind or class; generally opposed to ‘primary.’ ” Black’s Law Dictionary (5th Ed. 1979) p. 1212. We do not read any ambiguity in the court’s use of the phrase “secondary source,” and we conclude that it would be unfair and unreasonable to impose on the plaintiff an obligation to argue to the trial court that the meaning of this phrase was ambiguous and in need of clarification before taking an appeal. The words are clear and unambiguous, and we conclude that the plaintiff acted properly in relying on the court’s chosen words when he pursued his appeal.

¹¹ “[A] [n]on [s]equitur [is] [s]ometimes called the ‘fallacy of the consequent,’ a non sequitur is an argument which is not really an argument but a series or propositions with a conclusion that has no logical connection to the premises. The term non sequitur means simply that the conclusion does not follow (logically) from the premises.” (Emphasis omitted.) D. Lind, *Logic & Legal Reasoning* (2d Ed. 2007) § 5.2, p. 292.
