



ENVIRONMENT REPORTER



Reproduced with permission from Environment Reporter, 40 ER 1205, 5/22/2009, 05/22/2009. Copyright © 2009 by The Bureau of National Affairs, Inc. (800-372-1033) <http://www.bna.com>

SUPERFUND

BURLINGTON NORTHERN & SANTA FE v. UNITED STATES

The authors of this article say the U.S. Supreme Court's decision in *Burlington Northern & Santa Fe Railway Co. v. United States* was a major blow to the effective operation of the Comprehensive Environmental Response, Compensation, and Liability Act, one of the most critical federal environmental laws in existence for the cleanup of our nation's most contaminated sites. In finding that an overly-simplistic, non-scientific calculation was a "reasonable basis" for apportioning liability for contamination, the authors argue that the Supreme Court trivialized the importance of generally-accepted, sound science in CERCLA cases. They say this decision likely will reduce the government's ability to recover cleanup costs from potentially responsible parties. In the wake of *Burlington Northern*, the authors argue Congress must come forward with corrective amendments to CERCLA. Without such action, they say, CERCLA risks becoming a powerless and ineffective statute in the government's efforts to clean up the worst pollution in the country.

The Diminishing Role of Science in CERCLA After Burlington Northern & Santa Fe

By MARK R. MISIOROWSKI AND JOEL D. EAGLE

In its most important environmental opinion in years, the Supreme Court landed a silent but direct blow to the role of legitimate science in liability apportionment cases under the Comprehensive Environmental Response, Compensation, and Liability Act. In *Burling-*

ton Northern & Santa Fe Railroad v. United States,¹ the Supreme Court upheld the apportionment calculation by the U.S. District Court for the Eastern District of

¹ 68 ERC 1161 (2009).

California despite the fact that the calculation was devoid of any scientific or engineering basis. This article explores the errors made not only by the Supreme Court, but also the underlying mistakes of the district court. A variety of mistakes culminated in a decision that directly conflicts with the congressional intent of CERCLA and undermines the role legitimate science plays in environmental remediation, including: (1) the initial error of the district court undertaking its own apportionment analysis; (2) the improper use of equitable factors in lieu of scientific factors; (3) the lack of *Daubert*-qualified expert testimony in fields such as environmental forensics during the apportionment phase; and (4) the lack of a special master to assist in complex issues of contaminant remediation.

Unless corrected by Congress, *Burlington Northern* will have a dramatically negative impact on the funding and actual cleanup of some of the nation's most polluted sites. Forcing the government to foot the bill for remediation at superfund sites places an unfair burden on the American taxpayers who will ultimately be required to pay the tab. Congress passed CERCLA with the principle of "the polluter pays." With the corporate tax on chemical and oil companies no longer in effect, *Burlington Northern* threatens to completely transform CERCLA into a "taxpayer pays" law.

The Decision That Never Should Have Been

Burlington Northern originally involved three potentially responsible parties at an agri-chemical facility in Arvin, Calif. Brown & Bryant was the operator of the chemical distribution facility and the owner of the majority of the land on which the business operated. About halfway through the life of its operations, Brown & Bryant expanded its facility by leasing land from various railroad companies, now Burlington Northern & Santa Fe and Union Pacific ("railroads"). In addition, Shell Oil manufactured and delivered certain chemicals to Brown & Bryant which were then sold to consumers. Over 28 years of operation, the facility, including the Brown & Bryant-owned land and the parcel owned by the railroads, experienced frequent delivery spills, equipment failures, and rinsing of tanks and trailers. Contamination from facility operations required significant cleanup, which totaled over \$11 million.²

Approximately \$8 million of the remediation expenses were paid by the state and federal governments. The governments initiated a CERCLA cost recovery action against the potentially responsible parties. However, in a consolidated action in the U.S. District Court for the Eastern District of California,³ neither Shell nor Burlington Northern & Santa Fe Railway (Brown & Bryant was insolvent by this point), "acknowledged an iota of responsibility" for the contamination, [and] neither party proffered a reasonable approach to allocate liability for cleanup costs.⁴ It is undisputed that because Congress intended the default for potentially responsible party liability under CERCLA to be joint and several, the burden of proving the exception (apportionment of liability) rests with the potentially responsible

parties.⁵ Because the parties did not present their own theories for liability apportionment during the six-week trial, by operation of the law the issue of apportionment should have ended, and Shell and the railroads should have been held jointly and severally liable.

Despite the parties' "scorched earth," "all-or-nothing" approach to liability,⁶ the trial court nonetheless took it upon itself to perform its own apportionment analysis.⁷ The district court's decision to undertake its own CERCLA apportionment analysis, and its contrived liability apportionment equation, may be seen by many as an improper example of judicial activism.⁸ The U.S. Court of Appeals for the Ninth Circuit recognized as much, writing "[w]e recognize that the district court at one point stated that the Railroads failed to meet their burden of proof as to divisibility. But its overall ruling was to the contrary, as the court also stated that it 'independently found [in the record] a reasonable basis for apportionment in spite of the parties['] presentations.'"⁹

Unlike the Ninth Circuit, the Supreme Court saw nothing wrong with the district court's actions.

The lone voice of reason from the Supreme Court on this issue came from Justice Ginsburg in dissent. Justice Ginsburg pointed out that in accordance with the "party presentation principle basic to our procedural system [citation omitted] it is questionable whether the court should have pursued the matter *sua sponte*."¹⁰ The government's proffered solution, which Ginsburg found to be the appropriate one, was to remand the case to the district court "to give all parties a fair opportunity to address [the] court's endeavor to allocate costs."¹¹

In the alternative, as described below, if the court felt compelled to take up the matter *sua sponte*, its allocation should have been firmly grounded in environmental engineering and science, and based on expert testimony from relevant disciplines such as the field of environmental forensics. This type of expert would have performed a detailed analysis of geology, contaminant hydrogeology, engineering, chemical fate and trans-

⁵ *Burlington Northern*, *supra* note 1, at *26 (finding "CERCLA defendants seeking to avoid joint and several liability bear the burden of proving that a reasonable basis for apportionment exists.") See also *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802, 810, 19 ERC 1953 (S.D. Ohio 1983) (citing Restatement (Second) of Torts § 433B (1976)) (placing burden of proof on party seeking apportionment).

⁶ *Atchison, Topeka & Santa Fe Railway Co.*, *supra* note 4, at *236.

⁷ *Id.* (finding that because the parties "effectively abdicated providing any helpful arguments to the court," the court was "left. . .to independently perform the equitable apportionment analysis demanded by the circumstances of the case.")

⁸ In addition, as described below, the district court's analysis was overly simplistic, was not a generally accepted or peer-reviewed formula, and did not give even the slightest consideration to the realities of the actual contamination at the site.

⁹ *United States v. Burlington Northern & Santa Fe Railway Co.*, 520 F.3d 918, 942, 64 ERC 1257 (9th Cir. 2007) (internal quotes omitted).

¹⁰ *Burlington Northern*, *supra* note 1, at *37-38 (Ginsburg, J., dissenting), quoting *Castro v. United States*, 540 U.S. 375, 386 (2003) (SCALIA, J., concurring) ("Our adversary system is designed around the premise that the parties know what is best for them, and are responsible for advancing the facts and arguments entitling them to relief.")

¹¹ *Burlington Northern*, *supra* note 1, at *38 (Ginsburg, J., dissenting).

² *Burlington Northern*, *supra* note 1, at *10.

³ See generally, 42 U.S.C. § 9607(a).

⁴ *United States v. Atchison, Topeka & Santa Fe Railway Co.*, 2003 U.S. Dist. LEXIS 23130, at *236 (E.D. Cal. 2003).

port, groundwater flow, etc. Instead, the district court invented its own allocation formula that, despite the Supreme Court's ruling to the contrary, was plainly an apportionment calculation rooted in equity.

Equity Over Scientific Evidence

Although arguably in error, the district court felt compelled to "independently perform the equitable apportionment analysis demanded by the circumstances of the case."¹² Yet, as the Ninth Circuit found, the liability apportionment equation created by the district court "... relied on the simplest of considerations" that could not support apportionment.¹³ Not only were the factors in the district court's calculation more equitable than scientific, the court's own explicit language clearly states it was an equitable analysis (a decisive section header in the district court's opinion reads *Equitable Apportionment among the Railroads and Shell*, and the court's equitable apportionment is front and center throughout the decision.)¹⁴

In fact, the governments argued, and the Supreme Court agreed, that "insofar as the district court made reference to equitable considerations favoring apportionment, it erred. Equitable considerations play no role in the apportionment analysis; rather, apportionment is proper only when the evidence supports the divisibility of the damages jointly caused by the PRPs."¹⁵ Inexplicably, the Supreme Court found that "the error is of no consequence . . . because despite the district court's reference to equity, its actual apportionment decision was properly rooted in evidence that provided a reasonable basis for identifying the portion of harm attributable to the Railroads."¹⁶

The Supreme Court's ruling on the issue of "equity v. scientific evidence" was clearly and gravely erroneous, and was even contradicted by the district court itself. Regarding the most critical factors that an expert in environmental forensics/engineering would use to apportion liability, the district court expressly found there was "no evidence." For example, the district court found "no party has specifically documented the relative contributions of contamination from either parcel;¹⁷ "[t]here is no evidence to quantify the difference in volume of the releases;"¹⁸ and "Shell did not present evidence how its products' contribution to the contamination at the Arvin facility can be apportioned."¹⁹

To make up for these voids in evidence, the district court concocted a crude formula that bore no rational relationship to the actual harm at the railroad companies' property. The following is essentially the trial court's apportionment equation which resulted in a finding that the railroads were approximately 9 percent liable:

$$\text{Railroad Liability} = (A \times B \times C) \times 1.5, \text{ where}$$

A = percentage of the overall site that was owned by the Railroads;

B = percentage of time that the Railroads leased the parcel in relation to the total time period the facility operated;

C = the percentage of chemicals that the court found to be attributable to the railroad parcel.

Based on evidence in the record, the district court found that A=19 percent, B=45 percent and C=66 percent, and attached an arbitrary error rate of 50 percent, leading to the railroads' liability of approximately 9 percent. Instead of apportioning liability based on realistic calculations of contamination actually cleaned up on the railroad companies' property, the court simply multiplied three numbers together and randomly assigned a 50 percent error rate.²⁰ This was a vastly oversimplified solution to a complicated question.

The district court's apportionment calculation did not consider any site-specific, volumetric- or mass-based remediation activities at the site.²¹ The calculation did not consider Darcy's law of conductivity through media (soil permeability). No consideration was given to fate and transport of chemical contaminants or groundwater flow. The simple equation did not account for the makeup of the chemicals at the site or their interactions with soil or groundwater. The calculation did not factor in climatic data or precipitation events and their effects on chemical degradation and movement. The court's calculation was plainly an exercise in equity, where the court attempted to avoid the harsh reality of CERCLA joint and several liability on a party whose only role in the contamination was its status as owner of the property when the hazardous materials were spilled.²²

Daubert Takes a Back Seat

As explained above, the trial court and Supreme Court failed to recognize the role credible science should play in CERCLA apportionment cases. By upholding the district court's overly simplistic apportionment calculation, the Supreme Court's opinion in *Burlington Northern* opens the door for future potentially responsible parties to invent the most basic and unscientific of calculations to avoid CERCLA cleanup liability.

In the seminal case of *Daubert v. Merrell Dow Pharmaceuticals Inc.*, the Supreme Court established minimal guidelines for the admission of scientific evidence

²⁰ Even the arbitrary error rate was chosen without using any scientific, statistically significant data. There is no indication that any standard deviation analysis was performed. The courts also do not reference anywhere in CERCLA or the Restatement (Second) of Torts which permit or even suggest that such an error rate be used. The Supreme Court has previously found that high levels of deviation or error rates that find no support in fact or law cannot be justified. See *Board of Estimate v. Morris*, 489 U.S. 688, 703 (1989). Thus, even the error rate was chosen based on equity, not science.

²¹ See, e.g., Barbara J. Graves, David Jordan, Dominique Cartron, Daniel B. Stephens, and Michael A. Francis, "Allocating Responsibility for Groundwater Remediation Costs," 23(4) *The Trial Lawyer* 159-171 (2000) (describing various scientific approaches to allocation remediation costs among PRPs, including weighted site attributes method and groundwater plume mass and/or volume analyses based on studies of geology, hydrogeology, and the use of environmental forensics).

²² Of course, under CERCLA § 107(a), an "owner" is one of four statutorily-defined categories that lead to joint and several liability. See 42 U.S.C. § 9607(a)(1)-(4).

¹² *Atchison, Topeka & Santa Fe Railway Co.*, *supra* note 4, at *236.

¹³ *Burlington Northern*, *supra* note 9, at 943.

¹⁴ *Atchison, Topeka & Santa Fe Railway Co.*, *supra* note 4, at *236.

¹⁵ *Burlington Northern*, *supra* note 1, at *28-29, n.9.

¹⁶ *Id.*

¹⁷ *Atchison, Topeka & Santa Fe Railway Co.*, *supra* note 4, at *254.

¹⁸ *Id.* at *260.

¹⁹ *Id.* at *258-59.

and/or opinions.²³ Assuming for the sake of argument that the court in *Burlington Northern* was correct that the district court's analysis was rooted in evidence and not in equity, then it must follow that the parties and the court utterly failed to meet anything resembling the standards envisioned in *Daubert*. Clearly, regardless of a judge's experience in environmental law, science or engineering, it would never be proper for a judge to qualify him/herself as a *Daubert* expert for his/her own case. The district court's own apportionment equation therefore could not have met the rigorous standards of *Daubert*.

The proper method of apportioning liability in *Burlington Northern*, based on actual scientific, site- and chemical-specific evidence, would have involved using a *Daubert*-qualified expert in a relevant field such as environmental forensics.²⁴ If the expert's conclusion after the analysis was that there was no "reasonable basis" to apportion liability, the parties must be found jointly and severally liable.²⁵

Notably, even the district court recognized that harm is divisible only if "it is clear that each [defendant] has caused a separate amount of harm, limited in time, and that neither has any responsibility for the harm caused by the other, such as where two defendants, independently operating the same plant, pollute a stream over successive periods of time."²⁶ The court even found that "the experts' testimony show an indivisible slowly migrating plume of subterranean contaminants that result from releases of agricultural chemicals at the Site. . . ."²⁷ Despite the court's recognition of the law of divisibility, and the fact that the experts could not divide the harm in this case, the court declared that it must "independently perform the equitable apportionment analysis demanded by the circumstances of the case,"²⁸ instead of what was demanded by the law.

²³ *Daubert v. Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579 (1993)

²⁴ The International Society of Environmental Forensics publishes a journal, *Environmental Forensics*, which "provides a forum for scientific investigations that address contamination within the environmental media of air, water, soil and biota, and is subject to law court, arbitration, public debate, or formal argumentation. The journal is an international, quarterly, peer-reviewed publication offering scientific studies that explore source, fate, transport and ecological effects of environmental contamination, with contamination being delineated in terms of chemical characterization, biological influence, responsible parties and legal consequences." See <http://www.environmentalforensics.org/journal.htm>.

²⁵ Experts in environmental forensics have been *Daubert*-qualified in numerous federal environmental cases across the United States. See *Olindo Enterprises, Inc. v. Rochester*, 2008 U.S. Dist. LEXIS 17916, at *13-14 (W.D.N.Y. 2008) (finding witness to be *Daubert*-qualified in environmental forensics); *United States v. Sand Diego Gas & Electric Co.*, 66 ERC 1742 (S.D. Cal. 2007) (finding numerous witnesses testified on the issue of asbestos contamination, including experts in environmental forensics); *Turner v. Murphy Oil USA, Inc.*, 2006 U.S. Dist. LEXIS 985, at *36 (E.D. La. 2006) (well-respected expert in environmental forensics hired to perform fingerprint analysis of oil spilled after Hurricane Katrina).

²⁶ *Atchison, Topeka & Santa Fe Railway Co.*, *supra* note 4, at *239, citing *In Re Bell Petroleum Servs.*, 3 Fd 889, 895 (5th Cir. 1993).

²⁷ *Atchison, Topeka & Santa Fe Railway Co.*, *supra* note 4, at *238.

²⁸ *Id.* at *237

There is no dispute that the district court's apportionment analysis was created *sua sponte* and *ad hoc* by the court itself. Therefore, by the very definition of *Daubert*-qualification, the court's "equation" failed to meet even a single *Daubert* consideration. The district court's apportionment equation (1) was not based on a testable theory or technique; (2) the theory/technique was not peer reviewed; (3) the technique did not have a *known* error rate; and (4) the underlying science could not have been generally accepted, because no underlying science was considered.²⁹ By blessing the district court's overly simplistic apportionment analysis, the Supreme Court failed to meet even minimally acceptable *Daubert*-type standards.

Another Missed Opportunity

Burlington Northern suffered from the lack of expert testimony and scientific discourse on the issue of apportionment of liability for contamination. The courts also missed out on another opportunity to meet the letter and spirit of *Daubert* along with the policy and Congressional intent of CERCLA. For decades courts have appointed special masters to cases in order to guide the court through specific, complex issues of fact and law. In *United States v. Microsoft Corp.*, Judge Penfield Jackson appointed Lawrence Lessig as a Special Master to advise the court about technical issues in the complex Sherman Antitrust Act litigation.³⁰

Special masters have also been used extensively in environmental cases involving oil spills, *In re Oil Spill by "Amoco Cadiz" Off the Coast of France on March 16, 1978*;³¹ *In re Exxon Valdez*;³² water rights, *Kansas v. Colorado*;³³ *New Jersey v. Delaware*;³⁴ and asbestos, *North River Ins. Co. v. Signa Reins. Co.*³⁵ Clearly, there is a rich history of courts throughout the country, and in particular the U.S. Supreme Court, using special masters to assist in technical and complicated environmental matters.

Similar to a *Daubert*-qualified expert witness, a special master in the *Burlington Northern* litigation could have used credible scientific and engineering principles to analyze the amount of contamination on the railroad parcel for which the railroad companies would have been liable. The expert might have implemented groundwater contamination models like MIGRATE and MODFLOW, utilized differential equations, undertaken three-dimensional studies, and/or performed chemical fingerprinting. While no doubt a complex undertaking, an engineer with experience in environmental remediation

²⁹ See generally, *Daubert*, *supra* note 22, at 593-95.

³⁰ 1999 U.S. Dist. LEXIS 20897 (D.D.C. 1999).

³¹ 789 F. Supp. 268 (N.D. Ill. 1992).

³² 228 Fed. Appx. 667 (9th Cir. 2007).

³³ 129 S. Ct. 1294, 1297 (2009) (complex, longstanding dispute over where the parties successfully used a highly complex computer model to determine "just what the precise water flows into Kansas would have been had Colorado not allowed increased consumption of ground water after 1949.")

³⁴ *New Jersey v. Delaware*, 128 S. Ct. 1410 (2008)

³⁵ 52 F.3d 1194, 1202 (3d Cir. 1995); see also *North River Insurance Co. v. Ace American Reinsurance Co.*, 361 F.3d 134, 137 (2d Cir. 2004). In these cases, involving a complex series of environmental insurance coverage dispute cases in the 1980s, the court appointed Yale University Law School Dean Harry H. Wellington as a special master. Dean Wellington employed computer models and decision trees, assigned probability weights, and created various damage scenarios to reach a reasonable calculation in the context of the dispute.

tion would have been in the best position to use peer-reviewed, generally-accepted models and equations as a much more accurate “reasonable basis” for apportionment. Instead, despite the Supreme Court’s unsupported conclusion to the contrary, the district court performed an equitable analysis while ignoring the actual contamination the Governments cleaned up in the soil and groundwater beneath the facility.

Intellectual Dishonesty

The trial, appellate, and Supreme Court in *Burlington Northern* all agreed that “not all harms are capable of apportionment, . . . and CERCLA defendants seeking to avoid joint and several liability bear the burden of proving that a reasonable basis for apportionment exists.”³⁶ As such, the Ninth Circuit found that parties did not meet their burden, that the district court’s apportionment analysis was overly simplistic, and in light of the facts and evidence (or the lack thereof) in the record, the apportionment “fail[ed]. . . to comport with the ‘reasonable basis’ test.”³⁷

The Supreme Court took issue with the Ninth Circuit’s conclusions, instead finding that the district court’s analysis was “reasonably supported” by the facts in the record.³⁸ However, one of the Supreme Court’s major explanations for its disagreement with the Ninth Circuit runs dangerously close to intellectual dishonesty. According to the Supreme Court:

Although the Court of Appeals faulted the district court for relying on the ‘simplest of considerations: percentage of land area, time of ownership, and types of hazardous products,’ 520 F.3d, at 943, these were the same factors the court had earlier acknowledged were relevant to the apportionment analysis. See *Id.*, at 936, n.18 (“We of course agree with our sister circuits that, if adequate information is available, divisibility may be established by ‘volumetric, chronological, or other types of evidence,’ including appropriate geographic considerations” (citations omitted)).³⁹

Critically, in citing the Ninth Circuit’s holding, the Supreme Court deleted the next two sentences, perhaps the most important statement of the Ninth Circuit’s opinion:

We hold only that, in this case, Shell and the Railroads failed to show that “expert testimony and other evidence establishes a factual basis for making a reasonable estimate that will fairly apportion liability.” *Bell Petroleum*, 3 F.3d at 903. “[A]pproaches to divisibility will vary

³⁶ *Burlington Northern*, *supra* note 1, at *26; *Chem-Dyne Corp.*, *supra* note 5, at 810.

³⁷ *Burlington Northern*, *supra* note 9, at 943-44.

³⁸ *Burlington Northern*, *supra* note 1, at *30-31.

³⁹ *Id.* at *31-32.

tremendously depending on the facts and circumstances of each case,” *Hercules*, 247 F.3d at 717, and approaches that were inappropriate or inadequately supported in this case may be available in other circumstances.⁴⁰

The Ninth Circuit clearly stated that, while the three cited factors could theoretically be used in an apportionment analysis, the lack of expert testimony and other evidence in this case simply did not allow the calculation of a reasonable apportionment. By using only a portion of the Ninth Circuit’s own words to support its decision, the Supreme Court greatly misconstrued the Ninth Circuit’s rational and intelligent holding.

Conclusion

The U.S. Supreme Court’s decision in *Burlington Northern v. United States* was a major blow to the effective operation of CERCLA, one of the most critical federal environmental laws in existence for the cleanup of our nation’s most contaminated sites. In finding that an overly-simplistic, non-scientific calculation was a “reasonable basis” for apportioning liability for contamination, the court trivialized the importance of generally-accepted, sound science in CERCLA cases. This decision will likely result in a great reduction in the government’s ability to recover cleanup costs from potentially responsible parties.

Most importantly, *Burlington Northern* runs directly counter to the letter and spirit of CERCLA as intended by Congress. The Supreme Court itself has warned against branches of government overstepping their boundaries.⁴¹ Recently, Congress performed vigorous oversight of what it deemed erroneous Supreme Court decisions.⁴² In the wake of *Burlington Northern*, Congress must come forward with corrective amendments to CERCLA. Without such action, CERCLA risks becoming a powerless and ineffective statute in the government’s efforts to clean up the worst pollution in the country.

⁴⁰ *Burlington Northern*, *supra* note 9, at 943-44 (emphasis added).

⁴¹ See, e.g., *Union Pacific Railroad Co. v. United States*, 99 U.S. 700, 718 (1879) (finding “[o]ne Branch of the government cannot encroach on the domain of another without danger. The safety of our institutions depends in no small degree on a strict observance of this salutary rule.”).

⁴² See, e.g., *ADA Amendments Act of 2008*, Pub. L. No. 110-325 (Sept. 25, 2008). Congress’ explicit purposes of the ADA amendments included “to reject the Supreme Court’s reasoning in *Sutton v. United Air Lines, Inc.*, 527 U.S. 471 (1999),” § 2(b)(2), and “to reject the standards enunciated by the Supreme Court in *Toyota Motor Manufacturing, Kentucky, Inc. v. Williams*, 534 U.S. 184 (2002),” § 2(b)(4).

