

August 2008

***Daubert* In Natural Resource Damages Litigation**

BY ERIC G. LASKER AND DONALD W. FOWLER
SPRIGGS & HOLLINGSWORTH

The recent upsurge in trustee claims for natural resource damages under the NRD provisions of CERCLA and state law have heightened the importance of the court's role as gatekeeper against unreliable and irrelevant expert testimony. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993). While there have only been a handful of adjudicated *Daubert* challenges in NRD litigation, recent experience in these and other environmental cases demonstrates that *Daubert* provides a powerful weapon against the often-novel methodologies put forth by NRD experts. These cases also place a premium on NRD counsel who can frame the *Daubert* inquiry so as to present a convincing picture why experts who rely on untested modeling or suspect data do not withstand *Daubert* inquiry.¹

Other articles have surveyed the substantive law of *Daubert* as applied in environmental litigation, and we will not be rereading that ground here. Instead, in this article, we seek to provide tactical guidance on how NRD counsel can approach the *Daubert* inquiry so as to maximize the likelihood of a favorable outcome. In Section I below, we set forth three general frameworks for attacking an expert's opinion in NRD and environmental litigation and provide examples from the recent case law in which these frameworks guided the Court's *Daubert* opinion. In Section II, we discuss a case study from the seminal NRD

¹ The fact that NRD claims are tried before a judge rather than a jury does not lessen the importance of *Daubert* in excluding scientifically unreliable or irrelevant expert testimony. While a court may have some more flexibility in when it performs its gatekeeping function, it still must exclude expert testimony that does not satisfy the *Daubert* requirements. As one court recently explained:

It is not that evidence may be less reliable during a bench trial; it is that the court's gatekeeping role is necessarily different. Where the gatekeeper and the factfinder are one and the same - that is, the judge - the need to make such decisions prior to hearing the testimony is lessened. ... That is not to say that the scientific reliability requirement is lessened in such situations; the point is only that the court can hear the evidence and make its reliability determination during, rather than in advance of, trial. Thus, where the factfinder and the gatekeeper are the same, the court does not err in admitting the evidence subject to the ability later to exclude it or disregard it if it turns out not to meet the standard of reliability established by Rule 702.

Toxic and Hazardous Substances Committee Newsletter *August 2008*

Daubert opinion in *New Mexico v. General Electric Co.* that illustrates how defendants framed various aspects of the State's hydrogeologist's expert testimony in a successful effort to get his opinions excluded and the State's NRD claims dismissed.

I. Glass Houses, Houses of Cards, and Brick Walls

By its nature, NRD litigation involves competing hypotheses about the nature and extent of past or future losses to natural resource services that rely on sophisticated modeling, the selective use of historical testing data, and often necessarily novel theories about how natural resource services should be valued. The expert opinions proffered by parties on both sides of NRD cases can stretch the bounds of testable science and, accordingly, are often ripe for challenge under the rigorous requirements of the scientific method of hypothesis testing enshrined in the law under *Daubert v. Merrell Dow Pharmaceuticals Co.*, 509 U.S. 579 (1993). Whether or not such expert methodologies and models might be validated in the future, they should not be admissible before that occurs. As Judge Posner has explained: "Law lags science; it does not lead it." *Rosen v. Ciba-Geigy*, 78 F.3d 316, 319 (7th Cir. 1996).

Nonetheless, judges who are often lacking in scientific proficiency can be daunted by the apparent wizardry of modern scientific techniques and often shy away from the diligent gatekeeping requirements imposed under *Daubert*. For example, a survey of 400 state trial judges found that while a large majority of judges agreed that the role of "gatekeeper" was an appropriate one for a judge, most judges did not have a proper understanding of the scientific principles set forth in *Daubert*. See Sophia I. Gatowski, *et al.*, *Asking the Gatekeepers: A National Survey of Judges on Judging Expert Evidence in a Post-Daubert World*, 25(5) *Law and Human Behavior* 433 (2001). Thus, NRD counsel must not only themselves understand the flaws in the opposing side's expert's opinions, but they must present those flaws in such a way that the Court understands how they compel exclusion of the expert's testimony.

How can NRD counsel accomplish this task? A crucial first step is to determine the best approach to dismantling the expert's scientific construct. In that regard, expert opinions can be classified into three categories, that we call glass houses, houses of cards, and brick walls.

A. Glass Houses

A glass house opinion is one that looks impressive but that can be shattered by one well placed blow. Unfortunately, while NRD counsel with an intimate knowledge of how the expert's opinion is constructed may often convince themselves of the fragility of the

Toxic and Hazardous Substances Committee Newsletter *August 2008*

opposing expert's opinions, counsel relying on one shattering blow to defeat an expert opinion under *Daubert* will often be disappointed.

That fact notwithstanding, the relative novelty of NRD litigation and the often as yet unvalidated or incomplete analyses relied upon to link historical activities to a loss of natural resource services can lead many NRD experts to construct glass house opinions, particularly when viewed from the key *Daubert* perspective of "fit." While *Daubert* challenges often focus on the *reliability* of an expert's methodology – that is, whether the opinion is derived by the scientific method whereby a hypothesis is first generated, then tested, and then validated – a coequal requirement under *Daubert* is that the expert opinion is *relevant* or "fits" with the proposition that the expert is seeking to establish. As the Supreme Court explained in *Daubert*, "[f]it' is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes." *Daubert*, 509 U.S. at 591.

In NRD litigation, it is not sufficient for plaintiff experts to establish that defendant's activities contributed to contamination of the site at issue, they must also establish how those alleged injuries in fact resulted in a loss of natural resource services, the sine qua non of an NRD claim. This was the case in the New Mexico v. General Electric Co. litigation, where defendants ultimately succeeded in defeating all of plaintiffs' experts opinion with a well placed "doesn't fit" blow, because the various hydrogeology, engineering, and economic opinions proffered by those experts failed to link the alleged contamination of groundwater

ABOUT THE COMMITTEE

Member participation is the focus and objective of the IADC's **Toxic and Hazardous Substances Committee** through a monthly newsletter, committee Web page, e-mail inquiries and contacts regarding tactics, experts and the business of the committee, semiannual committee meetings to discuss issues and business, Journal articles and other scholarship, our outreach program to welcome both new members and members waiting to get involved, networking and CLE presentations significant to the experienced trial lawyer defending toxic tort and related cases.

Learn more about the Committee at:
www.iadclaw.org/comm.cfm?comm=toxh

The Vice Chair of the *Toxic and Hazardous Substances Committee Newsletter* is:

Niall A. Paul
Spilman Thomas & Battle, PLLC
Charleston, WV
Phone: 304.340.3800
E-mail: npaul@spilmanlaw.com
Web: www.spilmanlaw.com



Toxic and Hazardous Substances
Committee Newsletter
August 2008

to the requisite showing under their damages theory of a loss of drinking water services. When the Court recognized this fact, plaintiffs' opinions were left in shards:

As to the proffered opinions of Brookshire and Johnson on estimated natural resource damages, and of Dr. Williams as to the contaminant plume volume, content and location, as well as 'buffer zone' volume and 'lost safe yield,' the court has found a lack of 'fit,' *i.e.*, a lack of relevance to the triable issues remaining in this case.

New Mexico v. General Electric, 335 F. Supp. 2d 1266, 1309-10 (D.N.M. 2004).

NRD expert opinions can also be vulnerable to glass house treatment where it can be shown that the expert has slid into the role of advocate rather than scientist. As the Ninth Circuit has stated, "coming to a firm conclusion first and then doing research to support it is the antithesis of this [scientific] method." *Claar v. Burlington No. R. Co.*, 29 F.3d 499, 502-503 (9th Cir. 1994). In *In re Methyl Tertiary Butyl Ether ("MTBE") Products Liab. Litig.*, MDL No. 1358, 2008 WL 1971547, at *8 (S.D.N.Y. May 7, 2008), for example, the Court focused on this concern in excluding the testimony of plaintiffs' expert that MTBE can be tasted and smelled in drinking water at levels as low as 1 ppb:

Dr. Cain's failure to present a consistent opinion about the percentage of the population he believes can detect MTBE at 1 ppb, or any other level, severely detracts from his reliability. Indeed, the only consistency in Dr. Cain's testimony is that every well discussed in his reports has been contaminated to such an extent that plaintiffs were harmed-no matter what that level of contamination is. As a result, it appears Dr. Cain is reaching his conclusion first (*i.e.*, MTBE in the well is detectable) and then providing whatever reasons are necessary to support it.

The Court continued: "Courts are not naive about the fact that some attorneys will incorrectly instruct experts that their "first and most important role is to be an advocate for the party who calls him as a witness. ... because some experts are misled by their attorneys, or even just mistaken, about their role in litigation, courts must continue to act

as a gatekeeper in determining whether to admit the testimony.” *Id.* at *11.

NRD counsel can also try to frame opposing experts’ opinions as glass houses by arguing that the expert lacks the requisite expertise to offer the opinion proffered. As a general matter, this can be a risky approach, because courts are often loathe to reject seemingly credentialed experts on this ground, and requiring the Court to defend the expert’s credentials can hurt a party’s cause when it then seeks to attack the reliability and relevance of the expert’s opinions. This risk appears to have at least partially driven the result in *Fisher v. Ciba Specialty Chemicals Corp.*, No. 03-0566, 2007 WL 2302470, at *5 n.9, *6 (S.D. Ala. Aug. 8, 2007), in which the Court, having first admonished defendants for the “flimsiness of [their] challenge” to the qualifications of plaintiffs’ fate and transport expert, then rejected defendants’ challenge to the expert’s admittedly circumstantial methodology as “one-sided and unfair.” However, because of the many expert issues in play in environmental and NRD litigation, an expert may often be tempted to stray into areas outside his specific expertise. In those cases, a tactful but well placed blow can shatter at least those outlying portions of the expert’s opinion. *See, e.g., Valley View Angus Ranch v. Duke Energy Field Servs., LP.*, No. CIV-04-191-D, 2008 WL 2329169 (W.D. Okla. June 4, 2008) (excluding environmental sciences expert’s testimony to the extent he opined as to the adequacy of defendants gas pipeline gathering system).

B. Houses of Cards

The house of cards opinion rests on a foundational premise which, if removed, brings the rest of the expert’s opinion crashing down around it. These types of opinions can be particularly prevalent in NRD litigation, where expert opinions can rest on sophisticated groundwater, soil, or air dispersion modeling whose detailed machinations will often be completely indecipherable to judges, let alone lay juries. Often, even where the expert’s modeling methodology is robust and *Daubert*-defensible, the output of these models relies

ABOUT THE IADC



The International Association of Defense Counsel dedicates itself to enhancing the development of skills, professionalism and camaraderie in the practice of law in order to serve and benefit the civil justice system, the legal profession, society and our members.

One North Franklin
Suite 1205
Chicago, IL 60606 USA
Web: www.iadclaw.org
E-mail: info@iadclaw.org
Phone: 312.368.1494
Fax: 312.368.1854

Toxic and Hazardous Substances
Committee Newsletter
August 2008

almost wholly on specific inputs for which there is no adequate scientific foundation. And in some NRD cases, plaintiffs may rely on multi-tiered houses of cards, where, for example, an expert economist relies in her opinion on a hydrogeologist who relies on a computer model that rests upon a handful (or even one) outlier data points.

The opportunities provided defense counsel from plaintiff expert “house of cards” opinions was cogently described by the court in the Three Mile Island litigation: “Plaintiffs fashioned their expert testimony as a precarious house of cards with each expert relying on conclusions which other experts were responsible for generating and verifying. Because of this, the failure of even one of Plaintiffs’ experts to produce a verifiable conclusion necessarily harms the conclusions of other of Plaintiffs’ experts.” *In re TMI Litig. Cases Consolidated II*, 911 F. Supp. 775, 824-25 (M.D. Pa. 1996).

In NRD and environmental litigation, an expert opinion can be successfully excluded as a house of cards when it is based on cherry picked data that is not shown through reliable evidence to be representative of general site conditions. For example, in *Reeves v. Commonwealth Edison Co.*, No. 06 C 5540, 2008 WL 239030, at *6 (N.D. Ill. Jan. 28, 2008), an expert geologist’s testimony regarding current contamination at a site was excluded where premised on an opined background level that “was based on just one sample from an upgradient pond” and the expert “conceded that he did not know whether his sample was statistically representative of the background tritium concentration in groundwater” in the area. In *Sierra Club and Mineral Policy Center v. El Paso Properties, Inc.*, No. 01-cv-02163, 2007 WL 1630710, at *10 (D. Colo. June 4, 2007), the court excluded an expert’s opinions on similar grounds: “The record lacks credible evidence from which I can reliably conclude that the sample at RT-EP 4000 came from a seep in the granite wall of the Roosevelt Tunnel. Without that evidence, Plaintiffs have failed to establish the baseline water quality, and their natural tracer theory collapses because they cannot distinguish the water quality at the Portal from the baseline water quality.”

Similarly, expert opinions that rest on untested or unverifiable assumptions should be excluded. In *Allgood v. General Motors Corp.*, No. 102CV1077, 2006 WL 2669337, at *15 (S.D. Ind. Sept. 18, 2006), an expert based his opinion on the spread of contaminants upon an analyses of floodplain lines, but failed to provide an adequate foundation for the floodplain lines input into his analysis. In holding this opinion inadmissible, the court properly recognized it as a house of cards. “Even assuming that these strategies are appropriate for measuring floodplain lines, Dr. Dovantzis’s floodplain delineation cannot be considered sufficiently reliable because he relied on the unrecorded and untrained observations of Rohan to observe signs of flooding.”

Toxic and Hazardous Substances
Committee Newsletter
August 2008

C. Brick Walls

A brick wall opinion is one in which an expert carefully constructs his opinion from numerous scientific bricks, none of which is independently sufficient to support his conclusion but which together creates at least the appearance of an impregnable whole. These can often be the most difficult expert opinions to attack, because they can withstand any frontal blow to the opinion as a whole.

The secret in defeating the “brick of wall” opinion lies not in the one shattering blow or the removal of a necessary foundational card but rather on the disaggregation of the expert’s opinions into its individual bricks. As properly educated courts have recognized, “[o]ne cannot lump together lots of hollow evidence and reach a reliable conclusion.” *Siharath v. Sandoz Corp.*, 131 F. Supp.2d 1347, 1371 (N.D. Ga. 2001).

[T]he Court has gone on to consider whether, in aggregate, the evidence cited supports the inference that would enable plaintiffs’ experts to offer an admissible causation opinion. The Court concludes that it does not. In this particular case, the data points pulled from each ‘type’ of evidence are too limited, too disparate and too inconsistent. It amounts to a hollow whole of hollow parts.

Caraker v. Sandoz Pharms. Corp., 188 F. Supp. 2d 1026 (S.D. Ill. 2001).

As recent experience in environmental litigation demonstrates, this is not an easy task. In *United States v. W.R. Grace*, 504 F.3d 745 (3rd Cir. 2007), for example, the Third Circuit reversed the *Daubert* exclusion of expert testimony based on historical ambient air testing data, holding that the district court had improperly examined each piece of evidence supporting the expert’s opinion in isolation:

This document-based approach creates the problem that one cannot know fully whether or in what ways other information sources are meant to, in combination with the challenged data sources, form the premise for the expert testimony. Each document must be dispositive under the district court’s approach, a requirement we do not impose under Rule 702. On remand, the district court shall conduct the Rule 702 analysis in light of the expert’s reasoning and methodology as a whole.

Toxic and Hazardous Substances Committee Newsletter *August 2008*

Similarly, in *Fisher*, defendants were unsuccessful in their efforts to exclude the opinions of plaintiffs fate and transport expert as “a collection of factoids and conclusions with no cohesion.” 2007 WL 2302470, at *9. Defendants attacked the plaintiff for failing to perform any quantifiable analysis to test his opinion that DDT emissions from the defendant facility had contaminated plaintiffs’ property. But the Court admitted the testimony nonetheless, apparently swayed by the brick wall constructed by plaintiff’s expert from individual bricks which, in and of themselves, could not support the weight of the expert’s opinion. In so doing, the court highlighted the difficulty in attacking this type of expert opinion in Environmental and NRD litigation:

We are dealing with alleged environmental contamination based on activities that may have occurred a half century ago. These are complex systems and complex pathways, with multiple potential sources, all veiled and obscured by the sands of time in the intervening passage of a half century. ...

Daubert does not require scientists to be endowed with super-powers. Kaltoven has offered an inferential, scientific methodology that creates, analyzes and identifies trends in data (much of which he himself collected and produced); considers and rules out alternative sources; points to evidence that Ciba emitted DDT; explains the various mechanisms through which Ciba-emitted contamination could have reached plaintiffs’ property; and concludes that the contamination on plaintiffs’ property originated from the Ciba plant. That is sufficient to satisfy *Daubert’s* reliability standard.

Notwithstanding the difficulties, even if counsel is not successful in knocking out each of the bricks in an expert’s opinion, the brick-by-brick approach can be an effective method in carving off parts of an experts opinions. Further, a successful attack on enough of these bricks can weaken the wall sufficiently so that the remaining opinion can be properly recharacterized as a glass house or house of cards and successfully attacked on those grounds.

II. A Daubert Case Study – Plaintiffs’ Expert Hydrogeologist in New Mexico v General Electric Company

To get an idea how counsel may use the general discussion above in responding to expert opinions in NRD litigation, let’s consider a case study from *New Mexico v. General Electric Company*, which resulted in the most detailed *Daubert* analysis in any NRD case to date. In *New Mexico*, the State sought a multibillion dollar NRD recovery based upon the allegation that groundwater contamination in the South Valley, New Mexico purportedly linked to the defendants’ historic manufacturing activities had resulted in the loss of hundreds of thousands of acre feet of water that otherwise would have been used for drinking water services.

The State’s damages cases rested almost entirely on an expert analysis of the alleged impact of groundwater contamination conducted by the State’s expert hydrogeologist, Dr. Dennis Williams. Dr. Williams opined that groundwater contamination had spread outside the scope of the remediation system in the South Valley and had resulted in a loss of safe yield of 7,000 acre-feet/year and a loss of groundwater storage volume of 470,000 acre-feet. Dr. Williams generated these opinions through a variety of different scientific models, including a 3-dimensional kriging model, a groundwater flow model, and a solute transport model. He also used a variety of assumptions and foundational premises to support various aspects of his opinion.

Dr. Williams’ opinions contained elements of each of the various types of expert opinion constructs discussed above. His opinions were constructed with the use of a variety of different models and analyses, each of which individually suffered from significant flaws, but which together gave the appearance of an impenetrable brick wall. His opinions involved sophisticated analyses that rested on foundational premises that he could not support and without which his house of cards would collapse. And his conclusions were glass houses in that they were largely divorced from real world data and the historical fact that the lost drinking water services he predicted had not in fact occurred. In challenging Dr. Williams’ opinion, defendants thus were called upon to use the techniques appropriate in attacking each of the expert opinion types noted above.

First, defendants disaggregated Dr. Williams’ opinions into its component bricks. While each of the defendants focused on different “bricks,” for this case study we will focus on the key arguments raised by General Electric. General Electric broke down Dr. Williams’ opinion into the following parts: (1) the generation of a modeled groundwater plume, (2) the alleged spread of that modeled plume over time, (3) the imposition of a buffer zone of clean but purportedly unavailable water around the plume, and (4) the

Toxic and Hazardous Substances
Committee Newsletter
August 2008

measurement of the loss of safe yield of drinking water from the alleged unavailable contaminated plus buffer zone volume. Next, General Electric attacked each of these separate bricks as themselves being constructed either as glass houses or houses of cards:

A. Dr. Williams' generation of a groundwater plume

Dr. Williams began his analysis by modeling a groundwater plume from fewer than 150 groundwater testing samples taken in 1992. Dr. Williams' selection of this 1992 data (to the exclusion of other historic testing data) was questionable in its own right, but an even bigger problem arose from the model he used to take this small data set and construct a contaminant plume of sufficient size and detail to support his subsequent analyses. For this purpose, Dr. Williams employed a geostatistical modeling approach called 3-dimensional kriging. Simply put – with simple here being an admittedly relative term – 3-dimensional kriging takes limited real world data points and seeks to extrapolate and interpolate what would have been found at other locations in 3-dimensional space between or outside the tested locations.

3-D kriging is an iterative process, in which various estimates of missing data are repeatedly fitted or refitted to the historical data based upon a series of expert judgment calls. But despite the fact that this kriging model was the central methodology used by Dr. Williams to construct his plume, he readily acknowledged that he was not an expert in kriging and had relied wholly on a junior staff member to conduct the analysis. Dr. Williams opinion as to the contaminant groundwater plume that purportedly existed in 1992 – not to mention his subsequent opinions as to the purported spread of that plume – thus was a house of cards. As another court explained in rejecting an expert opinion likewise resting on the expertise of other unnamed and unproduced experts, “without the independent expert testimony of the assistants “explaining and justifying the discretionary choices they made, [the expert’s] testimony would have rested on air.” *Dura Automotive Systems of Indiana, Inc. v. CTS Corp.*, 285 F.3d 609 (7th Cir. 2002).

This argument was unsuccessful. While the court took note of the fact that the kriging analysis had not been conducted by Dr. Williams, *see New Mexico v. General Electric Co.*, 335 F. Supp.2d 1266, 1278 n.17 (D.N.M. 2004), this fact did not play a significant role in the court’s *Daubert* analysis.

B. Dr. Williams' opinion as to the spread of the 1992 plume over time

After thus generating his 1992 plume, Dr. Williams used a groundwater flow model and a solute transport model to predict the spread of this alleged plume over time. General

Toxic and Hazardous Substances Committee Newsletter *August 2008*

Electric attacked this part of Dr. Williams' opinion as being both a house of cards and a glass house.

The predicted spread of contaminants was a house of cards because it rested in large part on plainly unfounded factual premises. Initially, Dr. Williams defined his contaminant plume as being that volume of groundwater that contained contaminants at or in excess of 1 part per billion, a level far below the state's own regulatory standards for safe drinking water. (Recall that the State's NRD claim was for loss of drinking water services). Dr. Williams was unable to provide any scientific foundation for his 1 ppb standard, testifying that he was "not aware how they arrived at the number" and that he used the number because it was "defensible." This foundational card was knocked away by the Court in its first major substantive ruling when it required the State to base its claim on proper drinking water standards. *New Mexico v. General Electric Co.*, 335 F. Supp.2d 1185, 1210 (D.N.M. 2004) ("groundwater that meets [the State drinking water] standards has not been lost to use as drinking water"). With his house of cards facing collapse, Dr. Williams pulled another card from his deck and adopted a new, indefensible premise to support his construct: that the presence of a modeled groundwater contaminant at any level of the aquifer rendered the entire vertical column of groundwater beneath that level likewise contaminated. In this way, Dr. Williams was able to add hundreds of vertical feet of "contaminated" groundwater to his modeled results, quadrupling or more the volume that his own models predicted. Again, the Court recognized that this foundational card was flawed: Much like Scotland's famed Loch Ness monster, the Plaintiffs' "deep, deep contaminant plume" is believed to be "down there somewhere," and has not been conclusively proven *not* to exist, but its proponents have yet to come forward with significant probative admissible evidence of specific facts affirmatively demonstrating that it *does* exist." *New Mexico v. General Electric Co.*, 322 F. Supp. 2d 1237, 1256 (D.N.M. 2004).

GE also argued that Dr. Williams' opined spread of contaminants was a glass house because it didn't accurately predict the findings in real world testing at the site. While Dr. Williams had limited his analysis to a plume modeled solely from 1992 data, there was in fact an extensive body of groundwater data from tests conducted from 1992 to 2001. When Dr. Williams' opined spread of his modeled plume was compared to this real world data, it had in a false positive rate for the various tested contaminants (*i.e.* it predicted contamination where no such contamination was in fact found) ranging from 42% to 67%. Remarkably, when Dr. Williams was confronted with these major discrepancies, he argued that the real world data should be discarded in favor of his model: "[I]f you start with '92 with a big area and then in 2000 you have a small area, and if you sat this [2000] information is correct,

then you have to calibrate your model to make it fit that small area, and I believe that wouldn't be correct." But, of course, *Daubert* does not allow an expert to throw out the data in preference for his opinion. In similar circumstances, another court properly recognized that this type of discrepancy was a shattering *Daubert* blow: "[U]se of the groundwater flow model as a comparatively accurate predictor of the general direction of VOC migration doesn't support a finding of reliability when the model is used to support an opinion that VOC's traveled from one point (anywhere on the railyard) to a specific second point (the Ramsey's well) despite lack of support in years of actual testing." *Ramsey v. Consolidated Rail Corp.*, 11 F. Supp. 2d 1030, 1037 (N.D. Ind. 2000).

In *New Mexico*, however, the court held that this discrepancy was not fatal. While noting that "[o]ne area of vulnerability of Williams' projected plume is its apparent conflict with actual below-MCL or 'non-detect' measurements obtained from samples collected in the field," the court reasoned that "Dr. Williams' analysis gives some rough *estimate* of the nature, extent, and location of contaminated water beneath the South Valley Site based upon selected data, and the relationship between model and measurements in this instance is something more than purely *ipse dixit*." *New Mexico*, 335 F. Supp.2d at 1284. The court held that these discrepancies went to the "weight and credibility" of Dr. Williams' opinion, but did not render it inadmissible. *Id.*

C. Dr. Williams' imposition of a buffer zone of clean but purportedly unavailable water around the plume

Even with the fatal flaws of his contaminant plume analysis, Dr. Williams was unable to generate a volume of water sufficient to support the multibillion dollar NRD claim being pressed by the State. For this he needed to add another artificial construct, the imposition of a buffer zone of uncontaminated groundwater around his predicted plume by which Dr. Williams inflated his opinion as to the volume of unavailable groundwater in the South Valley by 800%. As Dr. Williams' explanation and defense of this buffer zone changed over time, General Electric attacked it as both a house of cards and a glass house.

Originally, Dr. Williams conceded that his buffer zone was not based upon any scientific analysis at all but was simply an assumption that had been dictated to him by counsel: "My 4,000 foot buffer zone was clearly stated, the underlying assumptions that came up to that, and that's strictly under the direction that I was given to estimate not only the loss of yield and volume for the actual plume area and volume, but also to add a buffer zone around that." This clearly was a house of cards opinion; it rested solely upon a foundational card that was dictated by counsel.

Toxic and Hazardous Substances
Committee Newsletter
August 2008

Recognizing the weakness in this expert construct, Dr. Williams subsequently argued that he could construct a buffer zone based upon modeling that demonstrated that any placement of wells within the buffer zone would draw in contaminants and render the well unusable. But this transformed opinion was a glass house, because once again Dr. Williams' opinions did not square with the real world data. In direct contravention to his contention, the City of Albuquerque was operating a number of municipal drinking water wells within Dr. Williams' opined buffer zone, each of which was producing clean water. The Court recognized it as such, and this opinion was excluded. *See New Mexico*, 335 F. Supp.2d at 1286 ("By definition, Dr. Williams' "buffer zone" volumes fall beyond the boundaries of the estimated "above-MCL" contaminant plume, and are usable as drinking water.").

D. Dr. Williams' opinion of an alleged loss of safe yield

The final brick in Dr. Williams' expert analysis was the purported loss of safe yield from his opined groundwater plume plus buffer zone. Safe yield is the rate at which ground water can be withdrawn without causing long term depletion of storage. Dr. Williams purported to calculate the loss of safe yield by measuring the inflows and outflows of groundwater in the volume of groundwater he opined was unavailable.

What Dr. Williams failed to acknowledge was that his methodology made no sense when examining only a portion of an aquifer. While the measure of inflows and outflows from an aquifer as a whole, and a concurrent analysis of water levels in the aquifer, can be used to determine whether the aquifer can safely yield the volume of groundwater being extracted, the measures of inflows and outflows in a subpart of the aquifer (particularly one as relatively small as that represented by Dr. Williams' projected plume plus buffer zone) only reflects the volume of groundwater being extracted from that area and the volume of groundwater flowing in from other parts of the aquifer to replace that lost regional volume. In other words, what Dr. Williams was putting forth as a measure of safe yield was in fact a measure of historical groundwater pumping in the area (indeed the data on historical pumping and Dr. Williams' alleged safe yield tracked almost exactly). Once this fact was made clear to the Court, Dr. Williams' opinion was properly recognized as a glass house and it was excluded. *See New Mexico*, 335 F. Supp.2d at 1290 ("Dr. Williams' testimony suggests that existing "extractive services" account for all of his estimated "safe yield," and more").

* * * *

General Electric's attack on each of the component bricks in Dr. Williams' expert analyses enjoyed only mixed success. While Dr. Williams opinions as to the loss of safe

Toxic and Hazardous Substances
Committee Newsletter
August 2008

yield and buffer zone were held inadmissible, his opinion as to the spread of groundwater contaminants was excluded only in part, and his modeling of a 1992 contaminant plume was allowed to stand. The remaining opinions, however, in no way resembled the “brick wall” opinion that Dr. Williams had sought to present.

The ultimate success of General Electric’s approach became clear when the Court considered General Electric’s ultimate argument that Dr. Williams’ opinion failed because it did not fit the State’s theory of a loss of drinking water services. As noted above, this argument relied upon the Court recognizing Dr. Williams’ overarching opinion as a glass house, a recognition that was greatly facilitated by the successfully weakening of the brick wall façade.

Conclusion

The difficulties posed by scientifically unreliable an irrelevant expert testimony in NRD litigation highlight the wisdom in the Supreme Court’s observation in *Daubert* that “[e]xpert evidence can be both powerful and quite misleading because of the difficulty in evaluating it.” 509 U.S. at 595. In challenging the admissibility of this evidence, NRD practitioners can be well served by properly classifying expert opinions as glass houses, houses of cards, or brick walls and planning their *Daubert* challenges accordingly.

*** SEE THE NEXT PAGE FOR ADDITIONAL INFORMATION
ABOUT THE AUTHORS OF THIS ARTICLE AND OTHER
ARCHIVED ARTICLES PUBLISHED BY THE IADC’S
TOXIC AND HAZARDOUS SUBSTANCES COMMITTEE ***

[HTTP://WWW.IADCLAW.ORG/COMM.CFM?COMM=TOXH](http://www.iadclaw.org/comm.cfm?comm=toxh)

Toxic and Hazardous Substances Committee Newsletter *August 2008*



ABOUT THE AUTHORS AND THEIR FIRM

Eric G. Lasker (pictured, left) is a partner in the Washington, D.C., law firm of Spriggs & Hollingsworth, where he litigates a wide variety of complex civil matters, with a current focus on toxic torts, environmental litigation, constitutional litigation, and pharmaceutical products liability. Mr. Lasker has significant experience in defending natural resource damages claims and in asserting successful Daubert defenses in support of his clients. His toxics expertise extends into international law and the defense of environmental terrorism claims. He also assists clients in due diligence investigations as relates to environmental and toxics liabilities and through amicus briefing on key legal issues. **Donald W. Fowler** (pictured, right) is a partner with the same firm, where he specializes in environmental law, toxic torts, and pharmaceutical products liability. Mr. Fowler's environmental practice includes representation of several major corporations in defense of both actual and anticipated litigation brought by federal and state natural resource trustees seeking recovery for damages to natural resources under federal and state law. He also represents companies in litigation and before the Environmental Protection Agency in matters arising under the Resource Conservation and Recovery Act and Superfund, including private cost recovery actions. He has designed and implemented compliance programs, conducted environmental audits and due diligence reviews, and negotiated environmental aspects of real estate and other transactions on behalf of many corporate clients. Learn more about the authors' firm at www.spriggs.com.

MISS A NEWSLETTER?

Visit the Toxic and Hazardous Substances Committee's Newsletter Archive at www.iadclaw.org/commnews.cfm?comm=toxh to read other articles published by the Committee. Prior articles include:

APRIL 2008

Warning! Plaintiffs Use Product Stewardship As a Sword

BY JAMES K. LEADER

OCTOBER 2007

Medical Monitoring Debate Resurfaces with Toy Recall Suits

BY KENNETH R. MEYER AND GENEVIEVE M. SPIRES

SEPTEMBER 2007

Evolving Standards of Causation in Texas Asbestos Jurisprudence: Borg-Warner v. Flores and the Burden of Proof on Causation in Toxic-Dose Cases

BY SEAN HIGGINS AND BRIAN POLDRACK