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CERCLA Apportionment Following *Burlington Northern*: How Joint and Several Liability Still Thrives—to the Surprise of Many

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**CERCLA APPORTIONMENT FOLLOWING
BURLINGTON NORTHERN: HOW JOINT AND
SEVERAL LIABILITY STILL THRIVES—TO THE
SURPRISE OF MANY**

Ryan Brady

ABSTRACT: Courts have generally held parties who are responsible for hazardous waste jointly and severally liable for that harm under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). On rare occasions, parties have shown a reasonable basis for apportionment of the harm and avoided joint and several liability. However, in 2009, the Supreme Court in *Burlington Northern and Santa Fe Railway Co. v. United States* upheld an apportionment of harm based on a seemingly lower standard of evidence than courts have required in the past, potentially lowering the burden on parties to obtain apportionment. This article briefly summarizes *Burlington Northern*, as well as predictions from commentators on what standard of evidence will be sufficient for apportionment going forward. It then analyzes subsequent cases to show that courts have not lowered the standard of evidence required for a reasonable basis for apportionment under CERCLA. In fact, a few courts have held potentially responsible parties to an even higher standard than prior to *Burlington Northern*.

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I. INTRODUCTION

In *Burlington Northern and Santa Fe Railway Co. v. United States*,¹ the Supreme Court addressed for the first time the issue of apportionment of harm under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).² Generally, parties who are potentially responsible for hazardous wastes are subject to joint and several liability for costs associated with their cleanup. Under common law principles, however, a potentially responsible party (PRP) may avoid joint and several liability by asking a court to apportion the damages. To merit this consideration, PRPs must show they were not responsible for the entire harm. Prior to 2009, courts had only apportioned harm on the rare occasions they perceived “a reasonable basis for determining the contribution of each cause to a single harm.”³ In *Burlington Northern*, the Supreme Court adopted this reasonable basis standard while upholding an apportionment based on a defendant’s size of land and length of ownership.⁴

In the years since the Court issued its opinion, observers have disagreed on the extent that it affects apportionment. Their opinions typically fall within three categories—(1) that it did not expand the ability to obtain apportionment; (2) that it slightly increased the likelihood of apportionment; or (3) that it

1. 556 U.S. 599, (2009).

2. *See id.* at 608 (addressing 42 U.S.C. § 9607(a) (2006)).

3. *Burlington Northern*, 556 U.S. at 614 (quoting Restatement (Second) of Torts § 433A(1)(b) (1965) (internal quotation marks omitted)).

4. *See id.* at 618.

significantly expanded apportionment. In the years since the decision, however, lower courts have vindicated those who predicted it would have little to no effect on CERCLA apportionment.

Courts applying *Burlington Northern* have maintained such high standards of evidence that no defendant has successfully demonstrated a reasonable basis. Moreover, some courts have even precluded the reasonable basis analysis altogether by holding that the harms were theoretically un-apportionable. Most commentators predicted at least a small increase in the likelihood of apportionment—a result unseen so far. Admittedly, both courts and commentators alike have stressed that apportionment is very fact-intensive. As such, it is plausible that a case with facts suitable for testing the new limits has not yet materialized. Whether or not this is true, it is undeniable that courts have interpreted the reasonable basis standard more stringently than expected.

This is a positive sign for the future of CERCLA. Congress endowed CERCLA with the implicit “polluter pays” principle, and while joint and several liability is not explicitly referenced in the statute, it is central to this principle. Any expansion of the “reasonable basis” of apportionment cuts away at joint and several liability, and in turn the government’s and taxpayers’ ability to recover cleanup costs from polluters. A post-*Burlington Northern* interpretation of “reasonable basis” that maintains a high standard of evidence, as seen in the lower courts, reduces the chances polluters will pay less through apportionment.

II. BACKGROUND

Under CERCLA, parties are liable for response costs incurred from the release or threatened release of hazardous substances.⁵ Specifically, parties are liable for “all costs of removal or remedial action, . . . any other necessary costs of response, . . . damages for injury to, destruction of, or loss of natural resources, . . . and the costs of any health assessment or health effects study carried out under” the Act.⁶ Congress left the scope of this liability undecided. Courts have

5. 42 U.S.C. § 9607 (2012).

6. *Id.* § 9607(a).

traditionally defined it by looking to federal common law in holding PRPs jointly and severally liable for these costs.⁷

In *United States v. Chem-Dyne Corp.*, a court for the first time applied federal common law principles to the scope inquiry.⁸ Because Congress eliminated language providing for joint and several liability prior to the law's passage, the court concluded that lawmakers intended for common law to govern.⁹ Accordingly, *Chem-Dyne* adopted the Restatement (Second) of Torts,¹⁰ which provides:

- (1) Damages for harm are to be apportioned among two or more causes where
 - (a) there are distinct harms, or
 - (b) there is a reasonable basis for determining the contribution of each cause to a single harm.
- (2) Damages for any other harm cannot be apportioned among two or more causes.¹¹

In the years since, almost all courts have followed its lead,¹² including the Supreme Court.¹³ This approach has led to a two-part test for deciding when apportionment is appropriate. The first step, known as the “threshold question,” is to establish that a harm is capable of apportionment as a matter of law.¹⁴ Next, a factual inquiry must point to a reasonable basis for apportionment.¹⁵ Under this methodology, apportionment has been rare. Until *Burlington Northern*, courts apportioned damages in only four cases out of 160.¹⁶

7. See, e.g., *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802 (1983).

8. Steve Gold, *Dis-Jointed? Several Approaches to Divisibility After Burlington Northern*, 11 VT. J. ENVTL. L. 307, 313 (2009).

9. See *id.* at 312.

10. *Id.* at 312–13.

11. Restatement (Second) of Torts § 433A.

12. See Gold, *supra* note 8, at 313.

13. See *Burlington N. and Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 614 (2009).

14. Gold, *supra* note 8, at 319.

15. *Id.*

16. Martha Judy, *Coming Full CERCLA: Why Burlington Northern is Not the Sword of Damocles for Joint and Several Liability*, 44 NEW ENG. L. REV. 249, 283 (2010).

A. *Burlington Northern*

In *Burlington Northern*, the Court addressed for the first time what constituted a reasonable basis for apportionment. The petitioner, a railroad company that owned a contaminated parcel of land, sought apportionment in response to a claim it was responsible for harms inflicted by a lessee. The polluter in question was a chemical distributor that leased land from the petitioner beginning in 1975, but had operated on a much larger, adjacent parcel since 1960.¹⁷ Throughout the course of its operations, the distributor spilled various hazardous chemicals on the land, contaminating the parcel's soil and groundwater.¹⁸ The company attempted to clean up the site at one point, but by 1989 it had become insolvent and ceased all operations.¹⁹ The EPA and the California Department of Toxic Substances Control subsequently took over remediation efforts and sought cost recovery against the railroad parcel owner, Burlington Northern, under CERCLA.²⁰

The District Court found Burlington Northern liable but did not impose joint and several liability for all of the costs.²¹ Instead, the court found a single harm capable of division and apportioned damages *sua sponte*.²² The court used a simple formula for this apportionment: (1) the percentage of the site's area owned by the railroad multiplied by (2) the percentage of time the distributor operated on the railroad's parcel multiplied by (3) the percentage of chemicals spilled on the railroad's parcel that required remediation.²³ This calculation resulted in liability for six percent of the harm, which the court raised to nine percent based on a fifty percent margin of error.²⁴

On appeal, the Ninth Circuit reversed. The court held that the harm was theoretically capable of apportionment but the record did not establish a reasonable basis for

17. *Burlington Northern*, 556 U.S. at 599 (2009).

18. *Id.* at 603. The principal contaminants released at the site were Dinoseb, D-D, and Nemagon. *Id.*

19. *Id.* at 605.

20. *Id.*

21. *Id.* at 606.

22. *Id.* at 606, 615–16.

23. *Id.* at 606.

24. *Id.* at 616.

apportionment.²⁵ The Supreme Court then reversed, upholding the District Court's apportionment of damages.²⁶ The Court drew on the *Chem-Dyne* approach, determining liability based on "traditional and evolving principles of common law."²⁷ In looking to the facts of the case, the Court held that "detailed findings ma[d]e it abundantly clear that . . . no more than [ten percent] of the total site [was contaminated]."²⁸ Furthermore, "it was reasonable for the [trial] court to use the size of the leased parcel and the duration of the lease as the starting point for its analysis."²⁹ The Court endorsed the District Court's usage of two factors,³⁰ but explained that the percentage of chemicals contributing to the harm should not be considered because it cancelled out by the margin of error.³¹ Accordingly, the Court upheld the original apportionment of six percent.³²

The Court characterized these facts as only the "starting point" of the analysis.³³ Yet the Court seems to end with them as well, as it mentions no other considerations. In fact, The Court cited the Court of Appeals' rationale, which held that "divisibility may be established by volumetric, chronological, or other types of evidence, including appropriate geographic considerations."³⁴ As several commentators concluded, the Court thought the pro rata area owned by the railroads and the pro rata length of ownership counted as geographic and chronological considerations.³⁵

Yet, many questions linger following the Court's ruling. For example, did the Court fully endorse volumetric, chronological,

25. *Id.* at 607.

26. *Id.* at 618.

27. *Id.* at 613–15. The Court adopted *Chem-Dyne's* use of the Restatement (Second) of Torts § 433A for these common law principles. *Id.* at 614.

28. *Id.* at 617.

29. *Id.*

30. The percentage of the site's area owned by the railroads and the percentage of time the lessee operated on it. *Id.* at 618.

31. *Id.*

32. *Id.*

33. *Id.* at 617.

34. *Id.* at 617–18.

35. Peter McGrath, *Burlington Northern & Santa Fe Railway Co., et al. v. United States: Defining Environmental Law or Changing It?*, 3 CHARLOTTE L. REV. 85, 94 (2011); Michael Foy, Comment, *Apportioning Cleanup Costs in the New Era of Joint and Several CERCLA Liability*, 51 SANTA CLARA L. REV. 625, 667 (2011).

or geographic considerations as grounds for apportionment? And what types of volumetric, chronological, or geographic evidence would suffice? Are simple formulas of relevant factors sufficient evidence for apportionment? Interpreting *Burlington Northern* strictly, the size of the leased parcel and the duration of the lease could be factors other courts consider in apportioning damages. Courts following *Burlington Northern* must ask what level of evidence it requires to form a reasonable basis for apportionment.

III. DIFFERING INTERPRETATIONS OF BURLINGTON NORTHERN

As many cases have stressed, CERCLA apportionment is a fact-intensive analysis. In *Burlington Northern*, the Court based its decision on the pro rata size of the land area and the pro rata length of ownership. A few commentators believe this has not changed the likelihood of apportionment, and that such fact-intensive inquiries will almost always lead to joint and several liability.³⁶ Others believe *Burlington Northern* reduced the evidentiary burden to a degree, but left in place the presumption of joint and several liability.³⁷ Others say it relaxed the standard so much that apportionment will be the new norm.³⁸

A. *The First Interpretation: Commentators Who Believe Burlington Northern Did Not Change Apportionment's Burden of Proof*

A few commentators believe *Burlington Northern* does not upset the strong presumption in favor of joint and several liability. Under this interpretation (the “First Interpretation”), PRPs seeking apportionment still must show that there was no

36. Gold, *supra* note 8; Steve Ferrey, *Reconfiguration of Superfund Liability?: The Disconnection Between Supreme Court Decisions and the Lower Federal Courts*, 41 SW. L. REV. 589, 610–12 (2012); Judy, *supra* note 16.

37. Kevin Gaynor et al., *Unresolved CERCLA Issues After Atlantic Research and Burlington Northern*, 40 ENVTL. L. REP. NEWS & ANALYSIS 11198 (2010); McGrath, *supra* note 35; Foy, *supra* note 35, at 658.

38. Aaron Gershonowitz, *The End of Joint and Several Liability in Superfund Litigation: From Chem-Dyne to Burlington Northern*, 50 DUQ. L. REV. 83, 84 (2012); Mark Misiorowski & Joel Eagle, *After the Supreme Court's Burlington Northern Decision*, FOR THE DEFENSE 14, 18 (2009).

concert of action, no multiple sufficient causes, and no synergistic effects of the waste. They must also show that there was no migration or commingling of waste in order to satisfy the standard.

Steve Gold argues that *Burlington Northern's* precedential impact will be limited.³⁹ He argues that its unique facts set it apart from circumstances that would otherwise lead to apportionment.⁴⁰ He also notes at least three legal safeguards exist for the continued presumption of joint and several liability. First, a concert of action theory would undermine any claim to reasonable basis.⁴¹ Specifically, “[t]ortfeasors that act in concert are jointly and severally liable for the harm their concerted action causes, even if their individual acts cause only part of that harm.”⁴² Second, courts may also deny apportionment based on the multiple sufficient causes theory.⁴³ That is, when multiple harms cause damage, if both would have been responsible for the entire damage, by themselves, then apportionment is improper.⁴⁴ Third, courts may find the harms theoretically incapable of apportionment (the threshold question).⁴⁵ Gold suggests that if the Court is signaling that the burden of finding reasonable basis is lower, courts may respond by finding fewer scenarios theoretically apportionable.⁴⁶ Because a court must first address the “threshold question” before it determines the factual question, joint and several liability is maintained.⁴⁷

Steve Ferrey also argues that *Burlington Northern* will present no change.⁴⁸ Ferrey concludes that the migratory potential of a harm and its varying toxicities will still likely preclude apportionment in almost all cases, even if a court considers imprecise evidence.⁴⁹ Ferrey does note, however, that

39. Gold, *supra* note 8, at 311.

40. *Id.* at 329–30.

41. *Id.* at 337–43.

42. *Id.* at 337.

43. *Id.* at 346–47.

44. *Id.*

45. *Id.* at 368.

46. *Id.* at 335.

47. *Id.*

48. Ferrey, *supra* note 41, at 610–12.

49. *Id.*

Burlington Northern alters the assumption of joint and several liability by saying evidence need not be precise.⁵⁰ But because the evidentiary standard still requires a “reasonable basis” for apportionment, the party seeking apportionment must meet this high burden, producing no change in apportionability.

Lastly, Martha Judy argues that *Burlington Northern* will not change apportionment for several reasons.⁵¹ First, the Court only considered whether the ruling was supported by the record.⁵² Second, the small number of PRPs made it easier for the District Court to apportion the harm.⁵³ And third, only a few chemicals caused the harm, as opposed to alternate scenarios where many chemicals cause synergistic effects.⁵⁴ According to Judy, these facts cabin the ruling and leave apportionment’s evidentiary burden intact.⁵⁵

B. The Second Interpretation: Commentators Who Think Burlington Northern Lowered Apportionment’s Burden of Proof, to a Degree

Several commentators believe *Burlington Northern* expands apportionment to some degree. Under this interpretation (the “Second Interpretation”), *Burlington Northern* lowers the evidentiary burden on PRPs to show a reasonable basis. Specifically, these commentators believe it signals that considerations such as volume and geography of the waste can provide a reasonable basis in future cases.

For example, Kevin Gaynor, Benjamin Lippard, and Sean Lonnquist argue that *Burlington Northern* has “reduced—but definitely [has] not eliminate[d]—the prospects for joint and several liability.”⁵⁶ Following *Burlington Northern*, PRPs no longer need “near certainty” for reasonable basis because *Burlington Northern* condoned the District Court’s approximation of liability.⁵⁷ Furthermore, as also noted by Ferrey, the Court’s decision shows that evidence need not be

50. *Id.*

51. Judy, *supra* note 16.

52. *Id.* at 286.

53. *Id.* at 288.

54. *Id.* at 288.

55. *Id.* at 291.

56. Gaynor, *supra* note 37.

57. *Id.* at 11206.

precise to form a reasonable basis.⁵⁸ *Burlington Northern* expressly adopted *Chem-Dyne* and therefore embraced common law principles as equivalent to CERCLA apportionment principles.⁵⁹ Courts will now look to the Restatement of Torts for common law principles, as both *Chem-Dyne* and *Burlington Northern* did.⁶⁰ This may reduce joint and several liability prospects, because the pre-*Burlington Northern* burden was considered greater than the burden under common law and the Restatement.⁶¹

Similarly, Peter McGrath predicts that *Burlington Northern*'s adoption of *Chem-Dyne* principles will lead to limits on the authority of courts to impose joint and several liability.⁶² This will lead to much more aggressive apportionment arguments and more complicated settlement discussions in the future.⁶³ Specifically, volumetric and geographic evidence may now provide reasonable basis for apportionment.⁶⁴

On this point, Michael Foy notes that *Burlington Northern* broadens the evidence parties may use, including volumetric and geographic data.⁶⁵ Even though *Burlington Northern* adopted *Chem-Dyne*'s approach that "evolving common law principles" apply, the Court arguably went further than *Chem-Dyne*, which explicitly rejected volumetric evidence as a basis for apportionment.⁶⁶ And similar to Gaynor, Lippard, and Lonquist, Foy also describes how *Burlington Northern* eases the burden by aligning it with the restatement.⁶⁷

58. Ferrey, *supra* note 41, at 611.

59. Gaynor, *supra* note 37, at 11206.

60. Gaynor, *supra* note 37, at 11199, 11206.

61. Gaynor, *supra* note 37, at 11199.

62. McGrath, *supra* note 35, at 94.

63. *Id.*

64. *Id.*

65. Foy, *supra* note 35, at 658. Foy is also the only commentator to hypothesize that the Supreme Court in *Burlington Northern* embraced the "margin of error" allotment the district court used when multiplying the apportioned harm by fifty percent.

66. *Id.* at 658, 666; *see also* Gaynor, *supra* note 37, at 11206.

67. Foy, *supra* note 35, at 653.

C. *The Third Interpretation: Commentators Who Think Burlington Northern Has Effectively Ended Joint and Several Liability*

Finally, at least two commentators believe *Burlington Northern* has effectively replaced the presumption of joint and several liability. Under this interpretation (the “Third Interpretation”), the burden of proof is reduced so much that no specific evidence is required, and either volumetric or geographic evidence is enough to show a reasonable basis. Additionally, courts may even disregard migration of waste, possible commingling of waste, and synergistic effects of the harm.

Aaron Gershonowitz argues that *Burlington Northern* represents a fundamental change from favoring joint and several liability to favoring apportionment.⁶⁸ A few other commentators note that *Burlington Northern* shows that reasonable basis does not need precise evidence.⁶⁹ Gershonowitz, however, interprets this to be an even lower standard, at which point no specific evidence whatsoever is required.⁷⁰ In turn, he argues, PRPs must now only show what they are *not* responsible for in order for damages to be apportioned.⁷¹

Gershonowitz also believes *Burlington Northern* eases the burden of obtaining apportionment because the Court divided the costs instead of the harms.⁷² Other decisions, including *Chem-Dyne*, which *Burlington Northern* professed to adopt, asked whether the resulting contamination could be apportioned among parties. If it could, then the cost of remediating the apportioned toxicity is attributed to the PRP. As Gershonowitz points out, however, *Burlington Northern* jumped straight to apportioning the costs of contamination.⁷³ Doing so eliminates any consideration for synergistic effects of waste, and the costs of commingled waste may still be

68. Gershonowitz, *supra* note 38, at 84.

69. See Gaynor et al., *supra* note 37, at 11206; Ferrey, *supra* note 36, at 610–12.

70. Gershonowitz, *supra* note 38, at 121.

71. *Id.* at 123.

72. *Id.* at 121–22.

73. *Id.*

apportioned.⁷⁴ Therefore, PRPs may have a much easier time obtaining apportionment.

Mark Misorowski and Joel Eagle also predict the effective end of joint and several liability following *Burlington Northern*.⁷⁵ According to Misorowski and Eagle, the lack of regard for science, highlighted by a failure to consider possible commingling or migrating chemicals, suggests tremendous leniency towards apportionment.⁷⁶ The Court claimed that these considerations matter, but noticeably left them out of its analysis. As a result, the authors posit that *Burlington Northern* represents a permanent reduction in the government's ability to recover cleanup costs, replacing CERCLA's principle of "polluter pays" with "taxpayer pays."⁷⁷

IV. CASES INTERPRETING BURLINGTON NORTHERN'S EFFECT ON CERCLA APPORTIONMENT

Cases in the wake of *Burlington Northern* have so far vindicated those who predicted little to no change in CERCLA apportionment. Moreover, the evidence for a strong continuing presumption of joint and several liability is two-fold. First, in four of the seven cases to address apportionment post-*Burlington*, the court held that the threshold test was not met. As Gold predicted, courts may be trying to protect joint and several liability by precluding a potentially easier factual burden by never reaching it.⁷⁸ Second, courts have been reluctant to accept volumetric, geographic, and other evidence as a sufficient reasonable basis for apportionment.

A. *Cases Where the Defendants Failed the Threshold Test*

1. *United States v. Saporito*

In *United States v. Saporito*,⁷⁹ defendant James Saporito was held responsible for the cleanup costs at a metal plating

74. *Id.* at 122.

75. Misorowski & Eagle, *supra* note 38.

76. *Id.*

77. *Id.* at 16.

78. Gold, *supra* note 8.

79. 684 F. Supp. 2d 1043 (2010).

plant that he owned and operated.⁸⁰ The facility, Crescent Plating, opened in the 1970s and “plated steel and brass objects with various metals such as zinc, chromium, and copper.”⁸¹ Throughout its operational history, chemicals routinely dripped onto the floor and corroded the concrete.⁸² The facility’s manufacturing waste also included sludge cakes, which were stored in leaking bins outside.⁸³ Waste not stored in the corroding bins simply collected in pools on the floor, ultimately migrating underground to neighboring buildings.⁸⁴ Having spent \$1.5 million to clean up these spills, the government reached a settlement with all defendants except for Saporito.⁸⁵ Saporito argued that “even if he [were] liable for removal of [the] hazardous waste, the liability should be apportioned.”⁸⁶ The court disagreed, holding that the harm was not theoretically capable of apportionment, and that Saporito was jointly and severally liable for the cleanup costs.⁸⁷ The court focused on the ownership and operation of the facility, finding Saporito operated the facility from 1997 to 1999⁸⁸ and owned and operated the facility from 2001 to 2003.⁸⁹ The court also found Saporito personally owned the equipment responsible for creating the waste.⁹⁰ Saporito’s ownership of the plating equipment was essential, because it was the only cause of the hazardous waste.⁹¹ The harm, therefore, could not be apportioned.

As the court noted, this was factually distinct from *Burlington Northern*.⁹² In *Burlington Northern*, “the contamination of (the) total site could be divided among spills that occurred on adjoining parcels of land owned by different

80. *See id.* at 1064.

81. *Id.* at 1049.

82. *Id.*

83. *Id.* at 1049–52.

84. *Id.* at 1051.

85. *Id.* at 1048.

86. *Id.* at 1061.

87. *Id.* at 1061–62.

88. *Id.* at 1055.

89. *Id.* at 1058.

90. *Id.* at 1051, 1056.

91. *Id.* at 1062.

92. *Id.*

parties.”⁹³ Here, there was only one ownership party, James Saporito, and a single parcel of land.⁹⁴ By contrast, in *Burlington Northern*, B&B disposed of hazardous waste on its own property and an adjacent property it leased from two railroad companies, making multiple PRPs potentially responsible.⁹⁵ Thus, the court distinguished *Saporito* from *Burlington Northern* because in *Saporito* there were no other PRPs that could be held responsible.⁹⁶ The court also relied on the Restatement (Second) of Torts for the proposition that “when there is a single harm, apportionment is appropriate only if there are multiple causes.”⁹⁷ Here, there was only a single cause: Saporito’s equipment and operations.

Arguably, *Saporito*’s outcome is best predicted by the First Interpretation—those commentators who predicted *Burlington Northern* would have little effect upon CERCLA’s presumption of joint and several liability. As Gold predicted, courts may invigorate the threshold question in order to limit future cases to a potentially easier test.⁹⁸

Moreover, the court stated that even if the harm were theoretically capable of apportionment, Saporito has not shown enough facts to support a reasonable basis of apportionment.⁹⁹ Even though there was only one chain of ownership and operators, Saporito could have shown that the waste disposed of on his watch only amounted to a portion of the overall waste. Still, the court noted that “[d]efendant has not presented any theory for computing its proportion of liability aside from saying it is zero. Without any such theory for measuring the waste produced by his equipment, [d]efendant’s apportionment argument must fail.”¹⁰⁰

Saporito’s relevance is limited, however, because the court would not have apportioned his damages under any of the three approaches. Saporito simply did not present any facts in

93. *Id.*

94. *Id.* at 1049–50.

95. *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 602 (2009).

96. *See generally, Saporito*, 684 F. Supp. 2d 1043.

97. *Id.* at 1062.

98. Gold, *supra* note 8, at 334.

99. *Saporito*, 684 F. Supp. 2d at 1062.

100. *Id.*

his defense.¹⁰¹ Even if the court followed the Second Interpretation or the Third Interpretation, Saporito's damages would not have been apportioned. Saporito failed to show any evidence, much less a volumetric or geographic estimate.

Although the *Saporito* court did not apportion the damages, under all three interpretations the facts would not have supported apportionment. (See Table 1). Thus, it is difficult to determine if the court used a different evidentiary standard following *Burlington Northern*. Based on its rejection of apportionment using the threshold test, the court's approach suggests a strong continuing presumption of joint and several liability.

2. *United States v. NCR Corp.*

In *United States v. NCR Corp.*,¹⁰² defendant NCR Corporation appealed a preliminary injunction compelling it to complete remediation work on a river.¹⁰³ NCR argued that the harm should be apportioned, but the Seventh Circuit held that the harm was not theoretically capable of apportionment.¹⁰⁴

NCR was one of several paper manufacturing companies dumping polychlorinated biphenyls (PCBs) into the Fox River in Wisconsin.¹⁰⁵ Pursuant to an administrative order, NCR agreed to perform cleanup of the river, as did several other manufacturers.¹⁰⁶ In 2011, after spending approximately \$50 million to complete almost all of the ordered remediation, NCR decided that it had done its share.¹⁰⁷ When the United States and Wisconsin sought an injunction under CERCLA to force completion, NCR argued that costs should be apportioned, and

101. *Id.*

102. *United States v. NCR Corp.*, 688 F.3d 833 (7th Cir. 2012).

103. *Id.*

104. *Id.*

105. *Id.* at 836.

106. *Id.*

107. *Id.* During this time, NCR sought contribution from other PRPs under CERCLA, 42 U.S.C. § 9613, but was denied. *Id.* at 83637 (citing *Appleton Papers Inc. v. George A. Whiting Paper Co.*, 776 F. Supp. 2d 857 (2011)). The court even ruled that NCR owed other PRPs contribution costs, because, unlike other companies, NCR "had been aware of the significant risks of PCBs," but merely accepted the risk of harm in exchange for financial gain. *Id.*

that its cleanup costs already exceeded its apportioned harm.¹⁰⁸

The District Court rejected NCR's claim for apportionment, and the Court of Appeals agreed.¹⁰⁹ Although the District Court found there was no reasonable basis for apportionment, the Court of Appeals held that the harm was not even theoretically capable of apportionment.¹¹⁰ The court followed *Burlington Northern's* reliance on common law principles, specifically the Restatement (Second) of Torts.¹¹¹ It concluded that facts in the case were an example of the multiple sufficient causes illustrated by the Restatement.¹¹²

In spite of the multiple sufficient causes theory, NCR put forth evidence of its share of harm. To begin with, the remediation was divided into five sections along the river.¹¹³ NCR furnished an expert and a model to show its contributions to the two sections in which it discharged PCBs.¹¹⁴ NCR estimated that it contributed nine percent of the PCBs in one section and six percent of the PCBs in the other.¹¹⁵ Therefore, at most, NCR argued, it should be responsible for nine percent of the cleanup costs.¹¹⁶ The court responded that even if NCR's discharges were the only PCBs in the river, "the Lower Fox River would still need to be dredged and capped, because EPA has set a maximum safety threshold of 1.0 ppm of PCB."¹¹⁷ While the court noted minor evidence that the remediation would have cost a little less had NCR been the only contributor, this evidence also showed that "the expense of cleaning up the Lower Fox River is only weakly correlated with the mass of PCBs discharged."¹¹⁸ Therefore, NCR's PCB

108. *Id.* at 835.

109. *Id.* at 844.

110. *Id.* at 839.

111. *Id.* at 838–39 (discussing Restatement (Second) of Torts § 433A, cmt.d, illus. 5, 14–15).

112. *Id.* at 839.

113. *Id.* at 836.

114. *Id.* at 839.

115. *Id.*

116. *Id.*

117. *Id.*

118. *Id.* at 840.

contributions were sufficient to cause the entire expense of cleaning up the river.¹¹⁹

NCR Corporation is a good example of both types of evidence showing a continued presumption of joint and several liability. First, the court rejected apportionment with the threshold test by holding the harm theoretically incapable of apportionment. The emboldening of the threshold test was at least one way commentators predicted courts might protect the strong presumption of joint and several liability. Second, the court kept a high evidentiary burden for apportionment, suggesting in dicta that NCR would have been unable to meet the “reasonable basis” test. In fact, the court even cited Steve Gold for the common law’s joint and several liability for multiple sufficient causes.¹²⁰ The burden suggested resembles the continued high burden predicted in the First Interpretation.

By comparison, in the Third Interpretation, the commentators predicted that no specific evidence would be required of defendants trying to apportion damages, and that volume and geography would be enough for a reasonable basis of apportionment. Here, NCR did show volume—it provided expert testimony and a discharge model approximating that it was responsible for, at most, nine percent of the PCBs.¹²¹ While the court did not exactly embrace the accuracy of this estimate, the Third Interpretation stresses that evidence need not be precise. A court operating under the Third Interpretation would have disregarded the multiple sufficient causes to find NCR’s volume estimate a reasonable basis for apportionment. Obviously, this was not the case.

If the court had operated under the Second Interpretation, however, it is unclear whether NCR’s damages would have been apportioned. Under this interpretation, apportionment would be proper in an expanded set of facts, in which the reasonable basis test can be satisfied with volume or geographic evidence. Again, NCR showed a volumetric analysis, as well as evidence that “dredging costs would be lower if less PCBs were present.”¹²² However, under the Second Interpretation, the court may still have concluded the

119. *Id.*

120. *Id.* at 839.

121. *Id.*

122. *Id.*

multiple sufficient causes theory prevents the harm from being theoretically capable of apportionment. Indeed, this interpretation emphasizes an alignment of review with common law principles, and the Restatement as adopted by *Burlington Northern* requires joint and several liability for multiple sufficient causes.¹²³ A court operating under the Second Interpretation would still probably have held NCR jointly and severally liable. (See Table 1).

3. *Pakootas v. Teck Cominco Metals, LTD.*

In *Pakootas v. Teck Cominco Metals, LTD.*,¹²⁴ the court held defendant Teck Cominco Metals (Teck) jointly and severally liable for any harm found at the pending trial, because the harm was not theoretically capable of apportionment.¹²⁵ Teck had argued that if found liable for the release of hazardous substances on the Upper Columbia River (UCR), its liability should be apportioned.¹²⁶ In response, The Confederated Tribes of the Colville Reservation (Tribes) and the State of Washington filed a motion to dismiss Teck's apportionment defense and a motion for partial summary judgment on divisibility.¹²⁷ The court granted both motions, holding that Teck failed to show theoretical apportionability, let alone a reasonable basis for divisibility.¹²⁸

Teck was alleged to have contaminated the UCR by way of its slag and effluent leaching metals into the water.¹²⁹ As the Tribes and State plead in their Second Amended Complaints, "[f]rom approximately 1906 to mid-1995, Teck generated and discharged into the Columbia River certain hazardous substances in slag, as a solid form, and in liquid waste, including, but not limited to, arsenic, cadmium, copper, mercury, lead, and zinc."¹³⁰ The Tribes and State incurred costs cleaning up these hazardous releases, for which they

123. See generally, Restatement (Second) of Torts § 433A(2).

124. 868 F. Supp. 2d 1106 (2012).

125. *Id.* at 1126–27.

126. *Id.* at 1110.

127. *Id.* at 1109.

128. *Id.* at 1119–20.

129. *Id.* at 1112.

130. *Id.* at 1116.

sued Teck for cost recovery under 42 U.S.C. § 9607,¹³¹ and for which Teck argued its liability should be apportioned.¹³² In rejecting Teck's argument for apportionment, the court noted Teck was unable "to account for all of the harm at the UCR site," and therefore Teck could not prove the harm was theoretically capable of apportionment.¹³³ Because Teck could not show its relative contribution to the total harm, it also did not provide a reasonable basis of apportionment.¹³⁴

Teck employed three different models to apportion liability, all of which were rejected.¹³⁵ Teck's first model was a simple volume estimation, which considered the amount of metals Teck's slag released along the river.¹³⁶ Teck's second model was a partially volumetric estimation; although more complicated, it only dealt with zinc.¹³⁷ Here, Teck estimated the volume of slag within the top five centimeters of the riverbed sediment, and then estimated the rate of zinc release from that slag.¹³⁸ It then compared that rate with an estimate of the total rate of release of zinc in the river.¹³⁹ Finally, Teck's third model accounted for all six metals plead in the complaint. It calculated the total mass of those metals contained in Teck's slag and compared it with the total mass of those metals deposited by other sources.¹⁴⁰

Still, the court held that these models failed to account for the entirety of the contamination, which caused it to fail both the "theoretically apportionable" analysis and the "reasonable

131. *Id.*

132. *Id.*

133. *Id.* at 1117–18.

134. *Id.* at 1123. The court does say that the defendant's burden to satisfy apportionment "is essentially a burden to prove that it caused only some part of the contamination, and how much." *Id.* at 1111. The Third Interpretation predicted that PRPs would need to show only what they are or are not responsible for to get damages apportioned. Here, the court says this almost exactly. In practice, however, the court abandoned this by requiring the defendant to account for the entire harm—a much higher evidentiary burden. *Id.* at 1126.

135. *Id.* at 1111.

136. *Id.* at 1111–12.

137. *Id.* at 1112 (Theorizing by Teck that zinc was the only metal that could leach out of the slag).

138. *Id.* at 1112.

139. *Id.*

140. *Id.*

basis of apportionment” analysis.¹⁴¹ At first glance, at least the third model possibly accounted for the entire contamination. However, the court insisted none of the models did so, for two reasons.¹⁴² First, none of the models accounted for the entire contamination because the models failed to account for commingling of waste and synergistic effects, meaning the volume of slag was not necessarily proportional to the harm of the slag.¹⁴³ Second, the models did not account for the entire contamination because the harm was also not limited to the top five centimeters of the riverbed sediment.¹⁴⁴

This evidentiary standard, under which Teck’s evidence was deemed insufficient, is seemingly more stringent than in *Burlington Northern*. In *Burlington Northern*, the Court upheld apportionment on the basis of a much simpler formula, and with no explicit consideration for the commingling of waste or its synergistic effects.¹⁴⁵ There, the Court apportioned damages based only on the pro rata size of the contaminated parcel and the pro rata length of time that contamination occurred.¹⁴⁶ Here, the court held all three of Teck’s models insufficient even in the face of more specific evidence, and faulted Teck for not considering synergistic effects.¹⁴⁷ Because of this, the court in *Teck Cominco* distinguishes *Burlington Northern* on the facts. Essentially, *Burlington Northern*’s limited number of PRPs and limited number of hazardous substances rendered specific volume estimates and synergistic effects moot.

Teck Cominco exemplifies the strong continuing presumption for joint and several liability—and thus the adherence to the First Interpretation of *Burlington Northern*. On its face, *Teck Cominco* looks like the best test case yet for whether *Burlington Northern* would ease the evidentiary burden for apportionment. Teck offered three models with even greater evidence supporting apportionment than defendants in

141. *Id.* at 1117, 1119–20.

142. *Id.* at 1117–23.

143. *Id.* at 1123.

144. *Id.* at 1117.

145. *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 616 (2009).

146. *Id.* at 616–18.

147. *Teck Cominco*, 868 F. Supp. 2d at 1123.

Burlington Northern.¹⁴⁸ If ever the courts would endorse *Burlington Northern*'s less-specific apportionment model, this might have been it.¹⁴⁹ *Teck Cominco* is therefore instructive for analyzing whether *Burlington Northern* changed apportionment's standard of evidence. Mainly, it suggests *Burlington Northern* does not represent much of a change, because both of the interpretations predicting a change in the evidentiary standard—the Second and Third—would likely have yielded an apportionment from Teck's evidence. (See Table 1).

For context, recall *Saporito*: the court rejected Saporito's apportionment argument, holding that the harm was not even theoretically capable of apportionment. However, by looking at the facts of the case, it is clear that even if *Burlington Northern* represented a fundamental change in the law, in which apportionment was the new normal, the court would still have not apportioned Saporito's damages. While the court's reasoning tracked closest to the First Interpretation, representing no change, the facts of the case were not compelling enough to test how high the new evidentiary burden would be.

NCR provided greater context. In *NCR*, the circuit court also rejected defendant's apportionment argument, holding the harm was not theoretically capable of apportionment.¹⁵⁰ However, if *Burlington Northern* had changed the evidentiary standard as much as the Third Interpretation predicted, the court in *NCR* would have apportioned damages; *NCR* had furnished a model showing that they contributed nine percent of the PCBs in one part of the river and six percent in the other.¹⁵¹ Because the court did not apportion damages, it must have been operating under an interpretation more similar to the First or Second Interpretations. Under both the First and Second Interpretations of *Burlington Northern*—that either the evidentiary burden did not change, or that it was now more relaxed—a court would still not have apportioned damages.

148. *Burlington Northern*, 556 U.S. at 622. In fact, the *Burlington Northern* district court apportioned liability *sua sponte*.

149. However, as the court notes, *Burlington Northern* dealt with three contaminants all released by the same PRP. *Teck Cominco* dealt with approximately 200 contaminants and numerous PRPs.

150. *United States v. NCR Corp.*, 688 F.3d 833, 844 (7th Cir. 2012).

151. *Id.* at 839.

This was because NCR's case resembled the multiple sufficient cause theory, liability for which is held to be joint and several. NCR's facts somewhat tested where the new evidentiary standard might be, but it only showed that this appeals court did not follow the Third Interpretation.

Finally, *Teck Cominco* provided even more context. The District Court for the Eastern District of Washington rejected defendant's apportionment argument, holding that the harm was not theoretically capable of apportionment.¹⁵² However, *Teck Cominco's* facts are compelling enough that courts following the First and Second Interpretations might come to different conclusions. Here, not only would a court operating under the Third Interpretation apportion Teck's damages, but a court operating under the Second Interpretation likely would, too. Meanwhile, a court operating under the First Interpretation likely would not apportion damages—the actual outcome of the case. (See Table 1).

Teck offered three different models to show how damages could be apportioned, all of which were based at least in part on volumetric estimations of the metals it released. Under the Third Interpretation, in which no specific evidence is needed, volumetric evidence is enough, and apportionment is the norm, a court would apportion Teck's damages. Likewise, a court operating under the Second Interpretation may apportion damages, as well—apportionment is not the norm, but volumetric evidence is enough, and defendants no longer need “near certainty” for contribution estimations. Only under the First Interpretation would a court likely not apportion. From above, these commentators note the commingling and synergistic effects of waste as roadblocks for defendants pursuing apportionment. Sure enough, these were the reasons why the court did not apportion damages in *Teck Cominco*.¹⁵³ Thus, not only does *Teck Cominco* adopt analysis similar to the First Interpretation, but the evidentiary standard employed is similar to the First Interpretation, as well. If the court had followed a more expansive interpretation of *Burlington Northern*, such as the Second or Third, it likely would have apportioned Teck's damages.

152. *Teck Cominco*, 868 F. Supp. 2d at 1123.

153. *Teck Cominco*, 868 F. Supp. 2d at 1123.

4. *United States v. Iron Mountain Mines, Inc.*

This adherence to an interpretation of *Burlington Northern* similar to the First is also reflected in the fourth and final case in which the threshold test was not met, *United States v. Iron Mountain Mines, Inc.* Here, the government sued Iron Mountain Mines for cost recovery under 42 U.S.C. § 9607 for costs it incurred in cleaning up a hazardous waste site.¹⁵⁴ The defendant moved for reconsideration of its apportionment defense in light of *Burlington Northern*.¹⁵⁵ However, the court held that “*Burlington Northern* does not constitute a change in law as required for reconsideration,” nor does it “add a new mandate that District Courts must apportion harm.”¹⁵⁶ Once again, this court’s interpretation of *Burlington Northern* adheres to the First Interpretation of *Burlington Northern*, in which there is no change to CERCLA apportionment analysis.

Nor should this adherence to the First Interpretation be surprising. After all, these four cases are grouped together precisely because they failed apportionment analysis at the threshold test. In each of these cases, the court determined as a matter of law that the harm was not theoretically capable of apportionment, eliminating the need (or opportunity) for the trier of fact to determine whether there was a reasonable basis for apportionment. As Gold hypothesized, courts might invigorate this threshold test as a means of preventing cases going forward to a potentially more lenient reasonable basis test.¹⁵⁷ Indeed, the fact that four out of the first seven cases to address apportionment post-*Burlington Northern* rejected apportionment based on the threshold test is the first piece of evidence of a strong continuing presumption in favor of joint and several liability. As also discussed above and seen in Table 1, the second piece of evidence is the evidentiary standard to which these courts have held PRPs seeking apportionment.

Cases Addressing Apportionment Post-*Burlington Northern*

154. *United States v. Iron Mountain Mines, Inc.*, No. 91–0768–JAM–JFM, 2010 WL 1854118, at *1 (E. D. Cal. May 6, 2010).

155. *Id.* at 2.

156. *Id.* at 3.

157. Gold, *supra* note 8, at 334.

	Apportionment in actual case?	Apportionment Proper Under First Interpretation (no change)?	Apportionment Proper Under Second Interpretation (relaxed standard)?	Apportionment Proper Under Third Interpretation (large change)?
<i>Saporito</i>	NO (failed threshold)	NO	NO	NO
<i>Evansville</i>	NO	NO	NO	NO
<i>Iron Mountain</i>	NO (failed threshold)	NO	NO	NO
<i>NCR</i>	NO (failed threshold)	NO	NO	YES
<i>Imperial</i>	NO	NO	YES	YES
<i>Teck Cominco</i>	NO (failed threshold)	NO	YES	YES
<i>Ashley II</i>	NO	YES	YES	YES

Table 1: This table demonstrates the appropriateness of apportionment under each interpretation.

B. Cases Where the Defendants Did Not Fail the Threshold Test, But Did Fail the Reasonable Basis Test

The other three cases to address CERCLA apportionment post-*Burlington Northern* reinforce the notion that the evidentiary standard for apportionment has not changed. In all three cases apportionment was denied. Although the defendants passed the threshold test in each of these, the courts rejected apportionment by maintaining a high evidentiary burden, which is consistent with the second piece of evidence seen in the previous cases.

1. *Evansville Greenway and Remediation Trust v. SIGECO, Inc.*

In the first case to address “reasonable basis” for apportionment following *Burlington Northern*, the court declined to interpret a change in the law in *Evansville Greenway and Remediation Trust v. Southern Indiana Gas and Electric Co.*¹⁵⁸ In *Evansville*, claims against the owner of a hazardous waste site, Southern Indiana Gas and Electric Company (SIGECO), were assigned to a trust, which brought suit for cost recovery under CERCLA, 42 U.S.C. § 9607.¹⁵⁹ The trust alleged that SIGECO was responsible for contaminating two sites along the Ohio River with lead and PCBs, and sought to hold SIGECO jointly and severally liable.¹⁶⁰ In response, SIGECO sought to apportion damages.¹⁶¹

Unfortunately for SIGECO, it failed to marshal any evidence on its behalf for apportionment.¹⁶² Instead, it charged a fellow PRP, General Waste, with destroying its business records, from which it could have proved the source, type, quantity, and value of its materials.¹⁶³ Because this information would have allegedly enabled SIGECO to show a reasonable basis for apportionment—and without which it would be impossible—SIGECO insisted that the court apportion its damages. The court then briefly discussed the newly handed down decision in *Burlington Northern*, but declined to interpret how the decision would affect this case.¹⁶⁴ Instead, the court chose to “hold a trial that (would) allow each side to present evidence relevant to its own and its opponents’ different interpretations of *Burlington Northern*,” and would also address whether SIGECO would be jointly and severally liable for all past and future costs.¹⁶⁵ In the meantime, the court did not find SIGECO had shown a reasonable basis for apportionment and held it liable for damages.¹⁶⁶ Prior to the trial, the parties

158. 661 F. Supp. 2d 989 (2009).

159. *Id.* at 993.

160. *Id.* at 993.

161. *Id.* at 1011.

162. *Id.*

163. *Id.*

164. *Id.* at 1012.

165. *Id.* at 1013.

166. *Id.*

settled, leaving the court's interpretation of *Burlington Northern* inconclusive.¹⁶⁷

Because SIGECO was unable to present any evidence to show a reasonable basis for apportionment, no court interpreting *Burlington Northern* similar to the First, Second, or even Third Interpretation from above would have apportioned damages.

2. *3000 E. Imperial, LLC v. Robertshaw Controls Co.*

In *3000 E. Imperial, LLC v. Robertshaw Controls Co.*,¹⁶⁸ the District Court of California held defendant R. Whittaker Co. Ltd. jointly and severally liable for harm caused by leaking underground storage tanks (USTs) at a California manufacturing plant.¹⁶⁹ Robertshaw Controls originally owned the property and installed the USTs in 1942.¹⁷⁰ Defendant Whittaker then purchased the property in 1955 and owned it until 1963.¹⁷¹ Imperial ultimately purchased the property in 2006, knowing the property was contaminated with chemicals but unaware of the nature and extent of the contamination.¹⁷² Imperial then brought suit against Whittaker under CERCLA, 42 U.S.C. § 9601, *et seq.*, seeking cost recovery for costs it incurred cleaning up the site.¹⁷³ In response, Whittaker sought to apportion its damages.¹⁷⁴

The majority of the harm was caused by the leaking USTs.¹⁷⁵ Thus, at issue was when the USTs were leaking, as the court could then determine whose ownership coincided with this release.¹⁷⁶ Both Imperial and Whittaker employed expert testimony analyzing the UST thickness, resistivity of the surrounding soil, and corrosion rate of the main substance

167. *Evansville Greenway & Remediation Trust v. Southern Indiana Gas and Electric Co., Inc.*, No. 3:07-cv-66-SEB-WGH, 2010 WL 3781565 (S. D. Ind. Sept. 20, 2010).

168. No. CV 08-3985 PA (Ex), 2010 WL 5464296 (C. D. Cal. Dec. 29, 2010).

169. *Id.* at *14.

170. *Id.* at *3.

171. *Id.*

172. *Id.*

173. *Id.*

174. *Id.* at *7.

175. *Id.*

176. *Id.* at *3.

stored, trichloroethylene (TCE), to determine when leaking occurred.¹⁷⁷ Imperial showed that leaking likely began between 1952 and 1957, and continued through at least 1963 (the last year of Whittaker's ownership).¹⁷⁸ Whittaker tried to show leaking began after its ownership, in the late 1960s, but the court found that Whittaker's testimony actually corroborated the leaking beginning between 1949 and 1955.¹⁷⁹ The court held Whittaker liable for the leaking USTs during its ownership of the property from 1955 to 1963.¹⁸⁰

A second cause of the harm was TCE found in the shallow soil next to a maintenance shed, away from the USTs.¹⁸¹ This indicated TCE was also stored outside of the USTs, in fifty-five-gallon drums.¹⁸² Although Whittaker supplied testimony that it did not use TCE at its facility, the court did not find this credible, and held Whittaker liable for the spills at the maintenance shed as well.¹⁸³

Whittaker tried to avoid joint and several liability for these spills and UST releases by arguing that damages should be apportioned, but the court denied apportionment.¹⁸⁴ However, Whittaker actually used the same two figures Burlington Northern used when its damages were apportioned: the pro rata size of the contaminated areas and the pro rata number of years that it owned the land.¹⁸⁵ In calculating the size of the contaminated areas, Whittaker claimed that evidence only showed it was liable for the contamination near the USTs and not the maintenance shed.¹⁸⁶ In calculating the years it owned the land, Whittaker showed that the tanks were installed from

177. *Id.* at *4–7.

178. *Id.* at *3.

179. *Id.* at *6.

180. *Id.* at *8.

181. *Id.* at *7.

182. *Id.*

183. *Id.* at *7–8. A former Whittaker employee testified about working at the plant over 50 years prior. The court found his testimony contradictory on a variety of facts, and he was therefore unreliable. The court also noted that the furniture companies who owned the property after Whittaker would not have had a use for TCE, a chemical for testing and cleaning valves. By contrast, Whittaker—an airplane and missile valve manufacturer—had such a use.

184. *Id.* at *8–11.

185. *Id.* at *9–10.

186. *Id.* at *10.

1942 to 2009, during which time it only owned the land for eight years (twelve percent).¹⁸⁷

Although the court recognized *Burlington Northern* used both of these figures to apportion damages in its case, the court distinguished *Burlington Northern's* approach.¹⁸⁸ With respect to the size of the contaminated areas, Whittaker was responsible for the contamination in both the UST area and the maintenance shed because the court had already found Whittaker used TCE near the maintenance shed.¹⁸⁹ Then, with respect to the number of years Whittaker owned the land, the court noted that the defendants did not provide evidence showing the rate at which the USTs leaked.¹⁹⁰ Whittaker's figure simply assumed the UST leaked consistently throughout the sixty-seven years, when the only evidence of the rate—admitted by Whittaker—was that the UST was empty by the time Whittaker sold the property in 1963.¹⁹¹ Therefore, the court found no reasonable basis for apportionment.¹⁹²

Imperial bears striking factual similarity to *Burlington Northern*. Both cases feature a PRP owning part of a parcel of land on which relatively few chemicals leaked consistently over a term of years. In fact, *Burlington Northern's* formula for the pro rata land size and pro rata term of ownership, once unique to that case, seems rather appropriate for *Imperial*, as well.

Had the court applied the formula, Whittaker should have seen its damages apportioned. Certainly the size of contaminated areas should not have reduced Whittaker's liability, as the court found it spilled TCE in both locations.¹⁹³ However, the length of ownership may have reduced Whittaker's liability considerably. Whittaker's expert testimony suggested leaking may have begun as soon as 1949, and *Imperial's* expert testimony suggests as early as 1948.¹⁹⁴ Even if the USTs leaked consistently from 1948 until 1963, and immediately stopped leaking once Whittaker sold the

187. *Id.*

188. *Id.* at *10–11.

189. *Id.* at *10.

190. *Id.*

191. *Id.* at *11.

192. *Id.*

193. *Id.* at *7.

194. *Id.* at *6.

property, Whittaker would have owned the property for just fifty-three percent of the time eight out of fifteen years). The court would not have had to consider commingling or synergistic effects because of the small number of chemicals and PRPs. Moreover, the district court in *Burlington Northern* did all the work for apportioning damages—calculating pro rata ownership length and parcel size—*sua sponte*.¹⁹⁵

Perhaps the critical difference between the two cases was the procedural posture. The *Burlington Northern* Supreme Court upheld the District Court's apportionment on review because there was no "abuse of discretion,"¹⁹⁶ but here the case was decided in District Court. Had the court apportioned damages, perhaps a reviewing court would have upheld the ruling, as did *Burlington Northern*. In fact, Martha Judy cabined *Burlington Northern* as simply the result of the federal standard of review, saying:

At root, this decision is about the standard of review that appellate courts may use when reviewing district court decisions apportioning harm among jointly and severally liable parties. Justice Stevens assumed that there was a reasonable basis for apportioning the harm and only looked to whether the district court's decision was reasonably supported by the record.¹⁹⁷

Overall, *Imperial's* high evidentiary standard bears the greatest resemblance to the First Interpretation, in which *Burlington Northern's* simple formula for apportionment does not signal a new standard. Quite literally, the *Imperial* court rejected extending this formula beyond *Burlington Northern*. By comparison, under the Second Interpretation, the court would likely have apportioned Whittaker's damages. Whittaker followed *Burlington Northern's* lead by showing volume of contribution via its ownership duration. Although Whittaker's estimation was not completely certain because it had to assume the USTs leaked TCE at the same rate continuously¹⁹⁸, the second set of commentators note that

195. See generally, *United States v. Atchison, Topeka & Santa Fe Ry. Co.*, Nos. CV-F-92-5068 OWW, CV-F-96-6226 OWW, CV-F-96-6228 OWW, 2003 WL 25518047 (E. D. Cal. May 4, 2009).

196. Judy, *supra* note 16, at 286–90.

197. Judy, *supra* note 16, at 286.

198. *Imperial*, *supra* note 168, at 7.

Burlington Northern did not require complete certainty. Finally, under the Third Interpretation, in which apportionment is the new normal, Whittaker's formula clearly would have satisfied this low evidentiary burden.

3. *PCS Nitrogen, Inc. v. Ashley II of Charleston, LLC*

Finally, in *PCS Nitrogen, Inc. v. Ashley II of Charleston, LLC*, the Fourth Circuit Court of Appeals upheld the District Court holding defendant PCS Nitrogen jointly and severally liable for all of the harm at its former site of operations in South Carolina.¹⁹⁹ PCS, formerly known as Columbia Nitrogen Corporation, purchased the site from Planters Fertilizer & Phosphate Co. (Planters) in 1966, operating a plant on the site until 1972.²⁰⁰ Prior to that, Planters operated on the site from 1906 to 1966, during which time it disposed of pyrite slag containing arsenic and lead, as well as lead sludge that leached sulfuric acid.²⁰¹ When defendant PCS took over in 1966, it discontinued the production of pyrite slag, but continued to dispose of other hazardous substances on the property.²⁰²

For example, PCS's normal production generated dust containing arsenic and lead, deposited at the site.²⁰³ PCS also operated acid chambers, from which it frequently needed to clean out sludge material.²⁰⁴ To do so, PCS cut a hole at the base of the chambers and hosed the sludge first onto the ground, then into a ditch along the Ashley River.²⁰⁵ PCS hosed the sludge out using a mixture of lead and acid.²⁰⁶ PCS eventually demolished one of its plants in 1971 and sold the entire property to other owners in 1985.²⁰⁷ When Ashley II of

199. *PCS Nitrogen, Inc. v. Ashley II of Charleston, LLC*, 714 F.3d 161, 167 (4th Cir. 2013), cert. denied, upholding *Ashley II of Charleston, LLC v. PCS Nitrogen, Inc.*, 2011 WL 2119234 (D. S. C. 2013) (minus set-offs PCS has already paid).

200. *Ashley II of Charleston, LLC v. PCS Nitrogen, Inc.*, 791 F. Supp. 2d 431, 444 (2011).

201. *Id.* at 441.

202. *Id.* at 448.

203. *Id.*

204. *Id.*

205. *Id.* at 448–49.

206. *Id.*

207. *Id.* at 452.

Charleston, Inc. (Ashley) acquired the property in 2002, it began remedial work on the site, and sued PCS and others for cost recovery under CERCLA, 42 U.S.C. 9601 *et seq.*²⁰⁸ PCS was held jointly and severally liable for the harm, but after the Supreme Court decision in *Burlington Northern*, it filed a motion for reconsideration.²⁰⁹

The District Court rejected PCS's argument for apportionment because PCS failed to show a reasonable basis that accounted for both the volume and spread of the contamination.²¹⁰ Because the volume and spread "were the two main factors contributing to the remediation costs," the District Court held that "any reasonable apportionment of the remediation costs would have to take into account both of these factors."²¹¹ PCS needed to account for the spread of the contamination, in particular, because "the fact that contamination was mixed up with clean soil increased the volume of soil that had to be removed."²¹²

This requirement seemingly departs from *Burlington Northern*, which did not consider the spread of contamination in upholding apportionment. In fact, PCS asserted this same argument, claiming *Burlington Northern* required a mere "rough calculation."²¹³ In distinguishing the two cases, the district court concluded that in *Burlington Northern*, the spread was not a factor affecting remediation costs because there was no evidence of earth moving activities.²¹⁴ Here, several factors, including the plant demolition, commingled the contaminated and uncontaminated soil, increasing the cost of remediation.²¹⁵

On appeal, the 4th Circuit Court of Appeals affirmed. The court noted that although *Burlington Northern* allowed simple considerations to form a reasonable basis for apportionment, it "neither mandates these 'simplest of considerations,' nor

208. *Ashley II of Charleston, LLC*, 2011 WL 2119234, *supra* note 199.

209. *Id.*

210. *Id.* at *7.

211. *Id.* at *5.

212. *Id.* at *7.

213. *Id.* at *8.

214. *Id.*

215. *Id.* at *6.

establishes their presumptive propriety in every case.”²¹⁶ The court concluded by saying that PCS simply failed to provide reliable evidence informing apportionment.²¹⁷

However, PCS had offered five different models to show a reasonable basis for apportionment. Despite the court’s reassurance that PCS could use a combination of these models to show both the volume and spread of contamination, the District and Appeals courts rejected all five for failing to account for the contamination spread.²¹⁸

In the first method, PCS calculated the amount of fill material added to the land by each successive owner by analyzing aerial photography that captured changes in elevation of the remediation area.²¹⁹ Doing so, PCS contended, would estimate the volume of contamination, as well as the spread across the site.²²⁰ The District Court rejected this method for several reasons, including the wrongful assumption that all changes in elevation related to disposal of waste.²²¹

In the second method, PCS used stoichiometry to measure the volume of contamination added to the site by both PCS and Planters.²²² The District Court accepted this method for potentially estimating the volume produced by PCS and Planters.²²³ However, the court held that this method wrongfully assumed all waste generated at the site was deposited at the site.²²⁴ Furthermore, the second method still failed to account for the spread of the contamination.²²⁵

The third method borrowed from *Burlington Northern* by using the years PCS and Planters operated the plant, apportioning pro rata.²²⁶ However, the District Court again distinguished *Burlington Northern*, saying this was appropriate only for that case in which only one party operated

216. *PCS Nitrogen, Inc.*, 714 F.3d 161 at 183.

217. *Id.*

218. *Ashley II of Charleston, LLC*, 2011 WL 2119234, *supra* note 199, at *9; *see generally, PCS Nitrogen, Inc.*, 714 F.3d at 167.

219. *Ashley II of Charleston, LLC*, *supra* note 199, at *9.

220. *Id.*

221. *Id.* at *10.

222. *Id.* at *11.

223. *Id.* at *11–12.

224. *Id.* at *12.

225. *Id.*

226. *Id.* at *12.

on the site. Here, with multiple operators, PCS failed to account for different production levels, whereas in *Burlington Northern* production could be assumed constant because of just one operator.²²⁷ Nor does this method account for the contamination spread, the court held.²²⁸

In the fourth method, PCS performed “impact analysis” to determine soil disturbance using the same aerial photography from the first method.²²⁹ Although the method could show when earth-moving activities occurred—i.e., activities that caused the spread of contamination—it failed to show how the spread was affected.²³⁰

In the fifth and final method, PCS measured contamination based on soil samples taken in a grid pattern across the entire site. An independent party conducted the sampling, taken every fifty feet in highly contaminated areas, and every 100 feet across the rest of the site.²³¹ The EPA also borrowed the results of this sampling to estimate the total volume of contamination at the site.²³² However, the District Court rejected this method for several reasons. First, the court considered the EPA’s volume calculation for each party unreliable because it divided the number of soil samples attributable to each party by the total number of contaminated soil samples.²³³ Second, the denser sampling grid in certain areas was an improper method for estimating the total volume of contaminated soil.²³⁴ Third, it would be improper for PCS to use aerial photography to attribute soil samples to certain owners because earth-moving activities may have still occurred.²³⁵ And fourth, two of the samples were attributed to multiple parties, making it unreliable.²³⁶

The District Court seemed overly critical in reviewing this fifth method, which arguably did account for both the volume

227. *Id.*

228. *Id.* at *13.

229. *Id.* at *14.

230. *Id.*

231. *Id.* at *16.

232. *Id.* at *15.

233. *Id.*

234. *Id.* at *16.

235. *Id.*

236. *Id.*

and spread of contamination. It is unclear why the court found fault with the EPA's volume calculations for each party, because the EPA appeared to properly extrapolate each concentration contour from individual samples.²³⁷ Also, the denser grid pattern in higher-contaminated areas would ostensibly measure volume for those areas more accurately, not less. And if the court favored an evenly spaced grid pattern, it could have simply removed the extra samples in between the 100 feet increments.

At any rate, PCS should not have needed this fifth method to approximate volume—only spread. After all, the District Court did accept the second method for estimating volume²³⁸, and the court previously stated that PCS “may combine a reasonable method for measuring contaminant volume with a reasonable method for measuring the spread of contaminants.”²³⁹ Lastly, the importance of the double attribution of two samples seems overblown given the hundreds of samples collected every 100 feet over the forty-three acres of land.²⁴⁰ Because this court reiterated that only a “rough calculation is all that is required to prove divisibility,”²⁴¹ two inconclusive samples out of hundreds should not have jeopardized apportionment.

Given PCS's level of evidence combining all the various methods, any court operating under the Second or Third Interpretation would have apportioned damages. Both of these interpretations suggest that evidence of *volume* of contamination is enough to form a reasonable basis for apportionment, which the District Court admitted that PCS showed.²⁴² In fact, PCS may have been able to meet the evidentiary burden for apportionment under the First Interpretation as well, which posits that there will be little to no change in the evidentiary burden facing parties seeking apportionment. Thus, the court imposed an evidentiary standard even *higher* than the existing standard. Given that most commentators thought *Burlington Northern* would *reduce*

237. *Id.* at *15.

238. *Id.* at *12.

239. *Id.* at *5.

240. *Id.* at *16; *Ashley II of Charleston, LLC*, 791 F. Supp. 2d 431, 441 (2011).

241. *Ashley II of Charleston, LLC*, 2011 WL 2119234, *supra* note 199, at *8.

242. *Id.* at *11–12.

or maintain the evidentiary burden, the result in this case is stunning.²⁴³

Under the First Interpretation, apportionment still requires specific facts in the record. Apportionment often requires evidence of the total amount of substances disposed, and the defendant's share of that amount.²⁴⁴ Further, commingling and migratory potential of waste are inevitable hurdles to proving a reasonable basis for apportionment.²⁴⁵ If the court hypothetically followed the First Interpretation, the waste's migration would still be the sticking point in *Ashley II*. If the court found that the soil samples accurately tracked the migrating contamination—as it should have—then the court should have apportioned PCS's damages. However, because it did not find a reasonable basis for apportionment, even when PCS presented evidence for the waste's migration, the court employed an even stricter evidentiary standard for apportionment than the First Interpretation.

V. CONCLUSION

All of these lower court cases post-*Burlington Northern* suggest a continuing strong presumption of joint and several liability. As stated, the evidence for this is two-fold. First, in four of the seven cases, the courts kicked out the apportionment argument on the threshold question, holding that the harm was not theoretically capable of apportionment. Second, in dicta to those cases, and in the holdings in the other three cases, the courts applied a high evidentiary burden in finding no reasonable basis of apportionment. In fact, in at least one of the cases, the evidentiary burden was so high that it was arguably stricter than the pre-*Burlington Northern* approach.

Commentators had a variety of interpretations for what *Burlington Northern* meant for CERCLA apportionment going forward, but these decisions now signal the answer. Specifically, the First Interpretation has proved most similar to how lower courts have individually interpreted *Burlington*

243. This decision is arguably a reaction against the expected reduction in the evidentiary burden by *Burlington Northern*.

244. Gold, *supra* note 8, at 330–31.

245. Ferrey, *supra* note 36, at 611–12.

Northern. That interpretation predicted that *Burlington Northern* would have no change in the likelihood of apportionment; that the evidentiary burden would remain high; and that courts might even reinvigorate the threshold test to limit apportionment arguments from going forward. The results so far could not be more on point.

Again, this is a positive sign for the future of CERCLA. The “polluter pays” principle is central to CERCLA’s effectiveness—and solvency. And central to the “polluter pays” principle is the unwritten but implied joint and several liability for PRPs. The potential increase in likelihood of apportionment would save PRPs from joint and several liability, and with it the consequences of their actions. By maintaining a high evidentiary burden for apportionment and reinvigorating apportionment’s threshold question, courts protect CERCLA’s joint and several liability and keep the polluters paying.