## Environmental Litigation and Toxic Torts Committee Newsletter

Vol. 17, No. 3

#### MESSAGE FROM THE CHAIRS

Peter Condron and Shelly Geppert

Welcome to the third edition of the Environmental Litigation and Toxic Torts Committee Newsletter for this ABA year. Our editors, Lisa Gerson and Stephen Riccardulli, once again have recruited an outstanding group of regular and guest authors to provide information and insight into the world of environmental and toxic tort law. As always, our team of accomplished contributors provides highlights of interesting and significant cases from courts around the country. In addition, this edition contains three articles that are sure to be of great interest to environmental and toxic tort practitioners. Theresa Sauer and Bret Sumner provide an overview of the Endangered Species Act and its implications for oil and gas development. In a timely article, Lauren Daniel examines the effect of the new "proportionality" amendment to rule 26 of the Federal Rules of Civil Procedure and how it may impact discovery obligations in toxic tort litigation. Finally, Nazmi Mete Talimcioglu, an environmental engineer with extensive experience in soil and groundwater investigations, provides his perspective on the use of environmental forensic engineering tools in litigation. We are sure you will find all of these pieces informative and enlightening.

We are now more than halfway through the 2015–16 ABA year, and we hope that you find your membership in our committee valuable and helpful in your practice. Of course, there is always

room for improvement, so if you have any ideas or suggestions to improve the programs or materials we provide, if there are additional programs or publications you would like to see, or if you have any other thoughts as to how to make our committee even better, we'd love to hear from you.

We also hope that you'll consider marking your calendars and making plans to join us for the SEER 24th Fall Conference, which will be held this year in Denver, Colorado, October 5–8, 2016. The Fall Conference always draws a fantastic array of speakers and panelists, and offers a great opportunity to meet fellow SEER members and network with others in the field.

Peter Condron is a partner in the Washington, D.C., office of Sedgwick LLP. His practice focuses on environmental, toxic tort, product liability, and energy litigation. He can be reached at peter. condron@sedgwicklaw.com.

Shelly Geppert is an attorney at Eimer Stahl LLP in Chicago. Shelly concentrates her practice in civil litigation with a focus on environmental, products liability, and toxic tort matters. She can be reached at sgeppert@eimerstahl.com.

#### May 2016

Environmental Litigation and Toxic Torts Committee Newsletter Vol. 17, No. 3, May 2016 Stephen Riccardulli and Lisa Gerson, Editors

In this issue:

Message from the Chairs Peter Condron and Shelly Geppert.....1

Case Law Highlights Mountain/West Coast

Ninth Circuit Affirms EPA Rejection of Arizona Regional Haze Plan and Implementation of Federal Plan

Whitney Jones Roy and Alison N. Kleaver......3

District Court Limits Damages for Continuing Nuisance Claims to Three Years Preceding Filing of Action in California Whitney Jones Roy and Alison N. Kleaver.......4

California Supreme Court Rejects Expanded Environmental Quality Act Interpretation Whitney Jones Roy and Alison N. Kleaver.......6

Case Law Highlights Midwest

Case Law Highlights Mid-Continent

Case Law Highlights Southeast

D.C. Clrcuit Throws Out Fish Lawsuit Matthew Thurlow.....11

Case Law Highlights Northeast

VT Supreme Court Affirms Personal Jurisdiction over Non-Resident Petroleum Refining Corporation Based on Nationwide Gasoline Distribution System Scott E. Kauff and Nathan Short......15

U.S. District Court Grants New York State NRD Declaratory Judgment Scott E. Kauff and Nathan Short......16

#### About the editors

**Stephen Riccardulli** is a partner in the New York office of Norton Rose Fulbright. His practice focuses on product liability, environmental, and toxic tort litigation. He can be reached at stephen.riccardulli@nortonrosefulbright.com.

Lisa Gerson is a partner in the New York office of McDermott Will & Emery LLP. Her practice focuses on product liability, environmental, toxic tort, and commercial litigation. She can be reached at lgerson@mwe.com.

Copyright © 2016. American Bar Association. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Send requests to Manager, Copyrights and Licensing, at the ABA, by way of www. americanbar.org/reprint.

Any opinions expressed are those of the contributors and shall not be construed to represent the policies of the American Bar Association or the Section of Environment, Energy, and Resources. or the editors of the Environmental Litigation and Toxic Torts Committee Newsletter.

#### CASE LAW HIGHLIGHTS MOUNTAIN/WEST COAST

NINTH CIRCUIT AFFIRMS EPA REJECTION OF ARIZONA REGIONAL HAZE PLAN AND IMPLEMENTATION OF FEDERAL PLAN Whitney Jones Roy and Alison N. Kleaver

State of Arizona ex rel. Henry R. Darwin v. U.S. Environmental Protection Agency et al., Ninth Circuit United States Court of Appeals, Case Nos. 13-70366 & 13-70410, 2016 U.S. App. LEXIS 3196 (Feb. 24, 2016). Applying an arbitrary and capricious standard of review, the Ninth Circuit affirmed the U.S. Environmental Protection Agency's (EPA) rejection of the Arizona regional haze plan and EPA's implementation of a more stringent federal plan. Petitioners Arizona and the Salt River Project Agricultural Improvement and Power District ("the District") challenged EPA's determinations, placing specific emphasis on the level of deference owed to states in the determination of emissions levels and measures necessary to improve air quality in and around wilderness areas and national parks. EPA's ability to overrule those determinations and impose its own requirements also was at issue.

In 1977, Congress amended the Clean Air Act (the "Act") to address decreasing outdoor visibility in wilderness areas and national parks. Specifically, the amendment permitted states to submit for EPA's approval a State Implementation Plan (SIP) setting emission limits and other measures necessary to make "reasonable progress" toward the national visibility goal. State plans must, among other things, identify sources that require installation of a best available retrofit technology (BART) to curb emissions and determine the appropriate type of technology for those sources. If a state fails to submit its own plan, or if EPA disapproves of a state's plan, the Act requires EPA to promulgate a Federal Implementation Plan (FIP). In December 2012, EPA partially rejected Arizona's regional haze SIP submission and promulgated a federal plan in place of the rejected elements. Id. at \*16. The state appealed.

On appeal, the Ninth Circuit began its analysis by noting that EPA determinations are reviewed under an arbitrary and capricious standard. *Id.* at \*19, \*24 (citing 5 U.S.C. § 706(2)). It also determined, over Arizona's objection, that "the Act expressly permits EPA to approve or disapprove a SIP 'in part." *Id.* at \*26.

Turning to Arizona's substantive challenge, the Ninth Circuit held that EPA's rejection of portions of the SIP was not arbitrary or capricious. Specifically, the Ninth Circuit upheld EPA's rejection of the state plan on the grounds that Arizona's cost calculations did not provide enough detail to allow either the state or EPA to meaningfully analyze the reasonableness of the costs of various control alternatives. *Id.* at \*30–31.

Next, the Ninth Circuit upheld EPA's determination that Arizona's visibility analysis for certain areas was insufficient. Although states have flexibility in assessing visibility improvements, the Ninth Circuit accepted EPA's conclusion that Arizona's use of an averaging analysis was inadequate because the method caused large benefits at some individual areas to be diluted or lost as a result of other areas at which little to no improvement was projected. *Id.* at \*32–33. The Ninth Circuit also affirmed EPA's determination that Arizona's plan was inadequate because it did not include any explanation for its chosen analysis, preventing EPA from reviewing the substantive content of the state's determination. *Id.* at \*34.

The Ninth Circuit affirmed EPA's rejection of the Arizona plan's selection of a BART. Although Arizona's plan listed the factors used to make its selection, EPA was within its discretion to reject the plan because Arizona did not provide any analysis of the factors considered. *Id.* at \*36–37.

The Ninth Circuit then addressed challenges by Arizona and the District to the federal plan implemented by EPA. The District claimed that EPA's visibility analysis was flawed because it relied on "human perceptibility" as the basis for its BART determination and focused exclusively on a "cumulative" approach that failed to represent the actual perception of visibility conditions at any particular area. *Id.* at \*42–45. The Ninth Circuit found both arguments unsupported by the record. *Id.* 

The court likewise rejected the District's claim that EPA's cost analysis was inadequate because it used the air pollution control cost development component from the Integrated Planning Model, a model created and used by the U.S. electric power sector to forecast costs for decision-making purposes in its cost analysis. The District claimed that EPA's analysis exclusively relied on the model and ignored "site specific characteristics," causing the actual costs of compliance to be understated. The Ninth Circuit held that EPA properly considered the model's component as a part of its overall analysis, which also included consideration of site-specific cost estimates provided by the District. *Id.* at \*44–45.

Although the District also challenged the reasonableness of the federal plan's nitrogen oxides emissions limits, the Ninth Circuit declined to review this issue because EPA was considering revisions to its federal plan. *Id.* at \*51–53.

Lastly, the Ninth Circuit rejected Arizona's claim that it was improper for EPA to promulgate a federal plan at the same time it partially disapproved the state's plan. *Id.* at \*53–54. Noting that the Act allows EPA to "promulgate a FIP '*at any time* within 2 years' after EPA disapproves a SIP," the Ninth Circuit held that the phrase "at any time," included at the same time. Although Arizona argued that EPA should have given Arizona an opportunity to amend the state plan to address the deficiencies, the court was not persuaded because Arizona had not addressed any of EPA's concerns in response to the draft plan.

#### DISTRICT COURT LIMITS DAMAGES FOR CONTINUING NUISANCE CLAIMS TO THREE YEARS PRECEDING FILING OF ACTION IN CALIFORNIA

Whitney Jones Roy and Alison N. Kleaver

People of the State of California, et al. v. Kinder Morgan Energy Partners, L.P., et al., U.S. **District Court for the Southern District of** California, Case No. 07cv1883-MMA (WVG) (Feb. 2, 2016). The U.S. District Court for the Southern District of California granted in part and denied in part a motion to limit recoverable damages in a continuing nuisance and trespass suit. California and the city of San Diego (collectively, "the city") brought suit against Kinder Morgan, owner of a tank farm alleged to have caused soil and groundwater contamination on 166 acres underlying and surrounding Qualcomm Stadium, home of the San Diego Chargers football team. The city sought damages for its loss of use of the Mission Valley aquifer ("water damages"), the property's fair rental value for redevelopment projects ("real estate damages"), and to restore the property to "background" levels—i.e., the property's original, pre-contamination condition ("restoration damages").

Kinder Morgan brought a motion for partial summary judgment to limit the city's damages on several grounds. It argued first that the city's recoverable damages on its continuing nuisance and trespass claims-the only remaining claimswere limited to only those damages incurred in the three years immediately preceding the filing of the lawsuit. Id. at 14. The city sought to recover not only those damages that were incurred in the three years immediately preceding filing of the lawsuit, but also damages incurred between the filing of the complaint and judgment. Id. at 15. The city pointed to California Civil Code section 3283, which states that "[d]amages may be awarded, in a judicial proceeding, for detriment resulting after the commencement thereof, or certain to result in the future." Id. Kinder Morgan, however, relied upon the California Supreme Court's holding in Baker v.

*Burbank-Glendale-Pasadena Airport Auth.*, 39 Cal. 3d 862 (1985), stating that "[r]ecovery is limited, [in continuing cases], to actual injury suffered prior to commencement of each action. Prospective damages are unavailable." *Id.* at 14.

After reviewing relevant case law, the district court concluded that the city could seek only damages incurred during the three years immediately preceding the filing of the lawsuit. Id. at 15. The court relied primarily on the California Supreme Court case Williams v. Southern P.R. Co., 150 Cal. 624 (1907), which explained the difference between damages for permanent and continuing nuisance and trespass claims. Id. Specifically, the district court pointed to Williams' explanation that "where the injury or trespass is of a permanent nature, all damages, past and prospective, are recoverable in one action," whereas in cases of continuing nuisance and trespass a plaintiff "can recovery only the damages which have accrued up to the institution of the action." Id. The district court found that, despite being decided nearly 100 years ago, "[t]he reasoning of Williams has stood the test of time in California, and Baker and its progeny are consistent with Williams." Id.; see also id. at 17 (considering federal court opinions similarly interpreting California law).

Kinder Morgan also moved to exclude the city's claim for loss of use of the Mission Valley aquifer on grounds that the city had no expert evidence to support its claim. Id. at 18. The district court agreed. It rejected the city's argument that employees could provide evidence that the contamination was a substantial factor in the city's decision not to develop the Mission Valley aquifer, supported by technical reports by the city's nonretained consultants evaluating the aquifer for various purposes over the years. Id. at 18. The court stated that "[n]one of the evidence cited by the City in support of causation can substitute for expert testimony, which is required to establish the City's entitlement to water damages." Id. It further concluded that "[t]he City may not submit the identified technical reports as a substitute for the required expert testimony. The opinions and

conclusions contained in the technical reports are quite clearly 'based on scientific, technical, or other specialized knowledge within the scope of Rule 702,' and thus may not be presented by a fact witness." *Id.* at 18–19. Without the required expert evidence, the district court found that the city could not prove its water damages at trial.

The remainder of Kinder Morgan's summary judgment motion—to preclude the city's real estate and restoration damages—was denied. As to real estate damages, Kinder Morgan argued that the city's estimated damages were improperly based on the fair rental value of the property as a mixed-use redevelopment although such use was precluded by the existence of the Chargers' lease. *Id.* at 20. However, in a prior appeal, the Ninth Circuit held that the property's reasonable rental value could be based on its "hypothetical highest and best use." *Id.* at 20–21. Accordingly, the district court found that the city's estimated real estate damages were not flawed as a matter of law and could be presented at trial. *Id.* at 21.

With respect to restoration damages, Kinder Morgan argued that the city's restoration damages were improperly based on the cost to restore the property to "background" levels because no applicable government agency requires restoration to background; such restoration is technically infeasible; and it would cost nearly twice the value of the property itself. *Id.* The district court found that all of Kinder Morgan's arguments related to the reasonableness of the costs, an issue for the jury to decide. *Id.* at 22. Therefore, the district court denied summary judgment as to restoration damages.

#### CALIFORNIA SUPREME COURT REJECTS EXPANDED ENVIRONMENTAL QUALITY ACT INTERPRETATION

Whitney Jones Roy and Alison N. Kleaver

California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369 (2015). The California Supreme Court reversed and remanded a judgment of the court of appeal, thereby rejecting an expanded interpretation of the California Environmental Quality Act (CEQA). Appellant Bay Area Air Quality Management District (the "District") is the regional agency responsible for enforcing air quality regulations in the San Francisco Bay Area. In 2010, after receiving public input, the District published new and more stringent "thresholds of significance" for certain air pollutants. Thresholds of significance provide guidance in the preparation of air quality impact analyses for new projects by setting levels at which toxic air contaminants and certain types of particulate matter are deemed environmentally significant. The California Building Industry Association (CBIA) brought suit challenging the new thresholds on grounds that the District should have conducted a CEQA analysis evaluating the potential impact of the new thresholds on the environment, and because the thresholds were arbitrary and capricious, not based on substantial evidence, and failed the "rational basis" test. CBIA argued that the new emissions regulations constituted an unprecedented and unwarranted expansion of CEQA because they would require agencies to analyze the "impact of existing environmental conditions on a project's future users or residents" for every proposed development project. The superior court issued a writ of mandate ordering the District to set aside its approval of the thresholds because a CEQA analysis was required. The California Court of Appeal, First District, reversed. CBIA then petitioned the California Supreme Court for review.

The California Supreme Court granted review of the following question: "Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project?" *Id.* at 377. The court concluded that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents." *Id.* at 376. However, "when a proposed project risks exacerbating those environmental hazards or conditions that already exist," such an analysis is required. *Id.* The court clarified that, in such situations, it is the project's impact on the environment, not the environment's impact on the project, which compels an evaluation of how future users or residents may be affected. *Id.* 

Central to the court's analysis were guidelines promulgated by the California Natural Resources Agency to aid in the consistent application of CEQA by those performing air quality impact analyses. See Cal. Code Regs. tit. 14, § 15000 et seq. (the "Guidelines"). In particular, the court looked to Guidelines section 15126.2(a) and California Public Resources Code section 21083. which specifies what the Guidelines should contain. Public Resources Code section 21083 provides that "a project may have a 'significant effect on the environment' if . . . [t]he environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly." Id. at 386. The District broadly interpreted this language to require consideration of how existing environmental conditions or hazards in the vicinity of a proposed project might substantially and adversely impact future residents or users. Id. at 386. Guidelines section 15126.2(a) required an evaluation of environmental conditions and hazards existing on a proposed project site if such conditions and hazards may cause substantial adverse impacts to future residents or users of the project. Id. at 385-86. The District argued that the broad interpretation of Public Resources Code section 21083 was reflected in section 15126.2(a) of the Guidelines and, therefore, should be afforded deference. Id. at 386–87.

The court found that the District's interpretation went too far, concluding that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." *Id.* To this end, the court ruled that Guidelines section 15126.2(a) was valid "to the extent [it] call[s] for evaluating a project's potentially significant exacerbating effects on existing environmental hazards-effects that arise because the project brings 'development and people into the area affected." Thus, the court approved of section 15126.2(a)'s language requiring that an Environmental Impact Report (EIR) "analyze any significant environmental effects the project might cause by bringing development and people into the area affected" and "evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas) as identified in authoritative hazard maps, risk assessments or in land use plans addressing such hazards areas." Id. at 388. Furthermore, it found that the portion of Guidelines section 15126.2(a) that required "[a]n EIR on a subdivision astride an active fault line [to] identify as a significant effect the seismic hazard to future occupants of the subdivision . . ." was "clearly erroneous and unauthorized under CEQA." Id. at 390.

The court also rejected the District's argument that specific statutes requiring the evaluation of the effects of existing hazards on future users of a project in certain contexts, such as airports, school construction projects, and housing development projects (*see, e.g.*, Public Resources Code §§ 21096, 21151.8, 21159.21, 21159.22, and 21159.23), supported a general requirement that such effects be considered on all projects. *Id.* at 391–92.

Lastly, the court found that its holding was not inconsistent with four California Court of Appeal decisions cited by CBIA, noting that each of those cases "implicitly held that CEQA does not generally require an agency to analyze how existing hazards or conditions might impact a project's users or residents. Further, these Courts of Appeal did not have occasion to consider—and therefore did not rule out—the exceptions to the general rule we elucidate here." *Id.* at 392.

Whitney Jones Roy is the office managing partner and Alison N. Kleaver is a senior associate in the Los Angeles office of Sheppard Mullin Richter & Hampton LLP. They both specialize in complex business litigation and environmental litigation. They can be reached at wroy@sheppardmullin. com and akleaver@sheppardmullin.com.

#### CASE LAW HIGHLIGHTS MIDWEST

TRIAL CONCERNING SUICIDE OF PATIENT TAKING GENERIC PAXIL TO PROCEED AGAINST NON-MANUFACTURER GLAXOSMITHKLINE Chris Johnson

Dolin v. SmithKline Beecham Corp. d/b/a GlaxoSmithkline, No. 12 C 6403, 2016 WL 537949 (N.D. Ill. Feb. 11, 2016). In an action alleging that a generic form of the drug Paxil was responsible for the suicide of the plaintiff's husband (Dolin), the United States District Court for the North District of Illinois denied defendant GlaxoSmithkline's (GSK) latest motion for summary judgment and scheduled the matter for trial. 2016 WL 537949 at \*1. Dolin committed suicide in 2010 after being prescribed Paxil and ingesting the generic form of the drug, and plaintiff alleged, inter alia, a failure to warn of the enhanced risk of suicide among adults. *Id*.

The first of GSK's two motions argued that plaintiff's state law claims were barred by implied conflict preemption with federal law. Noting that this argument has been "uniformly rejected" whenever it has been brought within the Seventh Circuit (citing prior cases involving Paxil from the Seventh Circuit, the Eastern District of Wisconsin and the Southern District of Indiana), the court rejected GSK's assertion that the Federal Drug Administration (FDA) had considered and rejected an adult suicide warning. Id. The court pointed out that GSK had declined FDA's invitation to discuss the warning in a formal meeting and had not sought additional labeling, thus failing to meet the Supreme Court standard requiring "clear evidence" that the FDA would not have approved enhanced warnings in order for a preemption defense to succeed. Id.

GSK's second motion asked, inter alia, for the court to revise an earlier summary judgment decision allowing the lawsuit to proceed against GSK even though the generic form of the drug taken by Dolin had been manufactured by a different company. *Id.* at \*2. In that decision, *Dolin v. SmithKline Beecham Corporation*, 62 F. Supp. 3d 705 (2014) (dismissing manufacturer of generic drug on preemption grounds), the court reasoned that under the federal regulatory scheme making generic drugs more available in the 1980s, the brandname manufacturer is responsible for warnings and labeling, which cannot be changed by generic manufacturers. Thus, it reasonably could be found that GSK's duty of care, as the manufacturer and labeler of the brand-name drug, extended to those who took generic versions with the same labeling. In connection with the current motion, the court found that nothing in the record would justify changing the previous decision, and it declined to do so. *Id.* 

SIXTH CIRCUIT HAS ORIGINAL JURISDICTION OVER CHALLENGE TO RULE CLARIFYING DEFINITION OF "WATERS OF THE UNITED STATES"; STATES AND INDUSTRY GROUPS SEEK REHEARING Chris Johnson

In re United States Department of Defense and United States Environmental Protection Agency Final Rule: Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054 (June 29, 2015), \_\_\_\_ F.3d \_\_\_, 2016 WL 723241 (6th Cir. Feb. 22, 2016). In a divided opinion, the United States Court of Appeals for the Sixth Circuit held that the Clean Water Act (the "Act") gives original jurisdiction to federal appellate courts for challenges to a rule promulgated by the Environmental Protection Agency and the Army Corps of Engineers that clarifies and arguably expands the definition of "waters of the United States" protected by the Act. 2016 WL 723241 at \*1. The so-called Clean Water Rule (the "Rule") was to take effect August 2015, but petitions challenging the Rule were filed in multiple circuits. Following consolidation, the Sixth Circuit found that the petitions stood a substantial chance of success and, in October 2015, stayed implementation of the Rule. Id. at \*2. The court analyzed its authority under certain judicial review provisions of the Act, sections 1369(b)(1)(E) and (F), and found that

both subsections authorized its jurisdiction. Id. at \*1. It found that the Rule, although essentially definitional in nature, inevitably would act indirectly to place additional limitations on pointsource operators and permit-issuing authorities, thus falling under subsection (E)'s grant of jurisdiction over actions that approve "other limitations" under the Act. Id. at \*7. In support of its decision, the majority opinion discussed both Supreme Court precedent that it said "eschewed a strict, literal reading" of subsection (E), and rulings on similar cases in five other circuit courts; it noted that the two circuits whose decisions appear to run counter to its ruling actually are not inconsistent because they relate to *exemptions* from limitations, rather than to limitations. Id. at \*6. With respect to subsection (F), which grants federal appellate court jurisdiction over agency actions relating to issuing or denying permits, the court followed a similar line of reasoning concerning impact of the Rule on issuance or denial of permits. Id. at \*7-8. The court cited its own precedent in analyzing subsection (F), and noted that even if other circuits disagreed, the transferee court in a multi-circuit case involving federal law generally is required to follow its own interpretation of the law. Id. at \*9. The court also dismissed a due process challenge to its jurisdiction. Id. at \*11.

One member of the three-judge panel concurred in the judgment only, on the sole basis of the Sixth Circuit's prior and "precedentially-binding" decision in *National Cotton Council of America v. U.S. EPA*, 553 F.3d 927 (6th Cir. 2009). *Id.* at \*12. The third member dissented, finding that the *National Cotton* decision did not compel a finding that the court has jurisdiction under subsection (F). *Id.* at \*21.

Since this decision was rendered, several states and industry groups have filed petitions seeking an en banc rehearing.

Chris Johnson is a staff attorney at Eimer Stahl LLP. Chris has broad litigation experience, but her practice has been concentrated primarily in product liability and toxic tort defense. She may be reached at cjohnson@eimerstahl.com.

#### CASE LAW HIGHLIGHTS MID-CONTINENT

#### SELLER'S KNOWLEDGE OF EVENTUAL DISPOSAL ALONE IS INSUFFICIENT TO FIND CERCLA ARRANGER LIABILITY AS A MATTER OF LAW

Lisa Cipriano

United States v. Dico, Inc., 808 F.3d 342 (8th Cir. 2015). In Dico, the defendant owned several buildings subject to an EPA order requiring various remediation activities, as well as an operation and maintenance plan, as a result of the discovery of PCB contamination in the insulation for the buildings. Id. at 344-45. Subsequently, the defendant sold the buildings to another company, which dismantled the buildings and stored certain materials from the buildings in an open field, leading to additional PCB contamination. Id. After learning of the sale, EPA attempted to hold the defendant seller liable for cleanup costs relating to contamination resulting from the disassembly of the buildings, alleging that the defendant had violated the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ('CERCLA') by 'arrang[ing] for disposal' of the PCBs in the buildings." Id. at 344, 346. The district court granted a summary judgment motion by the government, finding that "no reasonable factfinder could conclude [defendant] did not intend to dispose of the remaining PCBs when it sold the buildings. . . ." Id. at 344, 347.

On appeal, the defendant argued that "issues of fact precluded summary judgment on the issues of liability and damages for . . . 'arranger' liability under CERCLA. . . ." *Id.* at 344. The court of appeals agreed, reversing the district court's order with regard to the finding of arranger liability. *Id.* As the court noted, "CERCLA imposes strict liability for environmental contamination on any person who by contract, agreement, or otherwise arranged for disposal or treatment . . . of hazardous substances owned or possessed by such person . . .," *see* 42 U.S.C. § 9607(a)(3), and "[a]rranger liability ensures that owners of

hazardous substances may not free themselves from liability by selling or otherwise transferring a hazardous substance to another party for the purpose of disposal." Id. at 346 (internal citations and quotations omitted). Although the statute does not define the word "arrange," the Supreme Court has identified several scenarios that could result in arranger liability, including where "an entity who has 'some knowledge of the buyers' planned disposal or whose motives for the "sale" of a hazardous substance are less than clear' may or may not be held liable." Id. at 346-47 (citing Burlington N. & Santa Fe Ry. Co. v. United States, 556 U.S. 599, 610 (2009)). The court also noted that determining arranger liability in such a scenario "requires a fact-intensive inquiry that looks beyond the parties' characterization of the transaction as a "disposal" or a "sale" and seeks to discern whether the arrangement was one Congress intended to fall within the scope of CERCLA's strict-liability provisions." Id. at 347 (citing Burlington). The court pointed out that the Supreme Court in Burlington previously had rejected the argument that liability should be imposed "on entities not only when they directly dispose of waste products but also when they engage in legitimate sales of hazardous substances knowing that some disposal may occur as a collateral consequence of the sale itself." Id. (internal quotations and citations omitted). Thus, under Burlington, "a seller's knowledge of eventual disposal alone is insufficient to find liability as a matter of law." Id. at 348.

Given this formulation of arranger liability, the district court's determination that the fact that the defendant seller "knew the buyer would use only part of the contaminated goods and would discard part of the contaminated goods" was insufficient to impose liability as a matter of law. *Id.* "The fact that some parts from the buildings were worthless after disassembly does not necessarily transform a potentially legitimate sale of the buildings in which [the defendant] would receive some commercial value into a ploy to simply get rid of the buildings just to dispose of the hazardous substance." *Id.* at 351. The court of appeals stated there were

factual issues regarding the defendant's intent and whether the buildings had some commercial value. *Id.* at 347–51. The court also noted that the "the usefulness of a product" was "an important but not dispositive factor to consider in determining the seller's intent." *Id.* at 349.

LOUISIANA COURT OF APPEALS AFFIRMS DECISIONS TO DENY VOLUNTARY MOTIONS TO DISMISS WITH PREJUDICE WHERE MOTIONS ATTEMPTED TO LIMIT RES JUDICATA EFFECT ON CAUSES OF ACTION AGAINST PETROLEUM COMPANIES Lisa Cipriano

Bailey v. Exxon Mobil Corp., No. 15-CA-520, 2015 WL 9436251 (La. Ct. App. Dec. 23, 2015); Bailey v. Exxon Mobil Corp., No. 15-CA-313, 2015 WL 9436161 (La. Ct. App. Dec. 23, 2015); Bailey v. Exxon Mobil Corp., No. 15-CA-225, 2015 WL 9436014 (La. Ct. App. Dec. 23, 2015). In three nearly identical opinions in a case brought against various petroleum companies, the Louisiana Court of Appeals affirmed the trial court's decisions to deny the plaintiffs' voluntary motions to dismiss with prejudice and instead to grant motions for summary judgment filed by the defendant companies. In Bailey, plaintiffs filed wrongful death and survival actions against the defendants seeking to recover damages resulting from the alleged exposure of deceased relatives to toxic and radioactive materials from pipes used in oil production. See, e.g., Bailey, 2015 WL 9436251 at \*1. Plaintiffs subsequently filed an amended complaint striking all original causes of action (including property damages, survival claims, and medical monitoring), leaving only claims for wrongful death. Id. After discovery, defendants moved for summary judgment on the wrongful death claims on the ground that plaintiffs lacked evidence of causation. Id. Rather than filing substantive responses to the summary judgment motion, the plaintiffs filed voluntary motions to dismiss "with prejudice" the remaining "wrongful death" causes of action, as well as oppositions to the motion for summary judgment, contending that the

motion for summary judgment was rendered moot by the motions to dismiss with prejudice. *Id.* at \*1-2.

The trial court denied the motions to dismiss and instead granted the defendants' motion for summary judgment with prejudice. Id. at \*2-3. The trial court found that "Plaintiff has not moved for a true dismissal with prejudice. Rather, Plaintiff seeks to dismiss with prejudice 'only the limited wrongful death cause of action' claimed to be asserted in this matter. By seeking to limit the dismissal with prejudice to a single cause of action, Plaintiff is impermissibly attempting to remove the res judicata effect of a dismissal with prejudice. As explained above, a judgment of dismissal with prejudice precludes the parties from relitigating matters that could have been raised in the first action, regardless of whether these matters were actually litigated." Id. at \*3. The plaintiffs appealed, arguing that "the trial court did not have discretion to deny their motions to dismiss with prejudice." Id.

The court of appeals affirmed the trial court's decisions to deny the voluntary motions to dismiss. Under Louisiana law, after a defendant has appeared, a trial court has broad discretion to deny a motion to dismiss without prejudice, but lacks such discretion with respect to a motion to dismiss with prejudice. Thus, "the issue before [the] Court [was] whether the trial court correctly determined that plaintiffs' motions to dismiss did not seek a true dismissal with prejudice, thereby allowing the trial court to retain discretion to deny their motions." Id. at \*4. The court noted that article 1673 of the Louisiana Code of Civil Procedure provides that "a dismissal with prejudice has the same effect as a final judgment of dismissal after trial." Id. "Therefore, a true dismissal with prejudice results in the application of the doctrine of res judicata," and pursuant to Louisiana statute, "extinguishes all causes of action existing at the time of the final judgment arising from the same transaction or occurrence that is the subject matter of the litigation and bars subsequent litigation on those causes of action." Id. Because the plaintiffs proposed orders of dismissal sought dismissal only

of the wrongful death causes of action, "the trial court did not err by finding plaintiffs potentially were attempting to preserve other existing causes of action and avoid the complete *res judicata* effect of a dismissal with prejudice." *Id.* Accordingly, "the trial court retained discretion to determine whether to deny plaintiffs' motions to dismiss and did not abuse its broad discretion by denying the motions." *Id.* 

Lisa Cipriano is a commercial litigation attorney at the Chicago office of Eimer Stahl LLP. Lisa's experience includes environmental and products liability matters, class action securities fraud cases, accountants' liability cases, and contract disputes. She may be reached at lcipriano@eimerstahl.com.

#### CALENDAR OF SECTION EVENTS

June 14, 2016 **Key Environmental Issues in U.S. EPA Region 5 Conference** The Gwen Chicago, IL

June 14-15, 2016 Superfund Master Class: Today's Issues and Tomorrow's Reforms The Gwen Chicago, IL

June 15, 2016 An Uneven Race: Collective Redress Remedies for Volkswagen Diesel Owners in the EU and the US Primary Sponsor: ABA Section of International Law

June 28, 2016 Update on the Latest Developments on TSCA Reform Legislation Committee Program Call Pesticides, Chemical Regulation and Right-to-Know Committee

#### For full details, please visit www.ambar.org/EnvironCalendar

#### CASE LAW HIGHLIGHTS SOUTHEAST

#### D.C. CIRCUIT THROWS OUT FISH LAWSUIT Matthew Thurlow

Anglers Conservation Network v. Pritzker, 809 F.3d 664 (D.C. Cir. 2016). On January 5, 2016, the U.S. Court of Appeals for the District of Columbia Circuit upheld the dismissal of claims brought under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and Administrative Procedure Act (APA) by fish conservation and sport fishing member organizations challenging the federal government's decision not to amend a fishery management plan to protect river herring and shad. Anglers Conservation Network v. Pritzker, 809 F.3d 664 (D.C. Cir. 2016). Plaintiffs alleged that the Mid-Atlantic Regional Fishery Management Council, a regional council with authority over fish management in U.S. coastal waters from New York to North Carolina, failed to amend a commercial fish management plan that covered bottom and midwater trawling of fish species including mackerel, squid, and butterfish (hereinafter, the "Butterfish Plan"). Id. at 668-69. Although the D.C. Circuit noted that river herring and shad had served such important and historic purposes as feeding George Washington's army at Valley Forge and sustaining local populations of bald eagles and osprey, it held that plaintiffs had no viable claims under the Magnuson-Stevens Act or APA because the Mid-Atlantic Council's decision not to set fishing limits on these species was not an agency action that could be attributed to the National Oceanic and Atmospheric Administration (NOAA) or the Marine Fisheries Service. Id. at 664 n.1, 672.

The Magnuson-Stevens Act (also known as the Fishery Conservation and Management Act of 1976) regulates domestic commercial and recreational fishing in the U.S. economic zone up to 200 nautical miles from the coastline of the states. *Id.* at 667. The Act established eight regional Fishery Management Councils with authority over different geographic regions. The councils have no authority to promulgate federal rules, but are responsible for proposing and amending plans for fish conservation and management. *Id.* Plaintiffs brought suit against NOAA and the Marine Fisheries Service following the Mid-Atlantic Council's decision, by a narrow ten-to-nine vote, not to amend the Butterfish Plan to set limits for river herring and shad "bycatch" inadvertently caught during trawling for mackerel, squid, and butterfish. *Id.* at 668. Rather than amend the Butterfish Plan, the Mid-Atlantic Council decided to form a working group to study river herring and shad bycatch in more detail and revisit the issue in three years. *Id.* 

The D.C. Circuit rejected plaintiffs' arguments that NOAA and the Marine Fisheries Service failed to take action to protect the river herring and shad. First, the court held that the Mid-Atlantic Council was the only government entity that had taken any action, and its decision not to amend the Butterfish Plan could not be construed as an action by the Marine Fisheries Service. Id. at 669. Because the Mid-Atlantic Council is not a federal agency and its decisions do not constitute "final agency action," plaintiffs did not have viable claims under the APA and the Magnuson-Stevens Act. Likewise, the D.C. Circuit held that plaintiffs could not bring actions against NOAA and the Marine Fisheries Service for "inaction" because judicial review of agency inaction is limited to agency action that is "a ministerial or non-discretionary duty amounting to a specific, unequivocal command." Id. at 670. In this case, the language of the Magnuson-Stevens Act provides that the secretary of NOAA "may prepare" a fishery management plan if a Fishery Management Council fails to do so, but NOAA is not specifically required to do so. Id. at 671. And because neither NOAA nor the Marine Fisheries Service has determined that shad or river herring is "overfished," the agencies also were not required to develop a fishery management plan under a separate section of the Magnuson-Stevens Act. Id. at 671-72; 16 U.S.C. § 1854(e) (2). On this last point regarding overfishing, the D.C. Circuit expressed some uncertainty and cited reports that some herring species are either "stable

or significantly increasing" while other species of herring and shad are "seriously depleted." *Id.* at 672. In any case, the D.C. Circuit concluded that plaintiffs' claims were not subject to judicial review and affirmed the judgment of the trial court.

## WEST VIRGINIA DISTRICT COURT ALLOWS STRIP MINING SUBSIDENCE LAWSUIT TO PROCEED

Matthew Thurlow

Schoene v. McElroy Coal Company, No. 5:13-CV-95, 2016 U.S. Dist. LEXIS 11107 (N.D. W. Va. Jan. 29, 2016). On January 29, 2016, the District Court for the Northern District of West Virginia dismissed a motion for summary judgment brought by defendants in a lawsuit stemming from alleged violations of the West Virginia Surface Coal Mining and Reclamation Act (West Virginia SCMRA), federal Surface Mining Control and Reclamation Act (SMCRA), and common law claims for "Support of the Surface Estate." Schoene v. McElroy Coal Co., No. 5:13-CV-95, 2016 U.S. Dist. LEXIS 11107 (N.D. W. Va. Jan. 29, 2016). Michael and Patricia Schoene brought the lawsuit after their property was damaged by subsidence following "longwall mining" operations under the property. Id. at \*2. A 1902 deed issued to the defendants' predecessors-in-interest separated the Schoenes' surface property from subsurface mineral rights, and included a waiver of surface support. Id. at \*6–7. But under applicable West Virginia law, the court held that the 1902 deed did not contemplate the "longwall mining" techniques used by defendants, and therefore did not waive the Schoenes' rights to subjacent support of their property. Id. at \*17.

West Virginia law provides that a landowner who conveys mineral rights underlying his or her property retains an "absolute right to subjacent support for the surface in its natural state." *Id.* at \*9–10 (quoting *Winnings v. Wilpen Coal Co.*, 59 S.E.2d 655, 656 (W. Va. 1950)). But West Virginia law also permits a landowner to waive his or her rights to subjacent support "provided that the language of the deed and the circumstances surrounding the conveyance show a clear intention by the surface owner to waive such support." *Schoene*, 2016 U.S. Dist. LEXIS at \*10. Courts in West Virginia construe mineral leases liberally in favor of lessors and strictly against lessees. *Id.* Waivers of subjacent support are limited and "only valid insofar as the proposed activity was within the contemplation of the original parties to the conveyance." *Id.* In order to be within the contemplation of the original parties, the mining must be by mining methods that were available to the parties at the time of the conveyance. *Id.* at \*10–12.

In this case, the mechanized "longwall mining" method used by defendants was not contemplated by the parties to the 1902 deed because the technology was not adopted in the United States until the 1970s. Id. at \*13. The "room and pillar mining" method used in the early 20th century typically left blocks or pillars of coal in place to support the surface. By contrast, the "longwall mining" method "involves one hundred percent coal extraction and intentionally planned subsidence." Id. As the district court noted, "modern, mechanized longwall mining . . . could not have possibly been contemplated by the parties to the 1902 deed," in part, because ""[f]or more than a hundred years, from before the Civil War to well into the 1930s, the production of coal depended on the simple act of taking shovel in hand, scooping up a pile of the material and throwing it into an empty mine car." Id. at \*14-15. Because longwall mining was unknown in West Virginia at the time the waiver of subjacent support was granted to the defendants' predecessors, the court held that the 1902 deed was not a valid waiver for subsidence damage caused by the defendants' mining activities on the Schoenes' property. Id. at \*17. Accordingly, the court dismissed defendants' motion for summary judgment.

#### NORTH CAROLINA APPELLATE COURT UPHOLDS USE OF DIMINUTION OF VALUE FOR CONTAMINATION DAMAGES Matthew Thurlow

BSK Enterprises, Inc. v. Beroth Oil Company, No. COA15-189, 2016 N.C. App. LEXIS 243 (N.C. Ct. App. Mar. 1, 2016). On March 1, 2016, a North Carolina appellate court upheld the use of diminution in value of property as a measure of damages where the cost of remediating a contaminated property was disproportionate to the value of the property. BSK Enters., Inc. v. Beroth Oil Co., No. COA15-189, 2016 N.C. App. LEXIS 243 (N.C. Ct. App. Mar. 1, 2016). Following a jury trial of claims for nuisance, trespass, and violation of North Carolina's Oil Pollution and Hazardous Substances Control Act (OPHSCA), the trial court issued a post-verdict order reducing plaintiffs' damages for property contaminated by a neighboring gas station to the diminished value of the property. Id. at \*10. The appellate court affirmed the decision and held that "where no personal use exception applies, and the cost of remediation to property is disproportionate to or greatly exceeds the diminution in value of the property or is otherwise unreasonable under the circumstances, the cost awarded should be the diminution in value of the property." Id. at \*32-33.

In the late 1980s, Beroth Oil Company, a gasoline jobber, acquired a gas station in Winston-Salem and installed five underground storage tanks. Id. at \*3. In March 2005, Beroth discovered that the underground storage tanks were leaking, and reported the leaks to the North Carolina Department of Environment and Natural Resources (DENR). Id. at \*3. Plaintiffs acquired the neighboring property in February 2006, and discovered contamination under their property in 2010. After DENR approved a plan to address removal of free petroleum product from Beroth's property, plaintiffs expressed concern to DENR that no corrective action was planned on their property. DENR responded that addressing the source area of contamination on the gas station

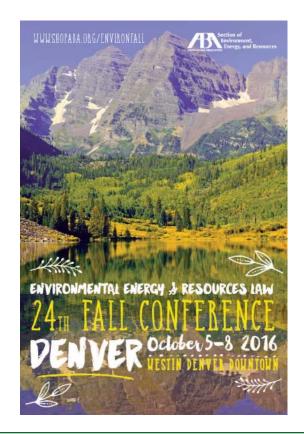
property would impact the dissolved phase plume that had migrated to plaintiffs' property, and any remaining contamination would be resolved through natural attenuation. Id. at \*7. In May 2013, plaintiffs filed suit against Beroth. At trial, the jury determined that plaintiffs' property had a value of \$180,000, which had been reduced to \$71,500 by the contamination. The jury also determined that the cost of remediation of plaintiffs' property was \$1,492,000. But the trial court set aside the jury's verdict and capped plaintiffs' damages at \$108,500, the difference in value of the property caused by the contamination. Id. at \*10. On appeal, the plaintiffs argued that they were entitled to recover the amount needed to restore their property, and not merely the diminution in value of the property. Id. at \*11–12.

Under North Carolina law, damages to land may be recovered by determining either (1) the difference in market value caused by the injury; or (2) the cost of restoring the land to its pre-injury status. Id. In cases in which damage to land is "impermanent" or can be removed, North Carolina courts typically award restoration damages. Id. at \*13. But regardless of whether damage is "impermanent" or "permanent," damage awards for injuries to land in North Carolina cannot be so large as to "shock the conscience." *Id.* at \*13–14. The *Restatement* (Second) of Torts limits recovery of restoration damages when these damages are disproportionate to the diminution in value of the land, unless the plaintiff has a personal reason for restoring the impacted property. Id. at \*14. The "personal use" exception typically does not apply to businesses. *Id.* at \*15.

The appellate court rejected plaintiffs' arguments that they were entitled to restoration damages. First, the court noted that the contamination on plaintiffs' property was 25 feet below the surface and "cannot be seen, smelled, touched, nor is it otherwise disruptive, intrusive, dangerous, or harmful." *Id.* at \*20–21. The contamination had been addressed through a DENR-approved cleanup plan, "no actual free product or petroleum" was on plaintiffs' property, and the contamination did not pose "risks to the health and safety of anyone."

Id. at \*21. Second, the "personal use" exception that allows recovery for restoration damages did not apply because plaintiffs are corporations, and the property was being used for business purposes, not as a home. Id. at \*26. Finally, the court found no other basis in North Carolina law that required "replacement or remediation" of damaged land "when that amount is not reasonable." Id. at \*31. The court affirmed the trial court's judgment and damages of \$108,500 after denying defendant's appeals, including its challenges to plaintiffs' standing, the trial court's decision not to reduce damages for diminution of value based on plaintiffs' decision not to connect to municipal water, the inclusion of stigma as a factor in calculating diminution in value of the property, and the trial court's denial of defendant's motion to dismiss plaintiffs' nuisance and trespass claims notwithstanding the jury verdict. Id. at \*45.

Matthew Thurlow is a senior associate at Latham & Watkins LLP. Matt worked as a trial attorney in the Environmental Enforcement Section at the U.S. Department of Justice from 2008 to 2011. He can be reached at Matthew.Thurlow@lw.com.



#### CASE LAW HIGHLIGHTS NORTHEAST

#### VERMONT SUPREME COURT AFFIRMS PERSONAL JURISDICTION OVER NON-RESIDENT PETROLEUM REFINING CORPORATION BASED ON NATIONWIDE GASOLINE DISTRIBUTION SYSTEM Scott E. Kauff and Nathan Short

State of Vermont v. Atlantic Richfield Co., et al., \_\_\_\_\_A.3d \_\_\_, Civ. No. 2015-204, 2016 WL 556174 (Vt. Sup. Ct. 2016). The Vermont Supreme Court affirmed a superior court's exercise of personal jurisdiction over the non-resident petroleum refiner and petrochemicals manufacturer, Total Petrochemicals & Refining USA, Inc. (TPRI), based on TPRI's "conduct and contacts with Vermont via the nationwide gasoline distribution system." *State* v. Atlantic Richfield Co., \_\_\_\_ A.3d \_\_\_, Civ. No. 2015-204, 2016 WL 556174, at \*9 (Vt. Sup. Ct. 2016).

The state of Vermont (the "state") brought suit against TPRI and several other major oil and chemical companies over the present and future contamination of surface water and groundwater in Vermont with the gasoline additive methyl tertiary butyl ether (MTBE). *Id.* at \*1. As Vermont's long-arm statute is co-extensive with the Due Process Clause, the court's analysis was centered on federal constitutional law. *Id.* at \*3. The court then, exclusive of any analysis of the exercise of general jurisdiction over TPRI, limited its analysis to the state's arguments on "specific jurisdiction." *Id.* at \*4.

Specific jurisdiction "requires that a defendant has purposefully directed activities at residents of the forum and the litigation results from alleged injuries that arise out of or relate to those activities." *Id.* (citing *Fox v. Fox*, 2014 VT 100, ¶ 27, 197 Vt. 466 (quoting *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 472, 105 S. Ct. 2174, 85 L. Ed. 2d 528 (1984))) (internal quotations omitted). Further, "[s] pecific jurisdiction is satisfied when a defendant has 'fair warning' that a particular activity may subject it to the jurisdiction of a state by virtue of the fact that the defendant 'purposefully directed' its activities at residents of the forum state and that the litigation results from injuries arising out of or relating to those activities." Id. (citing Burger King, 471 U.S. at 472–73). The exercise of personal jurisdiction is appropriate where a corporation "delivers its products into the stream of commerce with the expectation that they will be purchased by consumers in the forum State" (quoting World-Wide Volkswagen Corp. v. Woodson, 444 U.S. 286, 297-98 (1980) (emphasis in State v. Atlantic Richfield)), but the exercise of personal jurisdiction is not permissible where contacts with the forum state are "random, fortuitous, or attenuated<sup>"</sup> (quoting *Burger King*, 471 U.S. at 475) or "the mere unilateral activity of those who claim some relationship with a nonresident can satisfy the requirement of contact with the forum State" (quoting World-Wide Volkswagen, 444 U.S. at 298). State v. Atlantic Richfield, 2016 WL 556174, at \*5.

The court then considered the competing post *World-Wide Volkswagen* U.S. Supreme Court plurality, concurring and dissenting opinions of *Asahi Metal Indus. Co., Ltd. v. Super. Ct. of California*, 48 U.S. 102, 107 S. Ct. 1026, 94 L. Ed. 2d 92 (1987), and *J. McIntyre Machinery, Ltd. v. Nicastor*, 564 U.S. 1058, 131 S. Ct. 2780, \_\_ L. Ed. 2d \_\_ (2011), and rejected them, ultimately holding that "*World-Wide Volkswagen's* streamof-commerce analysis is the governing law on the stream-of-commerce doctrine." *Id.* at \*6.

Relying on two decisions from the U.S. District Court for the Southern District of New York, the court held that TPRI's participation in a nationwide gasoline distribution system, inter alia, was sufficient for the trial court to exercise personal jurisdiction over TPRI. *Id.* at \*7–8 (citing *In re Methyl Tertiary Butyl Ether* ("*MTBE*") *Prods. Liab. Litig.*, Master File No. 1:00–1898, MDL No. 1358(SAS), No. M21-88, 2005 WL 106936 (S.D.N.Y. Jan.18, 2005); *In re Methyl Tertiary Butyl Ether* ("*MTBE*") *Prods. Liab. Litig.*, 399 F. Supp. 2d 325 (S.D.N.Y.2005)). Indeed, the court noted that TPRI did not contest allegations in the state's complaint or opinions offered by the state's expert's that TPRI was involved in the nationwide distribution system, including the East Coast distribution system, of MTBE or gasoline containing MTBE that was commingled during transport and likely to be delivered to Vermont. *Id.* at \*8.

Finally, the court summarily denied TPRI's argument that "asserting jurisdiction over it would violate traditional notions of fair play and substantial justice," finding that TPRI's argument fell "far short of making a compelling case that it is unreasonable to force the company to litigate in Vermont the State's contention that TPRI's product contaminated state waters." *Id.* at \*9.

#### U.S. DISTRICT COURT GRANTS NEW YORK STATE NRD DECLARATORY JUDGMENT Scott E. Kauff and Nathan Short

State of New York, et al. v. Next Millennium *Realty, LLC, et al.*, \_\_\_ F. Supp. 3d \_\_\_ (2016), Civ. 06-cv-1133 (SJF) (AYS), 2016 WL 527058 (E.D.N.Y. Feb. 9, 2016). The U.S. District Court for the Eastern District of New York granted the state of New York and the New York Department of Environmental Conservation (collectively, the "state") declaratory judgment on a motion for partial summary judgment concerning an action brought under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and denied Next Millennium Realty LLC's, 101 Frost Street Associates, L.P.'s, and the administrators of the Estate of Jerry Spiegels' (collectively, "defendants"") cross-motions for summary judgment on a divisibility of harm affirmative defense and the dismissal of the state's natural resource damages (NRD) claim. State of New York, et al. v. Next Millennium Realty, LLC, et al., \_\_\_ F. Supp. 3d \_\_\_\_ (2016), Civ. 06-cv-1133 (SJF) (AYS), 2016 WL 527058 (E.D.N.Y. Feb. 9, 2016).

The state brought this CERCLA action against current and former owners of three commercial properties situated in the New Cassel Industrial Area (NCIA), an approximately 170-acre area in the town of North Hempstead, located directly above an EPA-designated sole source aquifer, Long Island's principal drinking water source. *Id.* at \*2. Past industrial activity in the NCIA resulted in the on-site disposal of, inter alia, tetrachloroethylene (PCE), trichloroethylene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA), CERCLA hazardous substances, which have been detected in soil and groundwater at the NCIA site as well as groundwater downgradient from the NCIA site. *Id*.

In summary fashion, the court found defendants liable under section 107(a) of CERCLA upon the state's showing that (1) they were responsible parties, (2) their properties were "facilities," (3) a release or threatened release of a hazardous substance (i.e., PCE and TCE) had occurred from these facilities, and (4) the state had incurred costs responding to the release or threatened release not inconsistent with the National Contingency Plan. *Id.* at \*10–15.

The court then considered and denied the defendants' cross-motion for summary judgment on their affirmative defense of divisibility of harm. Id. at \*15–21. While CERCLA does impose a strict liability standard, joint and several liability is not required in every circumstance and the basis for such exceptions is based on common law. Id. at \*16 (citations omitted). As such, defendants bear a substantial burden to establish that a reasonable basis exists for the apportionment of the contribution of each to a single harm. Id. (citations omitted). This determination is not based on equitable considerations, as is allowed in contribution actions. Id. While CERCLA requires no causation element, a divisibility affirmative defense does require an offer of "concrete and specific" evidence that there is in fact separate causation. Id.

Concerning the distinctiveness of the harm, the court considered a varied recitation from the parties of the existence of separate or commingled plumes, the source of impacts to wells and contaminant tracing. *Id.* In light of the extensive submissions of the parties on the distinctiveness of the harm, the court found that the existence of "genuine issues of material fact" precluded granting summary judgment. *Id.* at \*21. This, coupled with the defendants' deficient showing of "a reasonable basis for the apportionment of the State's costs," formed the basis for the court's denial of the defendants' divisibility affirmative defense. *Id.* 

The state also moved for a declaratory judgment as to the defendants' liability for natural resource damage (NRD) as well as the costs for a future natural resource damage assessment (NRDA). Defendants cross-moved, asserting, inter alia, that (1) the state's NRD claims are time-barred or, in the alternative, unripe, (2) the state is not entitled to declaratory relief as to the costs of a future NRDA, and (3) the state is not entitled to a rebuttable presumption as to defendants' NRD liability. *Id*.

Defendants argue that the listing of an area of contaminated groundwater downgradient of the NCIA on the National Priorities List (NPL) 16 years after the state discovered the contamination and five years after it initiated the instant action does not revive an otherwise time-barred claim. The court rejected this argument. It adopted the findings in U.S. v. ASARCO Inc., 28 F. Supp. 2d 1170, 1179-80 (D. Idaho 1998), and held that for "any facility listed on the NPL, a natural resource damages claim is timely so long as it is commenced within three (3) years after the completion of the remedial action, notwithstanding that such claim would have been untimely under Sections 113(g)(1)(A) and (B) of CERCLA at the time the facility was listed on the NPL." Id. at \*23. As to the defendants' ripeness argument, the court found that no statutory bar exists at this stage as to the state's NRD claim and that the contamination detected in the groundwater (a natural resource) that exceeds the state's drinking water standard constitutes an identifiable injury. Id. Moreover, the court held that in this circumstance, the issuance of a declaratory judgment as to the defendants' liability for NRD was mandatory whether or not future costs are speculative or the state has expended funds. *Id.* at \*24. The court distinguished liability for NRD, which does not require any past expenditure, from liability for response costs, which requires the expenditure of response costs prior to the commencement of a CERCLA action. Id.

The court then disposed of the defendants' argument that the state is not entitled to the assessment costs as part of the declaratory judgment. *Id.* at \*24–25. In doing so, the court found unpersuasive the reasoning in *Confederated Tribes & Bands of the Yakama Nation v. United States*, 616 F. Supp. 2d 1094 (E.D. Wash. 2007), and instead held that "for claims seeking natural resource damages under Section 107(a)(4)(C) of CERCLA, the reasonable costs of assessing the injury to natural resources are contained as part of the natural resource damages." *Id.* at \*25. Thus, the court denied a defense motion to grant summary judgment and upheld the state's entitlement to a declaratory judgment for future NRD assessment costs.

Concerning the defendants' last argument, the court agreed with the defendants that the state was not entitled to a rebuttable presumption concerning any "determination or assessment" of NRD by the state because the state had not conducted a NRDA as prescribed in the regulations promulgated by the U.S. Department of the Interior. *Id.* at \*26. That being said, with the relevant facts largely undisputed as to the liability for NRD, the absence of a rebuttable presumption did not bar a declaratory judgment in the state's favor. *Id.* 

The court ultimately found defendants liable for NRD upon the state's showing that (1) the defendants owned or operated a "facility," (2) a release or threatened release of a hazardous substance from the facility occurred, (3) the defendants were responsible parties, (4) natural resources were injured (rejecting defendants' argument that NRD is limited to loss of use of a natural resource) and finding that "injury" means "a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource . . .," and (5) an injury to natural resources *resulted from* the release of hazardous substances. Id. at \*26-28 (citation omitted). The court reasoned that groundwater contamination that exceeded drinking water standards was sufficient to create NRD liability for the defendants.

Scott E. Kauff and Nathan Short are Of Counsel with the Law Offices of John K. Dema, P.C. They both concentrate in complex environmental and toxic torts litigation, including representation of natural resource trustees. They can be reached at skauff@ lojkd.com and npshort@lojkd.com.

## THE ENDANGERED SPECIES ACT: OVERVIEW, CASE STUDIES, AND STRATEGIES FOR OIL AND GAS COMPANIES

Theresa Sauer and Bret Sumner

The Endangered Species Act (ESA), 16 U.S.C. §§ 1531–1544, gives the United States Fish and Wildlife Service (FWS or the Service) broad authority to regulate activities related to species listed as "threatened" or "endangered" under the statute, as well as candidate species proposed for listing. The scope and application of the ESA have expanded significantly in the past eight years, reaching all corners of the United States, whether on federal, state, or private lands.

With multiple protected species' habitats located across the country, the ESA and its restrictions will be an important consideration in near- and longterm planning given the regulatory hurdles that must be overcome and compliance costs that must be expended.

A lack of regulatory certainty results in a lack of business certainty, and ESA compliance can increase the costs of doing business dramatically. These challenges are compounded by the uncertainty stemming from the flood of litigation related to species and listing decisions. It is important for companies to be armed with a road map to navigate this increasingly complex legal landscape, as well as proactive strategies to obtain regulatory and business certainty.

This article provides an overview of the ESA and how to initiate and continue operations in sensitive species' habitat.

# ESA Overview—The Process for Listing a Species

In 1973, Congress enacted the ESA "to halt and reverse the trend toward species extinction, whatever the cost." *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 184 (1978). The costs of implementing and enforcing the ESA have been significant. Since its implementation, the ESA notably postponed construction of a federal dam for the snail darter, led to the demise of the logging industry in the Northwest for the spotted owl, dramatically reduced agricultural production in the Central Valley of California for the delta smelt fish, and has generally hindered numerous other means of economic development for a variety of industries.

Section 4 of the ESA tasks the secretaries of the Interior or Commerce to "determine whether any species is an endangered species or a threatened species. . . ." 16 U.S.C. § 1533(a)(1). "Endangered" is defined as a species in danger of extinction throughout all or a significant portion of its range. 16 U.S.C. § 1532(6). "Threatened" is defined as a species likely to become endangered within the foreseeable future. 16 U.S.C. § 1532(20). There are two ways a species can be listed as either "threatened" or "endangered" to receive protections under the ESA: (1) FWS or the National Marine Fisheries Service (NMFS) can directly list a species through its candidate assessment program, or (2) a private individual or organization may petition FWS or NMFS to list a species.

Until a final listing decision, a petitioned species is referred to as a "candidate" species. A candidate species is a species in listing limbo. It is neither determined "not warranted" for listing, nor is it afforded full ESA protections. This gray area often results in confusion and difficulties, and companies should ensure that internal risk assessments also cover candidate species.

The listing process is lengthy and often serves as a battleground between advocates for a listing and those whose land or livelihood might be affected by a decision to list. It is important that companies pay attention to the species' issues in the areas in which they operate, and that they engage in the public process.

#### ESA Overview—Unlawful Actions, Penalties, and Enforcement

For purposes of compliance planning, risk assessment, and analysis of potential enforcement issues, it is important for companies to understand that it is a violation of section 9 of the ESA to "take" or "harm" a listed wildlife species. "Take" means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). "Harm" is defined as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." 50 C.F.R. § 17.3.

While the take and harm prohibitions do not extend to plant species, the Service still takes such actions into account during project level consultation, and seeks to design mitigation and protection measures to impose upon projects to avoid such actions.

Section 11 of the ESA provides civil and criminal penalties for violations of section 9. *See* 16 U.S.C. § 1540(a), (b). The ESA makes no distinction between the type of behavior that leads to a civil versus a criminal violation, but rather allows penalties in the civil and criminal context for "[a]ny person who knowingly violates . . . any provision of this Act" or any related regulation. *Id.* Furthermore, the ESA is a general intent statue, meaning that a person need only intend to commit an act that turns out to be a crime, even if the person did not intend to commit a crime. For example, a hunter does not have to know that the animal he shot was endangered, only that he knew that he was shooting a species.

## Pre-Listing and Post-Listing Permits

The ESA provides mechanisms for companies to obtain regulatory assurances for operating in areas with listed species. These regulatory mechanisms can provide safe harbor protections in a pre-listing environment (e.g., for a candidate species likely to be listed), and "incidental take" protection where a species is listed. As more species are listed and more critical habitat designated, it will be important for companies to assess early in the process whether to seek to propose, sponsor, and promulgate a conservation plan for purposes of obtaining regulatory assurances.

In a pre-listing environment, these assurances or protections are designed to extend to candidate species for when the species is not listed but in listing limbo, or to provide a basis for the Service not to list a species. Particularly in an environment of regulatory uncertainty, these mechanisms can provide a path forward for companies to continue or initiate operations. On the other hand, particularly over the last six years, the commitments required by the Service in order to obtain such assurances may be as onerous, or even more so, than if the species actually was listed.

Candidate Conservation Agreements and Enhancement of Survival Permit—For any candidate species, FWS may enter into a Candidate Conservation Agreement with Assurances (CCAA) to conserve the species and try to prevent a listing.

CCAA participants voluntarily agree to undertake certain management activities on enrolled, nonfederal properties for the benefit of species that are either proposed for listing under the ESA, are candidates for listing, or may become candidates. When a property owner enters into a CCAA, FWS simultaneously issues an Enhancement of Survival Permit with a delayed effective date tied to any future listing of the covered species. Section 10(a)(1)(A) of the ESA authorizes the issuance of permits to "enhance the survival" of a listed species. Enhancement of Survival Permits are not issued for candidate or other non-listed species unless and until those species are listed as threatened or endangered.

A benefit of a CCAA is that if the species addressed in the CCAA is later listed under the ESA, the Enhancement of Survival Permit becomes effective and authorizes "take" of the species incidental to activities that are otherwise lawful on the enrolled properties as specified in the CCAA. Further, the participant receives assurances through the CCAA that, upon listing, FWS cannot, except under certain limited circumstances, require additional conservation measures "beyond the level otherwise agreed upon for the species covered in the agreement." 50 C.F.R. §§ 17.22(d)(5), 17.32(d) (5).

Similarly, a Candidate Conservation Agreement (CCA) applies to activities on federal lands and is designed to conserve a species and its habitat and to prevent a potential listing designation. However, a CCA does not contain an assurances component and, therefore, does not offer the post-listing benefit of an Enhancement of Survival Permit.

*Safe Harbor Agreements*—A Safe Harbor Agreement is a voluntary method for private or other non-federal property owners to receive an Enhancement of Survival Permit. Under a Safe Harbor Agreement, a landowner uses his property to benefit a listed species in return for a take permit and an assurance that no additional measures will be required or restrictions imposed on the property beyond the agreed-to conservation measures.

*Post-Listing Incidental Take Permits and Habitat Conservation Plans*—Once a species is listed, section 10 of the ESA provides for take of the species "if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." 16 U.S.C. § 1539(a)(1)(B). Referred to as an incidental take permit (ITP), these permits can be obtained through the development of a habitat conservation plan (HCP) and application to FWS.

The HCP component of an ITP provides a conservation framework for the permit holder to follow, for the benefit of the species. Among other things, an HCP explains the plan's expected impact and the steps intended to "minimize and mitigate" these impacts. HCPs and associated ITPs can be narrowly focused to a single species within a focused basin; they can be broad, programmatic plans encompassing multiple species across a multi-state range; or they may be anywhere in between.

*Section 4(d) Rulemaking*—Section 4(d) allows FWS to "issue such regulations as he deems

necessary and advisable to provide for the conservation of" threatened species. 16 U.S.C. § 1533(d). A section 4(d) rule allows for take of *threatened* species incidental to certain specified activities. For example, 4(d) rules may allow for incidental take resulting from routine oil and gas activities, ranching activities, agricultural activities, airport operations, rodent and noxious weed control, and from activities pursuant to specific conservation plans.

A section 4(d) rule for a particular species may provide for take pursuant to designated conservation plans, or pursuant to a conservation plan under development at the time the rule is promulgated that will meet certain defined criteria (e.g., support or participation by applicable state agencies) upon finalization.

### Takeaways

The listing of species under the ESA continues to grow exponentially. Companies need to develop and refine internal mechanisms and procedures to assess business and legal risks, proactively engage in public notice and comments on species of interest, and ensure compliance. Companies also should promulgate mitigation and conservation strategies at the project level, and possibly even the range-wide level, to obtain the maximum possible amount of regulatory and business certainty and achieve business goals.

**Theresa Sauer** *is an attorney in the Denver office* of Beatty & Wozniak, P.C. She concentrates her practice on energy-related public lands issues, including the Endangered Species Act. She can be reached at tsauer@bwenergylaw.com.

**Bret Sumner** is an attorney in the Denver office of Beatty & Wozniak, P.C. He focuses his practice on environmental and natural resources issues, including public lands and the Endangered Species Act. He can be reached at bsumner@ bwenergylaw.com.

#### TOXIC TORT DISCOVERY: THE EFFECTS OF "PROPORTIONALITY" AND OTHER CHANGES TO THE FEDERAL RULES Lauren Daniel

Among the numerous changes to the Federal Rules of Civil Procedure that took effect in December 2015, the increased prominence of the concept of "proportionality" in the rule 26(b)(1) standard for permissible discovery is, on its face, the most potentially impactful change for toxic tort litigants. Indeed, toxic tort practitioners, and defendants in particular, have long been at the forefront of encouraging proportionality in discovery as the field is particularly, if not uniquely, plagued by a lack of symmetry in the discovery demands placed on parties. The question is, Will the new rules help defendants' cause?

Defendants in toxic tort suits are often corporations with decades of voluminous records that are time-consuming, burdensome, and expensive to produce. By contrast, toxic tort plaintiffs tend to be individuals whose only relevant records are a few recent medical files and/or property records. Furthermore, because of their relative lack of information or context, plaintiffs' discovery requests, and even their claims, may be ill-targeted and overbroad, further exacerbating the already inequitable distribution of discovery burdens.

For several reasons, the new "proportionality" requirement in the rule 26(b)(1) discoverability standard is unlikely to dramatically reduce the burden resulting from information asymmetries in toxic tort cases. First, the concept of "proportional" discovery is not entirely new to the Federal Rules' standard for discovery. Proportionality initially was included in rule 26's definition of the scope of permissible discovery in 1983, but was later demoted to section (b)(2)(C)(iii) governing the issuance of protective orders limiting discovery. The 2015 revision simply restores the concept to its original prominence. As the Advisory Committee noted, "[r]estoring the proportionality calculation to Rule 26(b)(1) does not change the existing

responsibilities of the court and the parties to consider proportionality."

Second, the new rule includes a six-factored test for proportionality, and many of these factors counsel against allowing corporate defendants to shield relevant information from discovery, even where it would be burdensome:

Parties may obtain discovery regarding any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case, considering the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit. Information within this scope of discovery need not be admissible in evidence to be discoverable.

Of particular note is the factor of "the parties' relative access to relevant information," which is entirely new to the 2015 rules. This, combined with the other preexisting factors including "the parties' resources," eliminates any impression that discovery should result in equal levels of effort from each party. Rather, proportionality refers to imbalances not as between the parties, but given the relative resources of each party and the magnitude of the issues at stake, among other considerations. Just as has always been the case, deep-pocketed, information-rich toxic tort defendants should expect to continue to bear a higher burden than individual plaintiffs.

But those hoping for change may not be at a complete loss—if the revisions to rule 26 prove ineffectual in reducing the imbalance between parties' relative discovery burdens in toxic tort suits, other change to the Federal Rules outside of rule 26 could be more likely to yield impact. Several changes to the rules encourage early and active judicial involvement in case management. Revisions to rule 16, for example, shorten the deadline for entry of an initial scheduling order, eliminate language that authorized scheduling conferences to be held "by telephone, mail, or other [not in-person] means," and explicitly permit judges to require a conference before a party may file a motion for a discovery order. These provisions could be leveraged by defendants hoping to more favorably chart their course in discovery through early and active court involvement. Indeed, for many of the same reasons, toxic tort defendants have been on the forefront of advocating for increased proportionality in discovery, so too have they been at the forefront of encouraging creative case management.

A prime example of how creative case management can be an effective bulwark against disproportionate discovery is the so-called Lone Pine order, by which the court requires a plaintiff to first make a prima facie showing of the elements of its case before requiring defendants to undertake full-blown, burdensome discovery. In Lore v. Lone Pine, 1986 WL 637507 (N.J. Super. Ct. Law Div. 1986), plaintiffs brought suit against some 464 defendants alleging personal injury and property damage resulting from their exposure to materials at a landfill. Early on, the court determined that the number of defendants necessitated active case management. After it came to light that the U.S. Environmental Protection Agency had conducted extensive study and concluded there was no pollution problem emanating from the site, the court issued a case management order requiring that, before any discovery of defendants could be taken, plaintiffs would have to provide, among other things, proof of their injuries and doctors' affidavits supporting the contention that their injuries were caused by substances at the landfill. Plaintiffs eventually submitted documentation that was "woefully and totally inadequate" under this order, and the court dismissed their claims, stating that "[w]ith the hundreds of thousands of dollars expended to date in this case, it appears that plaintiffs' counsel is . . . hoping that some of the defendants, to avoid further delay and expense, would recommend a settlement of the case." The court concluded that there was "nothing to be settled because there is total and complete lack of

information as to causal relationship and damages." Other courts have followed the example set in *Lone Pine*, requiring a threshold showing by toxic tort plaintiffs before permitting burdensome discovery of defendants, and the practice has been affirmed under the Federal Rules. *See, e.g., In Re Asbestos Products Liability Litigation (No. VI)*, 718 F.3d 236 (3d Cir. 2013). However, courts' use of this mechanism is entirely discretionary and far from commonly used.

There is a possibility that *Lone Pine* orders and similar proactive approaches to case management could become more commonplace following the December 2015 revisions to the Federal Rules. The rule revisions not only emphasize proactive management, they also create more opportunities for litigants to show judges the need for such tools to be employed. For example, parties are now permitted to serve early rule 34 discovery requests-which relate to inspection, copying, testing, sampling, and entry onto property requests-21 days after service of the complaint and before the initial 26(f) discovery conference. Previously, no discovery was permitted until after a rule 26(f) conference. Under this new schedule, defendants could have what they view to be disproportionate discovery requests in hand the day after their responsive pleading is filed and well before a 26(f) report is submitted to the court. Defendants finding themselves in this position could have more tangible reasons to object to plaintiffs' discovery approach in a rule 26(f) conference and more notice of the need to involve the court by motion for atypical and proactive case management assistance.

Furthermore, while the increased focus on proportionality may not, as discussed above, change the scope of permissible discovery, it could influence judges who see significant proportionality issues on the horizon to adjust their case management strategies. *Lone Pine* itself, while not an application of the Federal Rules, presents a good example of the type of proportionality concerns that could prompt courts to rely upon the revisions to rule 16 and rule 26 and to exercise creative case management techniques. The Lone Pine court required a prima facie showing of plaintiffs only after it had been confronted, during an in-person scheduling conference, with the likelihood that discovery in that case would have been unnecessarily complicated, timeconsuming, and burdensome for defendants given the apparent merit (or lack thereof) of plaintiffs' claims. These early demands that the Lone Pine court placed on plaintiffs were likely intended to smoke out illegitimate claims, but the approach could similarly assist courts in understanding how the factors identified in rule 26's proportionality inquiry-including "the importance of the issues at stake," "the importance of the discovery in resolving the issues," and "whether the burden or expense of the proposed discovery outweighs its likely benefit"-should apply. In other words, even where toxic tort plaintiffs' claims may be more facially legitimate than those of the Lone Pine plaintiffs, federal courts could find value in targeting or tiering discovery to minimize potentially unnecessary discovery burdens.

While it is unlikely that the 2015 amendments to the Federal Rules will dramatically impact toxic tort strategy or outcomes, there is a possibility that some of the rules' more subtle changes could begin to shift the way in which courts manage cases with conspicuous information asymmetries, like many toxic torts.

**Lauren Daniel** is an associate at Arnold & Porter LLP. She focuses her practice on environmental litigation and can be reached at lauren.daniel@ aporter.com.

### INTRODUCTION TO FORENSIC ENGINEERING FOR LITIGATORS

Nazmi Mete Talimcioglu, PhD, PE, CGWP, LSRP

#### Introduction

Forensic engineering is a combination of multidisciplined, multifaceted sciences utilized in complex environmental contamination problems. It involves various scientific disciplines, such as civil, chemical, mechanical, process, and industrial engineering; chemistry; biology; toxicology; geology; hydrogeology; history; mathematics; statistics; and geographical information systems (GIS), just to name a few. Forensic engineering is predominantly utilized in litigation, liability and cost allocation proceedings, insurance claims, and toxic tort cases. The main objectives of forensic engineering are to answer the following baseline questions:

- Who caused the contamination?
- How extensive is the contamination?
- When did it occur?
- How did it occur?

These questions have the utmost importance in legal proceedings, particularly in litigation. Because environmental matters are often convoluted, experts are frequently called upon to help explain the science behind the environmental fate and transport of contaminants to the trier of fact. The forensic tools described in this article are commonly used by experts to help them develop such opinions. This brief paper summarizes how the various forensic tools can be used by litigators, the methodology associated with each tool, and the degree of success that each tool has achieved in the legal setting.

## Forensic Engineering Approach and Methods

In general, the following tools are available for forensic experts:

- Historical records review;
- Chemical analyses/age dating;
- Modeling; and
- Data gathering/interpretation.

Historical records are often used by forensic experts to determine what industrial operations were employed at a given site. Historic records also are used to establish the standard of care for such operations and to help determine the types of contaminants that may exist and the timing of such contamination. In order to achieve this objective, forensic experts set out to review and evaluate as many public and private records that pertain to the site as possible. Examples of such records include aerial photographs, fire insurance maps, topographic maps, GIS databases, prior remediation reports and data, process and operational documents, and financial and corporate documents. Based on the results of this research, a forensic expert may then construct a conceptual site model (CSM), which describes the potential source location(s), contaminant migration pathways, contaminant fate assessments and assumptions, and environmentally sensitive receptors. It is not uncommon for the CSM to be based on facts and assumptions derived from site-specific historical data. In the litigation context, the CSM also may rely on personnel interviews and the testimony of site workers, particularly those who witnessed site operations and can offer first-hand knowledge of operational practice during the period in question. A well-designed CSM, one that considers all of the facts and data available at the time of its design, will assure a high degree of accuracy and completeness of the forensic evaluation process.

Specialized chemical analytical procedures are utilized in most forensic investigations, mainly for two purposes: (1) the accurate identification of contaminants and their by-products and (2) estimation of the potential age of the contaminant observed at the site. These two objectives are equally important to help identify possible sources of contamination and potentially responsible parties (PRPs) associated with the site. There are a number of chemical methods that are used to achieve these objectives. However, there is also abundant disagreement within the scientific community as to the accuracy and applicability of those methods. Each and every chemical method bears its own limitations and embedded uncertainties.

Petroleum products and by-products present a particularly difficult challenge when it comes to

the forensic investigation of potential contaminant sources. Petroleum hydrocarbons (PHCs) are comprised of numerous long-chain hydrocarbons that are made up of numerous hydrogen and carbon atoms that exist in various arrays and configurations. To assist in the chemical identification of petroleum hydrocarbons, a specialized chemical analysis is performed to help sort out these complex chains of hydrocarbons. This analysis goes by the acronym "PIANO" and consists of:

- (P) Paraffins—singly bonded straight chains of hydrocarbons (e.g., methane, ethane, propane)
- (I) Isoparaffins—singly bonded branched chains of hydrocarbons (e.g., isobutane, pristane, phytane)
- (A) Aromatics—monocyclic and polycyclic hydrocarbons (e.g., benzene, naphthalene)
- (N) Naphthenes—singly-bonded, nonnaphthalene-containing cyclic hydrocarbons (e.g., cyclohexane, cyclopropane)
- (O) Olefins—singly and doubly bonded, non-naphthenic cyclic hydrocarbons (e.g., cyclohexene)

Within the array of PIANO compounds are the naphthenes, which predominantly occur in crude oil and can be used to identify the source of the petroleum discharge. Most petroleum additives, such as oxygenates and anti-knocking agents, can be linked to specific petroleum products and can be used to identify the presence of the product in the environment as well as a range of dates during which the product was discharged. For example, tetraethyl lead (TEL) and tetramethyl lead (TML) were used in the production of leaded gasoline until the early 1980s when the substances were phased out due to health concerns. Methyl tertiarybutyl ether (MTBE) was used as an anti-knocking agent in unleaded gasoline following the lead phase out and was eventually replaced with ethyl alcohol (ethanol). Accordingly, it is possible to identify a range of dates for certain discharges of gasoline based on the presence or absence of anti-knock additives.

As modern science evolves, new chemical methods are constantly added to the forensic

engineer's toolbox. A more precise method for dating chemical releases is chemical age dating (CAD). Simply put, CAD is estimating the time frame when contaminants were released into the environment. This approach utilizes the biodegradation and weathering characteristics of a given chemical species or a mixture of multiple species and evaluates the presence or absence of index chemicals. More sophisticated approaches include isotope and radioisotope analyses. Stable isotope analysis generally provides hints regarding the source of the contaminants. As an example, the concentration of carbon isotope <sup>13</sup>C is commonly compared with the concentration of elemental carbon (<sup>12</sup>C) to determine the chemical fingerprint of the petroleum hydrocarbon and shed light on its origin. Similarly, the concentration ratio of deuterium (<sup>2</sup>H) to elemental hydrogen, protium (<sup>1</sup>H), is also commonly utilized. A radioisotope analysis is generally used to "age date" the product utilizing radioactive degradation characteristics. For this purpose radioactive isotopes, such as tritium (<sup>3</sup>H) and/or lead (<sup>210</sup>Pb), are commonly employed in the analysis. The forensic science literature is also full of various "ratio" methods utilized in age-dating analyses. Among those, the pristane to phytane (pr/ph) concentration ratio of a product provides information regarding the weathering process in a petroleum hydrocarbon. There are other ratio methods, such as the Christensen and Larsen method, Kaplan method, Schmidt method, used by forensic engineers; however, as indicated above, each of these methods has embedded limitations in terms of accuracy, applicability, and overall certainty on the results.

Environmental modeling is another tool available to forensic experts to help determine fate and transport characteristics. Modeling is generally described as the simplified representation of complex physical, chemical, and biological processes, which yields solutions. A few examples of modeling types include analog modeling, which involves a scaled-downed version of physical representation of the actual problem under controlled conditions (generally in a laboratory); stochastic modeling, which utilizes a statistical approach to input and/or output parameter estimations; and mathematical modeling, which involves mathematical description of each and every key mechanism in a contaminant's fate and transport process. If a mathematical model provides a "closed-form" solution to the equations involved, it is called an "analytical model." In contrast, if numerical approximations are used because of the complexity of the equations rendering no closedform solutions, it is called a "numerical model." Most environmental models are numerical models. Several such models are well known. These include the U.S. Geologic Survey (USGS) MODFLOW model—a numerical, hydrogeologic, groundwater flow model—and the U.S. Environmental Protection Agency's MT3D contaminant transport model, just to name a couple.

Most highly complex groundwater contaminant problems, which may contain multiple sources, multiple PRPs, or commingling plumes, are tackled via modeling to answer the fundamental questions of "who did it?" and "when?" In order to utilize this approach, two distinct models are necessary: (1) a hydrogeologic model to describe groundwater flow characteristics; and (2) a contaminant transport (migration) and fate model to describe the observed impacts on a concerned site. Generally, the following steps are taken in this modeling approach:

- 1. Establish objectives
- 2. Develop conceptual site model (CSM)
- 3. Select appropriate model
- 4. Develop numerical model
- 5. Calibrate model
- 6. Perform sensitivity analyses
- 7. Verify/validate model
- 8. Perform model simulations/forecasting

Of those, model calibration is of utmost importance. Any model developed for site-specific conditions has to be calibrated based on observed conditions, such as groundwater elevations, contaminant concentrations, etc., using parametric iterations of key input values of hydrogeologic and chemical conditions. The values used and varied in these parametric iterations need to be scientifically sound and within the acceptable ranges published in literature. Although, it is possible to calibrate any model to "mimic" observed site conditions by parametric iterations, the model results may not reflect scientifically sound predictions. The garbage-in, garbage-out ("GIGO") concept applies to all types of modeling analyses, and is something the modeler must always be cognizant of when evaluating results and/or reaching conclusions.

When a modeling approach is used to age date contaminants, parametric iterations are performed using known and unknown conditions with a wellcalibrated model, and contaminant migration and fate are simulated for a forward-looking period of time. The results, however, are interpreted backward in time to assess the historical conditions. Therefore, the sometimes-used term "reverse modeling" actually is a misnomer.

A forensic engineer relies on the site-specific data and its accuracy. Most often the data are depicted geospatially in graphical form. Contouring is a common method of generating geospatial data maps. Contouring is basically interpolation and/or extrapolation of numbers of equal value in space. Contouring may be accomplished manually—by visual observation of data on a map, or by using one of several numerical approximation techniques, such as kriging, inverse distance, natural neighbor, etc. Each of these numerical techniques has its own limitations as to applicability and accuracy and, therefore, may produce distinctly different results on the same data set. Scientific judgment and discretion are needed when applying these techniques.

## Limitations of the Forensic Approach

The following general limitations apply to the chemical methods (e.g., CAD) and, therefore, such methods should be used with appropriate caution:

- No two petroleum products are identical even from same refinery/production facility;
- Weathering and degradation processes are highly dynamic at a given site;
- Mixing of chemicals/commingling of plumes complicates source identification and age dating;
- Ratio methods generally have significant

error margins—more science is needed for verification;

- Lab methods and site-specific conditions may introduce additional errors on results; and
- Multiple lines of evidence and methods are needed to verify results.
- Similarly, the modeling approaches have the following limitations:
- A model is only as accurate as available site-specific data—i.e., garbage in, garbage out;
- Modeling results are highly dependent on parametric assumptions used;
- Assumptions of homogeneity and isotropy introduce significant errors in modeling results;
- Numerical schemes used in modeling have implicit residual errors, which affect the accuracy; and
- Modeling results can be skewed or biased.

## Conclusions

In forensic engineering evaluations, the author recognizes and recommends the following key points:

- Gather as much site-specific data as possible;
- Do not rely on one particular method;
- Utilize multiple lines of evidence;
- Adhere to strict standards of laboratory testing; and
- Use forensic engineering results with caution.

The ultimate judgment of any forensic analysis is that the methods used, and their corresponding results, have to be reliable to be admitted in the court of law.

**Nazmi "Mete" Talimcioglu**, is a senior associate at First Environment, Inc. He is an expert in environmental engineering applications and specializes in soil and groundwater investigations and remediation, vapor intrusion investigation, and mitigation. Mete can be reached at ntalimcioglu@firstenvironment.com.