

FOR PUBLICATION

**UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

JOSEPH A. PAKOOTAS, an individual
and enrolled member of the
Confederated Tribes of the Colville
Reservation; DONALD R. MICHEL, an
individual and enrolled member of
the Confederated Tribes of the
Coville Reservation; CONFEDERATED
TRIBES OF THE COLVILLE
RESERVATION,

Plaintiffs-Appellees,

STATE OF WASHINGTON,
Intervenor-Plaintiff-Appellee,

v.

TECK COMINCO METALS, LTD., a
Canadian corporation,
Defendant-Appellant.

No. 16-35742

D.C. No.
2:04-cv-00256-
LRS

OPINION

Appeal from the United States District Court
for the Eastern District of Washington
Lonny R. Suko, District Judge, Presiding

Argued and Submitted February 5, 2018
Seattle, Washington

Filed September 14, 2018

Before: Ronald M. Gould and Richard A. Paez, Circuit Judges, and Michael J. McShane,* District Judge.

Opinion by Judge Gould

SUMMARY**

Environmental Law

The panel affirmed the district court’s judgment, after two phases of a trifurcated bench trial, in favor of plaintiffs in an action under the Comprehensive Environmental Response, Compensation, and Liability Act.

The district court dismissed defendant Teck Cominco Metals’ divisibility defense to joint and several liability on summary judgment. At Phase I of the trifurcated trial, the district court held that Teck was liable as an “arranger” under CERCLA § 107(a)(3). At Phase II, the district court found Teck liable for more than \$8.25 million of plaintiff Colville Tribes’ response costs. The district court then certified this appeal by entering partial judgment under Federal Rule of Civil Procedure 54(b).

The panel held that it had jurisdiction to entertain the appeal. The panel concluded that Rule 54(b) authorized the district court to certify the appeal because the district court

* The Honorable Michael J. McShane, United States District Judge for the District of Oregon, sitting by designation.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

rendered an ultimate disposition of an individual claim by ruling on Colville Tribes' response costs claim, which was separable from the Tribes' claim for natural resource damages. The panel held that the district court's Rule 54(b) certification was not an abuse of discretion.

The panel held that the district court properly exercised personal jurisdiction over Teck, operator of a lead and zinc smelter in British Columbia. The panel applied the *Calder* "effects" test because the claims for recovery of response costs and natural resource damages were akin to a tort claim. The panel held that, under the *Calder* test, Teck purposefully directed its activities toward Washington State.

The panel held that the district court properly awarded the Colville Tribes their investigation costs incurred in establishing Teck's liability. CERCLA § 107(a)(4)(A) provides that a potentially responsible party, or PRP, is liable for "all costs of removal or remedial action." The panel held that investigations by the Tribes' expert consultants qualified as recoverable costs of removal, even though many of these activities played double duty supporting both cleanup and litigation efforts.

The panel held that § 107(a)(4)(A) also allowed the Tribes to recover their attorneys' fees as part of their response costs. The panel held that the district court did not abuse its discretion in setting the amount of attorneys' fees.

The panel affirmed the district court's grant of summary judgment rejecting Teck's divisibility defense to joint and several liability. The panel concluded that there was no triable issue whether Teck had sufficient evidence to prove the defense, which requires a showing that the environmental harm is theoretically capable of

apportionment and that the record provides a reasonable basis on which to apportion liability.

COUNSEL

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Andrew Arthur Fitz (argued), Senior Counsel; Robert W. Ferguson, Attorney General; Kelly T. Wood, Assistant Attorney General; Office of the Washington Attorney General, Olympia, Washington; Intervenor-Plaintiff-Appellee.

OPINION

GOULD, Circuit Judge:

This appeal is the latest chapter in a multi-decade dispute centered on Teck Metals' liability for dumping several million tons of industrial waste into the Columbia River. Since we last heard an interlocutory appeal in this case, the district court dismissed Teck's divisibility defense to joint and several liability on summary judgment. At Phase I of the trifurcated bench trial, the court held that Teck was a liable party under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). At Phase II, the court found Teck liable for more than \$8.25 million of the Confederated Tribes of the Colville Reservation's response costs. The district court then certified this appeal by entering partial judgment under Federal Rule of Civil Procedure 54(b). We conclude that we have jurisdiction, and we affirm.

I

The Columbia River, the fourth-largest river in North America, begins its 1,200-mile journey to the sea from its headwaters in the Canadian Rockies. The River charts a northwest course in British Columbia before bending south toward Washington. It then widens and forms the Arrow Lakes reservoir until, thirty miles before the international border, it reaches the Hugh Keenleyside Dam. After passing through the dam's outlet, the River is free-flowing until south of the border near Northport, Washington. There it again starts to slow and pool at the uppermost reaches of Lake Roosevelt, the massive reservoir impounded behind the Grand Coulee Dam. This case concerns the more than 150-mile stretch of river between the Canadian border and

the Grand Coulee Dam, known as the Upper Columbia River.

From time immemorial, the Upper Columbia River has held great significance to the Confederated Tribes of the Colville Reservation. These tribes historically depended on the River's plentiful fish for their survival and gave the River a central role in their cultural traditions.¹ And the Colville Tribes continue to use the Upper Columbia River to this day for fishing and recreation. Under the applicable treaties, the Tribes retain fishing rights in the River up to the Canadian border. *See Okanogan Highlands All. v. Williams*, 236 F.3d 468, 478 (9th Cir. 2000) (citing *Antoine v. Washington*, 420 U.S. 194, 196 n.4 (1975)). Those treaties draw the Colville Reservation's eastern and southern boundaries "in the middle of the channel of the Columbia River." Act of July 1, 1892, ch. 140, § 1, 27 Stat. 62, 62–63. The Tribes claim equitable title to the riverbed on their side of the channel, and the United States has long supported this claim. *See Confederated Tribes of Colville Reservation v. United States*, 964 F.2d 1102, 1105 n.7 (Fed. Cir. 1992); *Opinion on the Boundaries of and Status of Title to Certain Lands Within the Colville and Spokane Indian Reservations*, 84 Interior Dec. 72, 75–80, 1977 WL 28859, at *3–5.

For nearly a century, however, the Upper Columbia River has been fouled by Teck Metals' toxic waste.² Teck operates the world's largest lead and zinc smelter in Trail, British Columbia, just ten miles upstream of the U.S. border.

¹ See generally U.S. EPA, *Upper Columbia River Expanded Site Inspection Report Northeast Washington*, app. A (Petition for Assessment of Release), <https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100MFOQ.TXT>.

² Teck was previously named Teck Cominco Metals.

During smelting, lead or zinc ore is heated to a molten state, during which the desired metal is separated from impurities in the raw ore. These impurities cool to form glassy, granular slag. Between 1930 and 1995, Teck discharged about 400 tons of slag daily—an estimated 9.97 million tons in total—directly into the free-flowing Columbia River. Teck washed this debris into the river using untold gallons of contaminated effluent. These solid and liquid wastes contained roughly 400,000 tons (800 million pounds) of the heavy metals arsenic, cadmium, copper, lead, mercury, and zinc, in addition to lesser amounts of other hazardous substances.³

At least 8.7 million tons of the Trail smelter's slag and nearly all of the dissolved and particulate-bound metals in its effluent made the short trip downstream into the United States. Upon reaching the calmer waters of Lake Roosevelt, Teck's smelting byproducts came to rest on the riverbed and banks, with larger detritus settling upstream and smaller particles settling downstream near the Grand Coulee Dam.⁴

³ Teck's slag contained 255,000 tons of zinc (510 million pounds) and 7,300 tons of lead (14.6 million pounds). Teck's effluent contained an additional 108,000 tons of zinc (216 million pounds), 22,000 tons of lead (44 million pounds), 1,700 tons of cadmium (3.4 million pounds), 270 tons of arsenic (540,000 pounds), and 200 tons of mercury (400,000 pounds). The district court did not make a finding on how much copper Teck dumped into the river, but Teck previously conceded that about 29,000 tons (58 million pounds) reached the Upper Columbia River.

⁴ Black Sand Beach, for instance, is named after the sand-like slag deposits that have accumulated on the riverbank near Northport, Washington. See URS Corp., *Completion Report & Performance Monitoring Plan: Black Sand Beach Project* § 2.2 (2011), <https://fortress.wa.gov/ecy/gsp/DocViewer.aspx?did=3783>.

Once settled, these wastes began to break down and release hazardous substances into the River's waters and sediment.

In 1999, the Colville Tribes petitioned the U.S. Environmental Protection Agency to assess the threats posed by the contamination of the Upper Columbia River Site. Two years later the Tribes and EPA signed an intergovernmental agreement coordinating a site investigation and assessment. After completing its preliminary assessment, EPA issued a unilateral administrative order against Teck. The order directed Teck to perform a remedial investigation and feasibility study ("RI/FS") of the Site under CERCLA. Teck disputed whether it was subject to CERCLA, however, and EPA decided not to enforce the order during negotiations with the company.

The Colville Tribes then tried to enforce EPA's order by funding a CERCLA citizen suit by two of their tribal government officials in 2004. These plaintiffs were later joined by the State of Washington as a plaintiff-intervenor and eventually by the Colville Tribes as a co-plaintiff.

Teck moved to dismiss the action. It primarily argued that CERCLA does not apply extraterritorially to its activities and that it cannot be held liable as a person who "arranged for disposal" of hazardous substances. The district court denied this motion to dismiss and certified the issues for immediate appeal under 28 U.S.C. § 1292(b).

While the appeal was pending, Teck and EPA entered a settlement agreement withdrawing EPA's order and committing Teck to fund and conduct an RI/FS modeled on CERCLA's requirements. The study aims to investigate the extent of contamination at the Site, to provide information for EPA's assessment of the risk to human health and the

environment, and to evaluate potential remedial alternatives. But the settlement agreement is silent as to Teck's responsibility for cleaning up the Site.

We accepted Teck's interlocutory appeal and affirmed the district court's denial of the motion to dismiss. *See Pakootas v. Teck Cominco Metals, Ltd.*, 452 F.3d 1066, 1082 (9th Cir. 2006) (*Pakootas I*). We held that the suit did not involve an extraterritorial application of CERCLA because Teck's pollution had "come to be located" in the United States. *Id.* at 1074 (quoting 42 U.S.C. § 9601(9)). We also held that the complaint had stated a claim for relief because the actual or threatened release of hazardous substances at the Site could subject Teck to "arranger" liability under CERCLA. *Id.* at 1082 (citing 42 U.S.C. § 9607(a)(3)).

On remand, the Tribes and the State each filed amended complaints seeking cost recovery, natural resource damages, and related declaratory relief under CERCLA.⁵ Litigation was ultimately trifurcated into three phases to sequentially determine: (1) whether Teck is liable as a potentially responsible party ("PRP"); (2) Teck's liability for response costs; and (3) Teck's liability for natural resource damages.

Before the first bench trial, the Tribes and the State moved for partial summary judgment on Teck's divisibility defense. The district court granted the motions and dismissed the defense, concluding that Teck did not present enough evidence to create a genuine issue of fact as to whether the environmental harm to the Upper Columbia

⁵ The individual plaintiffs' claims were subsequently dismissed and judgment was entered against them, which we affirmed on appeal. *Pakootas v. Teck Cominco Metals, Ltd.*, 646 F.3d 1214, 1225 (9th Cir. 2011) (*Pakootas II*).

River was theoretically capable of apportionment or whether there was a reasonable basis for apportioning Teck's share of liability.

In Phase I of trial, the district court concluded that Teck was liable as an arranger under CERCLA section 107(a)(3), 42 U.S.C. § 9607(a)(3). In doing so, the court rejected Teck's argument that Washington courts lack personal jurisdiction over the company. The district court then held that without its divisibility defense, Teck was jointly and severally liable to the Tribes and the State under section 107(a)(4)(A), 42 U.S.C. § 9607(a)(4)(A).⁶

In Phase II, the State settled its claim for past response costs while the Tribes proceeded to trial. The district court found in favor of the Tribes and awarded them \$3,394,194.43 in investigative expenses incurred through December 31, 2013, \$4,859,482.22 in attorney's fees up to that date, and \$344,300.00 in prejudgment interest. The court then directed the entry of judgment on Teck's liability for these response costs under Federal Rule of Civil Procedure 54(b).

Teck now appeals from the district court's summary judgment order and partial judgment on the first two phases of trial.

⁶ After the Phase I bench trial, the Tribes and the State filed amended complaints adding allegations that the Trail smelter's air emissions also resulted in the discharge of hazardous substances at the Site. The district court denied the motion to strike those allegations, but we reversed on appeal. *Pakootas v. Teck Cominco Metals, Ltd.*, 830 F.3d 975, 986 (9th Cir. 2016) (*Pakootas III*).

II

We first consider whether we have jurisdiction to entertain this appeal.

A

Teck contends, as an initial matter, that Rule 54(b) did not authorize the district court to certify this appeal by entering partial final judgment. Rule 54(b) allows a district court in appropriate circumstances to enter judgment on one or more claims while others remain adjudicated.⁷ To do so, the district court first must render “an ultimate disposition of an individual claim.” *Curtiss-Wright Corp. v. Gen. Elec. Co.*, 446 U.S. 1, 7 (1980) (quoting *Sears, Roebuck & Co. v. Mackey*, 351 U.S. 427, 436 (1956)). The court then must find that there is no just reason for delaying judgment on this claim. *Id.* at 8.

According to Teck, the district court had to await the conclusion of this entire multi-decade litigation before entering judgment on the Tribes’ response costs claim. Teck reasons that the Tribes actually raise a single CERCLA claim—for arranger liability—with multiple remedies: recovery of response costs and natural resource damages.

What constitutes an individual “claim” is not well defined in our law. The Supreme Court has expressly declined to “attempt any definitive resolution of the meaning of” the term, *Liberty Mut. Ins. Co. v. Wetzel*, 424 U.S. 737,

⁷ In relevant part, the Rule provides: “When an action presents more than one claim for relief . . . , the court may direct entry of a final judgment as to one or more, but fewer than all, claims . . . only if the court expressly determines that there is no just reason for delay.” Fed. R. Civ. P. 54(b).

743 n.4 (1976), and its “judicial crumbs have failed to lead the circuit courts to a consensus as to the handling of this confusing area of law,” *Eldredge v. Martin Marietta Corp.*, 207 F.3d 737, 741 (5th Cir. 2000). In this circuit, we have often tried to avoid this jurisprudential quagmire by employing a “pragmatic approach.” *Cont’l Airlines, Inc. v. Goodyear Tire & Rubber Co.*, 819 F.2d 1519, 1525 (9th Cir. 1987); *cf.* 15A Charles Alan Wright, Arthur R. Miller & Edward H. Cooper, *Federal Practice and Procedure: Jurisdiction* § 3914.7 (2d ed. 2018) (“[T]he policies underlying Rule 54(b) are not well served, and certainly are not well explained, by reliance on efforts to define a claim.”).

At the doctrine’s outer edges, however, our cases have given some guidance. Rule 54(b)’s use of the word “claim” at minimum refers to “a set of facts giving rise to legal rights in the claimant.” *CMAX, Inc. v. Drewry Photocolor Corp.*, 295 F.2d 695, 697 (9th Cir. 1961). Multiple claims can thus exist if a case joins multiple sets of facts. *See, e.g., Purdy Mobile Homes, Inc. v. Champion Home Builders Co.*, 594 F.2d 1313, 1316 (9th Cir. 1979). Conversely, only one claim is presented when “a single set of facts giv[es] rise to a legal right of recovery under several different remedies.” *Ariz. State Carpenters Pension Tr. Fund v. Miller*, 938 F.2d 1038, 1040 (9th Cir. 1991).

In *Arizona State Carpenters Pension Trust Fund*, for example, we identified a single claim under Rule 54(b) because a single set of facts gave rise to both a count for punitive damages and a count for compensatory damages. *Id.* The plaintiff’s count for punitive damages required all the same facts as its count for compensatory damages, plus additional proof of an aggravating factor. *Id.* Because the showing required for punitive damages completely

encompassed that required for compensatory damages, we considered these counts to be an indivisible claim for Rule 54(b)'s purposes. *See id.* We thus forbade the immediate appeal of a ruling dismissing only the punitive damages claim, which necessarily would have become moot if the lesser-included count for compensatory damages later failed as well. *See id.*

Nevertheless, a challenger “cannot successfully attack the court’s finding of multiple claims merely by showing that some facts are common to all of its theories of recovery.” *Purdy Mobile Homes*, 594 F.2d at 1316 (internal quotation marks omitted). Claims with partially “overlapping facts” are not “foreclosed from being separate for purposes of Rule 54(b).” *Wood v. GCC Bend, LLC*, 422 F.3d 873, 881 (9th Cir. 2005). Instead, a district court can enter final judgment on a claim even if it is not “separate from and independent of the remaining claims.” *Texaco, Inc. v. Ponsoldt*, 939 F.2d 794, 797 (9th Cir. 1991) (quoting *Sheehan v. Atlanta Int’l Ins. Co.*, 812 F.2d 465, 468 (9th Cir. 1987)). And such a judgment is permissible even if the claim “arises out of the same transaction and occurrence as pending claims.” *Cold Metal Process Co. v. United Eng’g & Foundry Co.*, 351 U.S. 445, 452 (1956).

Here, the Colville Tribes’ counts for response costs and for natural resource damages present multiple claims because each requires a factual showing not required by the other. *See Purdy Mobile Homes*, 594 F.2d at 1316; *cf. also Blockburger v. United States*, 284 U.S. 299, 304 (1932) (holding that for the purposes of the Double Jeopardy Clause, “the test to be applied to determine whether there are two offenses or only one, is whether each provision requires

proof of a fact which the other does not”).⁸ Both response cost and natural resource damages claims require proof that (1) the defendant falls within one of the four classes of PRPs listed in section 107(a), 42 U.S.C. § 9607(a); (2) the site on which hazardous substances are found is a “facility” within the meaning of section 101(9), *id.* § 9601(9); and (3) a “release” or “threatened release” of a hazardous substance from the facility has occurred. *See id.* § 9607(a); *Pakootas III*, 830 F.3d at 981. But a government’s claim for response costs must also show that (4) the government has incurred costs responding to the release or threatened release; and (5) those costs are “not inconsistent with the national contingency plan,” which is assumed to be the case absent a defendant’s proof to the contrary. 42 U.S.C. § 9607(a)(4), (4)(A). By contrast, a claim for natural resource damages instead must show that (4) natural resources under the plaintiff’s trusteeship have been injured and (5) the injury to natural resources “result[ed] from” the release or threatened release of the hazardous substance. 42 U.S.C. § 9607(a)(4)(C); *Pakootas III*, 830 F.3d at 981 n.4. The text of CERCLA elsewhere suggests the conclusion that these two claims are distinct, describing them as separate “[a]ctions for recovery of costs” and “[a]ctions for natural resource damages,” and imposing different limitations periods in which those actions may be brought. 42 U.S.C. § 9613(g)(1)–(2).

⁸ *See also Samaad v. City of Dallas*, 940 F.2d 925, 931 n.10 (5th Cir. 1991) (noting that our approach in *Purdy Mobile Homes* “bears a striking similarity to that employed in the double jeopardy context” under *Blockburger*), *abrogated on other grounds by Stop the Beach Renourishment, Inc. v. Fla. Dep’t of Env’tl. Prot.*, 560 U.S. 702, 728 (2010).

In situations like this, where a suit involves multiple claims, we leave it to the district court, as “dispatcher,” *Curtiss-Wright*, 446 U.S. at 8 (quoting *Sears, Roebuck & Co.*, 351 U.S. at 435), to evaluate the “interrelationship of the claims” and determine in the first instance “whether the claims under review [are] separable from the others remaining to be adjudicated.” *Id.* at 8, 10. In doing so, “a district court must take into account judicial administrative interests as well as the equities involved.” *Id.* at 8. We review the district court’s decision to enter final judgment under Rule 54(b) for abuse of discretion. *See id.*

Although no party disputes the district court’s exercise of discretion in this case, we must review it to satisfy ourselves that we have subject matter jurisdiction to hear this appeal. *See Sheehan*, 812 F.2d at 468. Having done so, we conclude that there was no abuse of discretion. This is a complex case that has been ongoing for fourteen years, and the entry of partial judgment against Teck would help ensure that a responsible party promptly pays for the contamination of the Upper Columbia River, advancing CERCLA’s goals and easing the Tribes’ burden of financing the litigation effort. *See Wood*, 422 F.3d at 882. We hold that the district court’s Rule 54(b) certification here was appropriate.

B

Teck also raises two challenges to the district court’s exercise of personal jurisdiction over the company. First, Teck argues that the district court should not have applied the so-called “effects” test of *Calder v. Jones*, 465 U.S. 783 (1984). In the alternative, Teck argues that the *Calder* test was not satisfied because the Trail smelter’s discharges into the Columbia River were not expressly aimed at Washington.

We assess specific personal jurisdiction using a three-prong test. See *Yahoo! Inc. v. La Ligue Contre Le Racisme Et L'Antisemitisme*, 433 F.3d 1199, 1205–06 (9th Cir. 2006) (en banc). Under the first prong, the Colville Tribes must show either that Teck purposefully availed itself of the privilege of conducting activities in Washington, or that it purposefully directed its activities toward Washington. See *Schwarzenegger v. Fred Martin Motor Co.*, 374 F.3d 797, 802 (9th Cir. 2004). A “purposeful availment” analysis is used for cases sounding in contract. *Id.* By contrast, a “purposeful direction” analysis under *Calder* “is most often used in suits sounding in tort.” *Id.* at 802–03.

The *Calder* test plainly applies here. Claims for recovery of response costs and natural resource damages are “more akin to a tort claim than a contract claim.” *Ziegler v. Indian River Cty.*, 64 F.3d 470, 474 (9th Cir. 1995); see also *E.I. Du Pont de Nemours & Co. v. United States*, 365 F.3d 1367, 1373 (Fed. Cir. 2004) (“CERCLA evolved from the doctrine of common law nuisance.”). Besides, CERCLA liability for toxic pollution is much closer to the traditional domain of common law torts than several of the other areas in which we have applied *Calder*’s effects test. See, e.g., *Brayton Purcell LLP v. Recordon & Recordon*, 606 F.3d 1124, 1128 (9th Cir. 2010) (copyright infringement); *Yahoo! Inc.*, 433 F.3d at 1206 (foreign court order enforcement); *Panavision Int’l, L.P. v. Toeppen*, 141 F.3d 1316, 1321 (9th Cir. 1998) (trademark dilution).

We construe *Calder* as imposing three requirements: “the defendant allegedly must have (1) committed an intentional act, (2) expressly aimed at the forum state, (3) causing harm that the defendant knows is likely to be suffered in the forum state.” *Yahoo!*, 433 F.3d at 1206

(alteration in original) (quoting *Schwarzenegger*, 374 F.3d at 803).

Teck argues only that its waste disposal activities were not “expressly aimed” at Washington. Express aiming is an ill-defined concept that we have taken to mean “something more” than “a foreign act with foreseeable effects in the forum state.” *Bancroft & Masters, Inc. v. Augusta Nat. Inc.*, 223 F.3d 1082, 1087 (9th Cir. 2000).

Calder illustrates this point. In that case, a California actress sued two National Enquirer employees for an allegedly defamatory article published in the magazine. The article had been written and edited in Florida but the magazine was distributed nationally, with its largest market in California. The Supreme Court upheld the exercise of personal jurisdiction in California because the allegations of libel did not concern “mere untargeted negligence” with foreseeable effects there; rather, the defendants’ “intentional, and allegedly tortious, actions were expressly aimed” at the state. 465 U.S. at 789. Those actions simply involved writing and editing an article about a person in California, an article that the defendants knew would be circulated and cause reputational injury in that forum. *Id.* at 789–90. Under those circumstances, the defendants should “reasonably anticipate being haled into court there” to answer for their tortious behavior. *Id.* at 790 (quoting *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 297 (1980)). That was true even though the defendants were not personally responsible for the circulation of their article in California. *Id.* at 789–90.

We have no difficulty concluding that Teck expressly aimed its waste at the State of Washington. The district court found ample evidence that Teck’s leadership knew the Columbia River carried waste away from the smelter, and

that much of this waste travelled downstream into Washington, yet Teck continued to discharge hundreds of tons of waste into the river every day. It is inconceivable that Teck did not know that its waste was aimed at the State of Washington when Teck deposited it into the powerful Columbia River just miles upstream of the border. As early as the 1930s, Teck knew that its slag had been found on the beaches of the Columbia River south of the United States border. By the 1980s, Teck's internal documents recognized that its waste was having negative effects on Washington's aquatic ecosystem. And by the early 1990s, Teck's management acknowledged that the company was "in effect dumping waste into another country," using the Upper Columbia River as a "free" and "convenient disposal facility." But still Teck, over and over again, on a daily basis for decades, dumped its waste into the river until it modernized its furnace in the mid-1990s.

It is no defense that Teck's wastewater outfalls were aimed only at the Columbia River, which in turn was aimed at Washington. Rivers are nature's conveyor belts. Teck simply made use of the river's natural transport system throughout the 1900s, much like lumberjacks of that period who would roll timber into a stream to start a log drive. Without this transport system, Teck would have soon been inundated by the massive quantities of waste it produced—which, it bears repeating, averaged some 400 tons per day. Teck's connection with Washington was not "random," "fortuitous," or "attenuated," *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 475 (1985) (internal quotation marks omitted), nor would the maintenance of this suit offend "traditional conception[s] of fair play and substantial justice," *id.* at 464 (alteration in original) (quoting *Int'l Shoe Co. v. Washington*, 326 U.S. 310, 320 (1945)). To the contrary, there would be no fair play and no substantial

justice if Teck could avoid suit in the place where it deliberately sent its toxic waste. We hold that personal jurisdiction over Teck exists in Washington.

III

Satisfied that we have jurisdiction, we now turn to Teck's argument that CERCLA does not allow the Colville Tribes to recover their costs of establishing Teck's liability. The district court awarded the Tribes more than \$8.25 million in costs incurred through December 31, 2013, consisting of about \$3.39 million in investigation expenses plus \$4.86 million in attorney's fees and costs. The court deemed the Tribes' investigation to be recoverable as part of a "removal" action, and characterized their attorney's efforts as "enforcement activities." We consider each part of the district court's award below, reviewing its findings of fact for clear error and its conclusions of law *de novo*. *Kirola v. City & Cty. of San Francisco*, 860 F.3d 1164, 1174 (9th Cir. 2017).

A

We first review the district court's award of the Colville Tribes' investigation costs.

1

Section 107(a)(4)(A) of CERCLA provides that a PRP is liable for "all costs of removal or remedial action incurred by the United States Government or a State or an Indian tribe not inconsistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(A). At its core, a "removal" action is defined as "the cleanup or removal" of hazardous

substances from the environment.⁹ *Id.* § 9601(23). No less important, however, are several associated activities described by the statutory definition.¹⁰ This case concerns two defined categories of related activities: such efforts “as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances,” and “as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment.” *Id.*

Cleanup-adjacent activities face a low bar to satisfying these definitions of “removal.” *See United States v. W.R. Grace & Co.*, 429 F.3d 1224, 1238 (9th Cir. 2005) (“The definition of ‘removal’ is written in sweeping terms.”). Section 101(23) covers all activities “as may be necessary” to advance certain threat assessment or abatement goals. This permissive language means qualifying activities need not be performed with the *intent* of achieving the statutory goals; need not be absolutely *necessary* to achieve those goals; and need not *actually* achieve those goals. Rather,

⁹ To clarify our terminology, we note that “Congress intended that there generally will be only one removal action,” of which different activities are just a part. *Kelley v. E.I. DuPont de Nemours & Co.*, 17 F.3d 836, 843 (6th Cir. 1994); *see also* Brian Block, *Remediating CERCLA’s Polluted Statute of Limitations*, 13 Rutgers J.L. & Pub. Pol’y 388, 400 (2016) (collecting cases).

¹⁰ Section 101(23) defines “removal” as “[1] the cleanup or removal of released hazardous substances from the environment, [2] such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, [3] such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, [4] the disposal of removed material, or [5] the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release.” 42 U.S.C. § 9601(23).

taking a cue from the D.C. Circuit's construction of "as may be necessary" in the Communications Act of 1934, we hold that the definitions of "removal" reach all acts that "are not an unreasonable means" of furthering section 101(23)'s enumerated ends. *Cellco P'ship v. FCC*, 357 F.3d 88, 91 (D.C. Cir. 2004) (quoting *FCC v. Nat'l Citizens Comm. for Broad.*, 436 U.S. 775, 796 (1978)).

2

The district court concluded that the investigations by the Tribes' expert consultants qualify as recoverable costs of removal. To begin with, the Tribes hired an environmental consultant, Environment International, to plan and implement a study of the Upper Columbia River Site. This consultant collected multiple sediment and pore water samples and sent those samples to independent labs for testing. An environmental engineering firm, LimnoTech, then compiled the resulting data into a comprehensive database and analyzed the data. The Tribes also employed several subject-matter experts, such as a geochemist and a metallurgist, to review the data. Finally, the Tribes retained a hydrology firm, Northwest Hydraulic Consultants, to sample and analyze upstream sediment cores from the Canadian reach of the Columbia River.

We agree with the district court that the Tribes' data collection and analysis efforts were not an unreasonable means of furthering at least three distinct purposes embraced by CERCLA.

First, the expert consultants investigated the presence and movement of toxic wastes at the Site. We have held that section 101(23) encompasses such studies into the location and migration of materials containing hazardous substances. See *Wickland Oil Terminals v. Asarco, Inc.*, 792 F.2d 887,

889, 892 (9th Cir. 1986) (allowing cost recovery for “testing . . . of the migration of slag particles” as an action that “may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances”).

Second, the Tribes’ experts tested whether the slag and effluent-contaminated sediment found at the Site leach contaminants into the environment. Section 101(23) on its face covers “asses[ing] . . . [the] threat of release of hazardous substances.” 42 U.S.C. § 9601(23); *see also Wickland*, 793 F.2d at 889, 892 (allowing cost recovery for “conduct[ing] tests to evaluate the hazard posed by the slag”); *Cadillac Fairview/California, Inc. v. Dow Chem. Co.*, 840 F.2d 691, 692–93, 695 (9th Cir. 1988) (same).

And third, the experts traced the origins of the slag and sediment metals found at the Site. Teck has maintained before and throughout this litigation that many other sources, including other smelters, are to blame for the Upper Columbia River’s pollution. The Tribes commissioned a study investigating this claim, but the results show that the wastes match the Trail smelter’s isotopic and geochemical “fingerprint.”

Efforts to identify the parties responsible for the disposal of toxic wastes at a site are likewise recoverable costs of removal. In *Key Tronic Corp. v. United States*, 511 U.S. 809 (1994), the Supreme Court considered whether a PRP could recover fees for work performed by an attorney in searching for other parties that had used a site for hazardous waste disposal. *Id.* at 820. The Court held that “[t]hese kinds of activities are recoverable costs of response clearly distinguishable from litigation expenses.” *Id.* Indeed, searches for pollution sources are often conducted by non-lawyers, such as “engineers, chemists, private investigators,

or other professionals”—much like the Tribes’ experts here. *Id.*

Key Tronic appears to have rested its holding on yet another statutory definition, section 101(25). *See id.* at 813, 816–20. That provision defines removal and remedial actions collectively as “response” actions, and then defines all “response” actions to “include enforcement activities related thereto.” 42 U.S.C. § 9601(25). The Court in *Key Tronic* noted that the search in that case had prompted EPA to initiate an administrative enforcement action against another party that had been identified as disposing of wastes at the site. *Id.* at 820. The Court also found it significant that “[t]racking down other responsible solvent polluters increases the probability that a cleanup will be effective and get paid for.” *Id.* Although *Key Tronic* did not discuss section 101(23)’s definition of “removal,” the benefit of making an effective cleanup more likely also falls within the scope of actions identified by the district court that “may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment.” Similarly, uncovering evidence that a party is responsible for hazardous waste puts pressure on that party voluntarily to clean up its pollution, which would also advance the goals of that provision. *Cf. E.I. DuPont de Nemours & Co. v. United States*, 508 F.3d 126, 135 (3d Cir. 2007) (“Voluntary cleanups are vital to fulfilling CERCLA’s purpose.”). And under both provisions, CERCLA’s broad remedial purpose “supports a liberal interpretation of recoverable costs” to ensure that polluters pay for the messes they create—including the difficulties of identifying them in the first place. *United States v. R.W. Meyer, Inc.*, 889 F.2d 1497, 1503 (6th Cir. 1989) (quoting *United States v. Northernair Plating Co.*, 685 F. Supp. 1410, 1419 (W.D. Mich. 1988)).

3

Teck opposes the district court's conclusion, arguing that the Tribes' studies implicitly fall out of the statutory definitions of "removal" because they are all "litigation-related." To be sure, the studies were commissioned after the Tribes joined this litigation; they were undertaken to help prove Teck's liability; and many of them were presented to the district court in Phase I of trial.

Teck's argument relies on a pair of decisions from the Third Circuit. In *Redland Soccer Club, Inc. v. Dep't of Army of U.S.*, 55 F.3d 827 (3d Cir. 1995), the court held that when evaluating the "necessary" costs of response under section 107(a)(4)(B), it looks to "[t]he heart of the[] definitions of removal and remedy" and considers whether the costs are "necessary to the containment and cleanup of hazardous releases." *Id.* at 850 (quoting *United States v. Hardage*, 982 F.2d 1436, 1448 (10th Cir. 1992)). The court then applied this rule in *Black Horse Lane Assoc., L.P. v. Dow Chemical Corp.*, 228 F.3d 275 (3d Cir. 2000), where it held that "private parties may not recoup litigation-related expenses in an action to recover response costs pursuant to section 107(a)(4)(B)." *Id.* at 294. As Teck points out, the court noted that the work at issue did not "play[] any role in the containment and cleanup of the Property," which meant it was not "necessary." *Id.* at 297.

We conclude that those out-of-circuit cases are not persuasive here. The Colville Tribes bring their cost recovery action as a sovereign under section 107(a)(4)(A), so they are entitled to "all costs" rather than merely the "necessary" costs of response. *Compare* 42 U.S.C.

§ 9607(a)(4)(A), *with id.* § 9607(a)(4)(B).¹¹ And even if the latter standard were applicable, we have never interpreted the term “necessary” as requiring a nexus solely between recoverable costs and on-site cleanup activities. *See Carson Harbor Vill., Ltd. v. Unocal Corp.*, 270 F.3d 863, 871 (9th Cir. 2001) (en banc) (holding that a response action is necessary if it responds to “an actual and real threat to human health or the environment”). We instead read CERCLA’s cost recovery provisions as making no distinction between cleanup and investigatory costs. *Wickland*, 792 F.2d at 892. Neither case cited by Teck speaks to the issue presented—whether an activity that would *otherwise* qualify as removal is disqualified by virtue of having a connection to litigation. *See Black Horse Lane*, 228 F.3d at 298 & n.13 (concluding that “the removal definition . . . exclud[es] the sort of ‘oversight’ costs” sought by plaintiff); *Redland Soccer Club*, 55 F.3d at 850 (concluding that plaintiffs’ health risk assessment costs are not “‘response costs’ under any of the[] definitions” of “removal” and “remedial”).

Seeing no supportive authorities on point, we decline to adopt Teck’s reading of “removal” as implicitly excluding activities that have a connection to litigation. By its terms, the statute gives no weight to the timing, purpose, or ultimate use of covered activities. *See* 42 U.S.C. § 9601(23), (25). A plaintiff’s ongoing response action may complicate recovery, but those costs remain recoverable at trial. *See Johnson v. James Langley Operating Co.*, 226 F.3d 957, 963

¹¹ For this reason, we need not decide whether the Tribes’ cost of fingerprinting wastes at the Site was “necessary” in light of the study yielding a “duplicative identification” of Teck as a polluter. *Syms v. Olin Corp.*, 408 F.3d 95, 104 (2d Cir. 2005). But in any case, we cannot fault the Tribes for paying to learn that Teck disposed of these wastes when Teck disputed that the wastes could be traced back to the company rather than to a number of other potential pollution sources.

(8th Cir. 2000) (“[P]laintiffs’ response costs in this case are not transformed into litigation costs merely by their timing with respect to their initiation of this action.”); *Matter of Bell Petroleum Servs., Inc.*, 3 F.3d 889, 908 (5th Cir. 1993) (“With respect to costs, if any, incurred after the complaint was filed, prejudgment interest should be assessed on those costs from the date of the expenditures.”). Further, a plaintiff’s intent to use the fruits of an investigation in litigation does not excise that activity from the statutory definitions of removal. See *Johnson*, 226 F.3d at 963 (“[T]he motives of the . . . party attempting to recoup response costs . . . are irrelevant.” (quoting *Gen. Elec. Co. v. Litton Indus. Automation Sys., Inc.*, 920 F.2d 1415, 1418 (8th Cir. 1990), *abrogated on other grounds by Key Tronic Corp.*, 511 U.S. 809); cf. *Carson Harbor*, 270 F.3d at 872 (holding that self-serving “ulterior motive[s]” should be disregarded when determining whether response costs are necessary because “[t]o hold otherwise would result in a disincentive for cleanup”). Many, if not most, CERCLA plaintiffs study the contamination at a site with an eye to potential litigation, and it would make little sense to provide these costs only to parties that are disinclined to file suit. Finally, recoverable investigation costs do not transform into unrecoverable costs if the information obtained is later used to help prove a PRP’s liability. See *Vill. of Milford v. K-H Holding Corp.*, 390 F.3d 926, 935–36 (6th Cir. 2004) (holding that the plaintiff could recover from the defendant the costs of identifying it as a PRP). Indeed, we would turn *Key Tronic*’s reasoning on its head if we read that opinion as making a defendant liable for all PRP search costs *except* the cost of identifying that defendant once that evidence is used in the plaintiff’s case in chief. See 511 U.S. at 820 (lauding the plaintiff’s investigation for “uncovering the [defendant’s] disposal of wastes at the site”).

We instead determine whether an activity amounts to “removal” by comparing the actions taken to the categories defined by statute. *See, e.g., W.R. Grace & Co.*, 429 F.3d at 1246–47; *Hanford Downwinders Coal., Inc. v. Dowdle*, 71 F.3d 1469, 1477–79 (9th Cir. 1995); *Durfey v. E.I. DuPont De Nemours & Co.*, 59 F.3d 121, 124–26 (9th Cir. 1995). The statutory language—not extra-textual factors—is controlling.

We conclude that the district court properly awarded the Colville Tribes all investigation expenses as costs of removal, even though many of these activities played double duty supporting both cleanup and litigation efforts.¹²

B

We next consider the district court’s award of the Colville Tribes’ attorney’s fees.

1

Shortly after CERCLA was enacted, several district courts interpreted section 107(a)(4)(A) to mean that the United States could recover its attorney’s fees for successfully bringing a response costs action. *See, e.g., United States v. Ne. Pharm. & Chem. Co. (NEPACCO)*, 579 F. Supp. 823, 851 (W.D. Mo. 1984), *aff’d in part and*

¹² We need not decide whether the Tribe’s removal costs are “inconsistent with the national contingency plan” because Teck forfeited this argument by not raising it on appeal. 42 U.S.C. § 9607(a)(4)(A). Also, we decline to consider Teck’s assertion that the district court “went beyond the evidence” in calculating the amount of the Tribes’ removal costs because Teck neither raised this issue in its opening brief, *see United States v. Kelly*, 874 F.3d 1037, 1051 n.9 (9th Cir. 2017), nor provided a sufficient record on which to review this claim, *see Fed. R. App. P. 10(b)(2); In re O’Brien*, 312 F.3d 1135, 1137 (9th Cir. 2002).

rev'd in part on other grounds, 810 F.2d 726 (8th Cir. 1986); *United States v. Conservation Chem. Co.*, 619 F. Supp. 162, 186 (W.D. Mo. 1985); *United States v. S.C. Recycling & Disposal, Inc. (SCRDI)*, 653 F. Supp. 984, 1009 (D.S.C. 1984), *aff'd in part and vacated in part on other grounds sub nom. United States v. Monsanto Co.*, 858 F.2d 160 (4th Cir. 1988).

In early 1985, Congress began considering legislation that would become the Superfund Amendments and Reauthorization Act (“SARA”). During Congress’s deliberations, EPA submitted information to the hearing record accounting for the costs of its “enforcement activities,” a term the agency defined as including “litigation costs,” “identification of responsible parties” through “records review” and “field investigations,” and several other line items. *Reauthorization of Superfund: Hearings Before the Subcomm. on Water Res. of the H. Comm. on Pub. Works and Transp.*, 99th Cong. 666–67 (1985) (statement of Lee M. Thomas, Administrator, Env’tl. Protection Agency). At the time, some of those cases providing the government its attorney’s fees were still pending on appeal. *See Monsanto*, 858 F.2d 160 (4th Cir. 1988); *NEPACCO*, 810 F.2d 726 (8th Cir. 1986).

To ensure that these types of expenses could be recovered, Congress amended section 101(25)’s definition of “response” to add the following clause: “all such terms (including the terms ‘removal’ and ‘remedial action’) include enforcement activities related thereto.” Pub. L. No. 99-499, § 101, 100 Stat. 1613, 1615 (1986) (codified at 42 U.S.C. § 9601(25)). SARA’s Conference Committee Report summarizes the amendment as “clarif[ying] and confirm[ing] that such costs are recoverable from responsible parties, as removal or remedial costs under

section 107.” H.R. Conf. Rep. 99-962, at 185 (1986), *reprinted in* 1986 U.S.C.C.A.N. 3276, 3278.

The Supreme Court in *Key Tronic* considered whether, in light of SARA’s “enforcement activities” amendment, “attorney’s fees are ‘necessary costs of response’ within the meaning of § 107(a)(4)(B).” 511 U.S. at 811. Specifically, the case concerned whether “a private action under § 107 is one of the enforcement activities covered by that definition [such] that fees should therefore be available in private litigation as well as in government actions.” *Id.* at 818. The Court answered this question in the negative. *Id.* at 818–19. Given the subject of the appeal, however, the Court offered “no comment” on whether a government could recover its attorney’s fees in a “government enforcement action” under section 107(a)(4)(A). *Id.* at 817, 819. Dissenting in part, Justice Scalia, joined by Justices Blackmun and Thomas, urged that the phrase “enforcement activities” is best understood “to cover the attorney’s fees incurred by both the government and private plaintiffs successfully seeking cost recovery” under either subparagraph. *Id.* at 824 (Scalia, J., dissenting).

We confronted the question whether section 107(a)(4)(A) allows the federal government to recover its attorney’s fees in *United States v. Chapman*, 146 F.3d 1166 (9th Cir. 1998). There we held that CERCLA sufficiently “evinces an intent” to provide the government its reasonable attorney’s fees. *Id.* at 1175–76 (quoting *Key Tronic*, 511 U.S. at 815). We reasoned that section 107(a)(4)(A)’s use of the term “all costs” gives the government “very broad cost recovery rights” standing alone. *Id.* at 1174 (quoting *NEPACCO*, 579 F. Supp. at 850). And we concluded that Congress need not “incant the magic phrase ‘attorney’s fees’” where it has “explicitly authorized the recovery of

costs of ‘enforcement activities,’” *id.* at 1175 (quoting *Key Tronic*, 511 U.S. at 823 (Scalia, J., dissenting)), because “enforcement activities naturally include attorney fees,” *id.* (quoting and citing *Key Tronic*, 511 U.S. at 823 (Scalia, J., dissenting)). We also noted that CERCLA generally must be construed liberally to accomplish its dual goals of promptly cleaning up hazardous waste sites and making polluters, rather than society as a whole, pay. *See id.* Awarding the government its attorney’s fees furthers these goals by encouraging responsible parties proactively to clean up pollution, accept responsibility for cleanup costs, and stop running up the government’s expenses. *Id.* at 1175–76.

We have since observed that *Chapman*’s holding applies equally to all of the governmental entities listed in section 107(a)(4)(A). *See Fireman’s Fund Ins. Co. v. City of Lodi*, 302 F.3d 928, 953 (9th Cir. 2002). By its terms, that provision makes no distinction between “the United States Government or a State or an Indian tribe.” 42 U.S.C. § 9607(a)(4)(A). Each of these sovereigns is entitled to “all costs” of a response action, including related “enforcement activities.” *See Reardon v. United States*, 947 F.2d 1509, 1514 (1st Cir. 1991) (en banc) (“We cannot give the definition [in section 101(25)] inconsistent readings within the statute.”). It follows that section 107(a)(4)(A) “permits the United States Government or a State or an Indian tribe to recover all ‘reasonable attorney fees’ ‘attributable to the litigation as a part of its response costs’ if it is the ‘prevailing party.’” *Fireman’s Fund*, 302 F.3d at 953 (quoting *Chapman*, 146 F.3d at 1175–76).

2

Teck contends that *Chapman* does not apply here because its holding is tied to the specific facts of that case. In *Chapman*, EPA ordered the defendant to remove

hazardous substances from the site, and when the defendant failed to comply, EPA itself initiated a response action. 146 F.3d at 1168–69. EPA then requested repayment for its response costs, and only after the defendant refused to pay did the United States bring a response costs action. *Id.* at 1169. Teck maintains that the Tribes’ response costs action is distinguishable because it is “not premised on a refused order or a refusal to fund response costs.”

We disagree. Neither background fact identified by Teck was material to the outcome in *Chapman*. *See id.* at 1173–76. Litigation may not be necessary if a defendant is cooperative, but CERCLA does not limit a government’s recovery of attorney’s fees just to those response costs actions that are absolutely unavoidable. And we follow the other circuits that have considered this issue, which have held that a government’s response costs action amounts to an “enforcement activit[y]” without so much as mentioning a requirement that there first be a disobeyed cleanup order or an unsuccessful repayment negotiation. *See United States v. Dico, Inc.*, 266 F.3d 864, 878 (8th Cir. 2001); *B.F. Goodrich v. Betkoski*, 99 F.3d 505, 528, 530 (2d Cir. 1996), *overruled on other grounds by United States v. Bestfoods*, 524 U.S. 51 (1998); *see also Reardon*, 947 F.2d at 1514 (“[I]f ‘enforcement activities’ in § 9601(25) is interpreted to exclude the expenses of cost recovery actions, this would have the effect of denying the government significant amounts of attorney’s fees—which was certainly not the intent of Congress.”).

Because this case is squarely governed by *Chapman*, we conclude that the Colville Tribes are entitled to collect their reasonable attorney’s fees for prevailing in their response costs action against Teck. *See* 146 F.3d at 1176; *see also Fireman’s Fund*, 302 F.3d at 953.

3

Teck also tries to evade the significance of *Chapman* by raising several novel challenges to the district court’s award of attorney’s fees.

First, Teck asserts that the Tribes do not have the requisite “enforcement authority” to recover the costs of any enforcement activities connected with the Upper Columbia River Site. Teck reasons that the Tribes lack the response authority bestowed on the federal government by section 104, 42 U.S.C. § 9604, which Teck claims that EPA can—but here did not—“delegate” to a state, political subdivision, or Indian tribe under section 104(d)(1)(A), *id.* § 9604(d)(1)(A). But this provision is irrelevant. Section 104(d)(1)(A) does not address delegation at all; it simply “authorizes EPA to enter into cooperative agreements or contracts with a state, political subdivision, or a federally recognized Indian tribe to carry out [Superfund]-financed response actions.” 40 C.F.R. § 300.515(a)(1). EPA’s regulations explain that the agency “use[s] a cooperative agreement to transfer funds”—not federal authority—“to those entities to undertake Fund-financed response activities.” *Id.* And in any event, the enforcement authority at issue is whether the Tribes can bring a lawsuit to recover their response costs. As Teck conceded at oral argument, the Tribes “clearly can bring a claim for recovery of response costs” under section 107(a)(4)(A), so they have all the authority needed to “enforce [this] liability provision.” *Reardon*, 947 F.2d at 1512–13; *see also Washington State Dep’t of Transp. v. Washington Nat. Gas Co., Pacifcorp*, 59 F.3d 793, 801 (9th Cir. 1995) (“States [and tribes] need not obtain EPA authorization to clean up hazardous waste sites and recover costs from potentially responsible parties.”).

Teck next contends that the Tribes cannot recover their attorney's fees because this case is not "related to" any response action at the Site, as required by section 101(25). In another statutory context, the Supreme Court has explained that the "ordinary meaning of [the] words 'related to' is a broad one," meaning "having a connection with or reference to," though that breadth "does not mean the sky is the limit." *Dan's City Used Cars, Inc. v. Pelkey*, 569 U.S. 251, 260 (2013) (alterations omitted) (quoting *Rowe v. New Hampshire Motor Transp. Ass'n*, 552 U.S. 364, 370 (2008)). Adopting that standard here, we conclude that an enforcement activity falls outside of section 101(25) only if it has an inadequate connection with an existing or potential response action at a given site. Although some enforcement activities can be conducted only after a response action has begun, some can be conducted beforehand. For instance, a cash-strapped property owner may wish to locate solvent polluters to split the tab before incurring response costs, and EPA may well review and approve a party's cleanup plans before any response activities are conducted. *See, e.g., Key Tronic*, 511 U.S. at 820 (covering PRP searches); *United States v. E.I. Dupont De Nemours & Co. Inc.*, 432 F.3d 161, 163, 173 (3d Cir. 2005) (en banc) (covering EPA's review, approval, and monitoring of proposed cleanup activities). Nothing in section 101(25)'s text or the case law interpreting it requires one activity to come before the other for them to be related. The Tribes have conducted investigative activities during the course of this litigation, so the district court correctly held that this response costs suit is "related to" a response action at the Site.

Last, Teck takes issue with the attorney's fees associated with the Tribes' declaratory judgment claim. CERCLA provides that any court awarding response costs in a section 107(a) action "shall enter a declaratory judgment on liability

for response costs . . . that will be binding on any subsequent action or actions to recover further response costs.” 42 U.S.C. § 9613(g)(2). As a result, the declaration of Teck’s liability for future response costs is simply an additional form of relief that the Tribes obtained through the same efforts underlying their successful response costs action. *See City of Colton v. Am. Promotional Events, Inc.-W.*, 614 F.3d 998, 1007 (9th Cir. 2010). Teck responds that declaratory relief did not need to be granted to compel Teck to fund a response action, but this mandatory relief does not require a showing of necessity. Regardless of whether future response costs are speculative—or even, as Teck insists, affirmatively unlikely—CERCLA requires that a successful plaintiff in a section 107(a) action be awarded both response costs and declaratory relief. *See* 42 U.S.C. § 9613(g)(2).

4

Teck also challenges the reasonableness of the attorney’s fees award under the standard set forth in *Hensley v. Eckerhart*, 461 U.S. 424 (1983). Teck contends that if we agree that the Tribes were not entitled to any costs of removal, then we should conclude that the district court misjudged the degree of the Tribes’ success. But we do not agree with Teck’s premise, so we reject its conclusion. The district court did not abuse its discretion in finding the \$4.86 million attorney’s fees award to be reasonably proportionate to the properly awarded \$3.39 million for investigation expenses. *See Webb v. Ada Cty.*, 285 F.3d 829, 837 (9th Cir. 2002). The ratio between attorney’s fees and the degree of success obtained is also reasonable when one considers that the Tribes earned a valuable declaratory judgment, which “confer[s] substantial benefits not measured by the amount of damages awarded.” *Hyde v. Small*, 123 F.3d 583, 584 (7th Cir. 1997); *see also In re Dant*

& *Russell, Inc.*, 951 F.2d 246, 249–50 (9th Cir. 1991) (noting that CERCLA plaintiffs often “spend some money responding to an environmental hazard” and then bring a response cost action to recover their “initial outlays” and to obtain “a declaration that the responsible party will have continuing liability for the cost of finishing the job”).

In sum, we conclude that the district court properly awarded the Colville Tribes their attorney’s fees, and we do not disturb the finding that approximately \$4.86 million is a reasonable award in this case.

IV

The final question presented is whether the district court erred in granting summary judgment on Teck’s divisibility defense to joint and several liability.¹³

We review the district court’s grant of summary judgment *de novo*, and we may affirm on any basis supported by the record. *Kohler v. Bed Bath & Beyond of California, LLC*, 780 F.3d 1260, 1263 (9th Cir. 2015). Viewing the evidence in the light most favorable to the nonmoving party, we must determine whether there is “no genuine dispute as to any material fact,” Fed. R. Civ. P. 56(a), and whether the district court correctly applied the relevant substantive law, *see Devereaux v. Abbey*, 263 F.3d 1070, 1074 (9th Cir. 2001) (en banc).

¹³ Teck’s closing renews its past contentions that this case presents an extraterritorial application of CERCLA and that Teck cannot be held liable as an “arranger” under section 107(a)(3), 42 U.S.C. § 9607(a)(3). We rejected these very arguments more than a decade ago in *Pakootas I*, 452 F.3d at 1082, and we are bound by that opinion as the law of the case. *See Old Pers. v. Brown*, 312 F.3d 1036, 1039 (9th Cir. 2002).

A

The district court granted summary judgment on Teck's divisibility defense on the ground that Teck did not have enough evidence to establish the defense. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). In opposing the motions for summary judgment, Teck relied almost exclusively on the declaration and report prepared by its divisibility expert, Dr. Mark Johns.

Dr. Johns's report set out to estimate the contributions from all of the sources of six heavy metals—arsenic, cadmium, copper, lead, mercury, and zinc—that are found in the Upper Columbia River and that allegedly originated from Teck's smelter. The report began by cataloging many potential pollution sources dating back to the nineteenth century. These sources throughout the River's watershed include 487 mines, eight mills, six smelters, several municipal wastewater treatment plants and industrial operations, urban runoff from the City of Spokane, natural erosion, and landslides. The materials containing heavy metals could range from waste rock and tailings to particles carried by rainwater, mine water seepage, and liquid effluent; from finely eroded soils to large masses of clay and rock. The report concluded that Teck's slag is concentrated near the U.S.-Canada border and is not found more than 45 miles downriver. By contrast, one smelter dumped slag into the Upper Columbia River a few miles south of the border; other smelter slag, mine waste, and soil erosion could have reached the River at more than ten confluences with its tributaries; some wastewater treatment plants and industrial sources discharged liquid effluent to the River north of the international border; the Spokane River contributed waste from mining, smelting, wastewater treatment plants, industrial sources, and urban runoff about

100 miles south of the border; and landslides occurred on the banks of Lake Roosevelt as far as 150 miles downriver.

The report then identified two methods for apportioning liability for the River's pollution, and Dr. Johns's declaration identified a third possible method not set forth in his report but identified at his deposition.

The primary apportionment method employed a "metals loading approach." This approach was based on the premise that "[t]he harm in this case is the extent of sediment contamination by hazardous substances released at the Site." To calculate the release of hazardous substances from Teck's wastes, Dr. Johns credited a study by another one of Teck's experts concluding that "no verifiable amount of hazardous substances were measured leaching from Teck's slag" and that no dissolved metals from Teck's effluent were even found at the Site. Dr. Johns then expressed his opinion that because he believed Teck's wastes are harmless, Teck should be apportioned 0% of the liability for the Upper Columbia River's contamination.

As an alternative, Dr. Johns conducted a "flux" apportionment analysis. Unlike the primary apportionment method, this analysis assumed that the relevant harm is contamination of the River's "surface water." Dr. Johns evaluated the six heavy metals' net flux from contaminated sediment into overlying water. This analysis assumed that the "diffusion boundary layer to the sediment-water interface" was limited to the top five centimeters of sediment. Dr. Johns then estimated the mass of Teck's slag present in this top portion of sediment in the northernmost 45 miles of the Site. Using a "theoretical" release rate for zinc—the only metal "measured to even theoretically release from slag"—Dr. Johns calculated a maximum daily release rate for Teck's slag. He compared this rate against the zinc

flux rate for all remaining sediment in this area, as estimated by another one of Teck's experts, and concluded that Teck should be apportioned a 0.05% share of liability.

Finally, Dr. Johns testified about a potential mass-based approach to account for Teck's share of metals found at the Upper Columbia River Site. This approach assumed that any "placement of hazardous substances" into the Site is the relevant harm. Dr. Johns estimated the mass of metals found in Teck's slag and materials from other sources at the Site, but he ultimately did not use this method to determine Teck's portion of liability.

B

The threshold issue on appeal is how to review divisibility evidence on summary judgment.

1

CERCLA liability is ordinarily joint and several, except in the rare cases where the environmental harm to a site is shown to be divisible. *United States v. Coeur d'Alenes Co.*, 767 F.3d 873, 875 (9th Cir. 2014); *see also* Martha L. 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) (counting only four decisions finding divisibility out of 160 cases).

In *Burlington Northern*, the Supreme Court confirmed that "[t]he universal starting point for divisibility of harm analyses in CERCLA cases' is § 433A of the Restatement (Second) of Torts." *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 614 (2009) (*Burlington Northern II*) (quoting *United States v. Hercules, Inc.*, 247 F.3d 706, 717 (8th Cir. 2001)). Under the Restatement,

“when two or more persons acting independently cause a distinct or single harm for which there is a reasonable basis for division according to the contribution of each, each is subject to liability only for the portion of the total harm that he has himself caused.” *Id.* (quoting *United States v. Chem-Dyne Corp.*, 572 F. Supp. 802, 810 (S.D. Ohio 1983)) (alteration omitted). “But where two or more persons cause a single and indivisible harm, each is subject to liability for the entire harm.” *Id.* (quoting *Chem-Dyne*, 572 F. Supp. at 810).

The divisibility analysis involves two steps. First, the court considers whether the environmental harm is theoretically capable of apportionment. See Restatement (Second) of Torts § 434 cmt. *d.* This is primarily a question of law. See *United States v. Burlington N. & Santa Fe Ry. Co.*, 520 F.3d 918, 942 (9th Cir. 2008) (*Burlington Northern I*), *rev’d on other grounds*, 556 U.S. 599 (2009); *United States v. NCR Corp.*, 688 F.3d 833, 838 (7th Cir. 2012); *Hercules*, 247 F.3d at 718; *Bell Petroleum*, 3 F.3d at 896. Underlying this question, however, are certain embedded factual questions that must necessarily be answered, such as “what type of pollution is at issue, who contributed to that pollution, how the pollutant presents itself in the environment after discharge, and similar questions.” *NCR*, 688 F.3d at 838. Second, if the harm is theoretically capable of apportionment, the fact-finder determines whether the record provides a “reasonable basis” on which to apportion liability, which is purely a question of fact. Restatement (Second) of Torts §§ 433A(1)(b), 434 cmt. *d.*; see also *Burlington Northern II*, 566 U.S. at 615; *NCR*, 688 F.3d at 838; *Hercules*, 247 F.3d at 718; *Bell Petroleum*, 3 F.3d at 896.

At both steps, the defendant asserting the divisibility defense bears the burden of proof. *See* Restatement (Second) of Torts § 433B(2); *see also Burlington Northern II*, 556 U.S. at 614; *NCR*, 688 F.3d at 838. This burden is “substantial” because the divisibility analysis is “intensely factual.” *United States v. Alcan Aluminum Corp.*, 964 F.2d 252, 269 (3d Cir. 1992) (*Alcan-Butler*). The necessary showing requires a “fact-intensive, site-specific” assessment, *PCS Nitrogen Inc. v. Ashley II of Charleston LLC*, 714 F.3d 161, 182 (4th Cir. 2013), generating “concrete and specific” evidence, *Hercules*, 247 F.3d at 718. But that is not to say that the defendant’s proof must rise to the level of absolute certainty. *See Burlington Northern II*, 556 U.S. at 618. Rather, the defendant must show by a preponderance of the evidence—including all logical inferences, assumptions, and approximations—that there is a reasonable basis on which to apportion the liability for a divisible harm. *See* Restatement (Second) of Torts § 433A cmt. *d*; *see also, e.g., Hercules*, 247 F.3d at 719; *Bell Petroleum*, 3 F.3d at 904 n.19.

2

In the context of a motion for summary judgment, however, the burdens operate somewhat differently. Teck’s answer pleaded divisibility as an affirmative defense for which Teck would bear the burden of proof at trial.¹⁴ To defeat this affirmative defense on summary judgment, the Colville Tribes and the State of Washington took on both the

¹⁴ The Tribes rightly note that “affirmative defense” is something of a misnomer because divisibility is only a partial defense to liability. But for the purposes of Federal Rule of Civil Procedure 8(c)(1), even a partial defense that introduces new matter into a case must be pleaded affirmatively. 5 Charles Alan Wright & Arthur R. Miller, *Federal Practice and Procedure* § 1273 (3d ed. 2018).

initial burden of production and the ultimate burden of persuasion. *See Nissan Fire & Marine Ins. Co. v. Fritz Cos., Inc.*, 210 F.3d 1099, 1102 (9th Cir. 2000). Their burden of production required them to show that Teck did not have sufficient evidence to prove its defense at trial. *See id.* If they carried this burden of production, then Teck had to produce enough evidence in support of its defense to create a genuine issue of material fact. *See id.* at 1103. The Tribes' and the State's burden of persuasion on their motions required them to persuade the court that despite Teck's evidence, there was no genuine issue of material fact for trial. *See id.* at 1102.

Here, the Tribes and the State pointed to an absence of evidence sufficient to support either step of Teck's divisibility defense. Teck then had to furnish all evidence necessary to show both that the harm is theoretically capable of apportionment and that there is a reasonable basis for apportioning liability. *See, e.g., Chem-Dyne*, 572 F. Supp. at 811. Specifically, Teck had to submit "evidence of the appropriate dividend and divisor"—the overall harm, and Teck's apportioned share. Steve C. Gold, *Dis-Jointed? Several Approaches to Divisibility After Burlington Northern*, 11 Vt. J. Envtl. L. 307, 332 (2009). The Tribes and the State bore the burden of persuading the court that this evidence was inadequate.

3

Teck counters that the first question on the motions for summary judgment is whether the alleged harm could be divided "under any set of facts," which would mean Teck had no burden of production on the overall harm.

We disagree. Even on a Rule 12(b)(6) motion to dismiss—that is, *before* discovery—a non-moving party is

held to more than an “any set of facts” standard. *See Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 562–63 (2007). It is not the court’s job to envision hypothetical scenarios in which a mix of pollution from multiple sources could potentially be divisible. Rather than relying on judicial imagination, Teck was required to “make a showing sufficient to establish the existence of an element essential to” its divisibility defense: that the harm is theoretically capable of division. *Celotex*, 477 U.S. at 322.

4

Teck then argues that, at most, its burden of production extended only to addressing the harm from the specific pollutants that Teck is alleged to have contributed to the Site. In the operative complaints, the Tribes and the State sought “the costs of remedial or removal actions, natural resource damage assessment costs, and natural resource damages that [plaintiffs] have incurred and will continue to incur at the Upper Columbia River and Lake Roosevelt where hazardous substances have come to be located.” The district court read these pleadings as alleging a harm caused by “all of the hazardous substances released or threatened to be released from the Site, from whatever source.” But in Teck’s view, the harm pleaded is impliedly limited to the six hazardous substances alleged to have originated from the Trail smelter, so Teck contends that it can disregard all other types of pollution found with its wastes at the Site.

The environmental harm in this case is not so limited. Section 107(a) imposes strict liability on all PRPs, even if those persons are in fact not responsible for any pollution at all. *United States v. Atl. Research Corp.*, 551 U.S. 128, 136 (2007). That is because “Congress has . . . allocated the burden of disproving causation to the defendant who profited from the generation and inexpensive disposal of hazardous

waste.” *Monsanto*, 858 F.2d at 170. It certainly is not always an easy task to determine the entire extent of contamination at a site. *See NCR*, 688 F.3d at 841. The Restatement makes clear, however, that “[a]s between the proved tortfeasor who has clearly caused some harm, and the entirely innocent plaintiff, any hardship due to lack of evidence as to the extent of the harm should fall upon the former.” Restatement (Second) of Torts § 433B cmt. *d*.

In line with CERCLA’s pleading requirements, the complaints here identified six of Teck’s pollutants just to establish the company’s liability. The complaints cannot be fairly read as needlessly narrowing this suit to recovery for harm caused solely by those pollutants. As a result, Teck was required to produce evidence showing divisibility of the entire harm caused by Teck’s wastes combined with all other River pollution—not just the harm from sources of Teck’s six metals alone.¹⁵

C

With the standards of review thus established, we turn to evaluating the evidence submitted on summary judgment.

1

The district court primarily granted summary judgment on the ground that Teck did not have enough evidence to show that the harm at issue is theoretically capable of apportionment. The court reasoned that Teck’s evidence

¹⁵ Teck does not contend, nor does the record reflect, that Teck’s heavy metals formed an area of pollution that was distinct from areas with non-metal pollutants. And that would be an argument for apportioning liability based on distinct harms, not a single divisible harm. *See* Restatement (Second) of Torts § 433A(1).

could not establish divisibility because it failed to account for the entire harm at the Site. Reviewing the parties' submissions *de novo*, we agree that there was no genuine dispute of fact for trial on the question whether the harm to the Upper Columbia River is theoretically capable of apportionment.

At the first step of the divisibility analysis, a court cannot say whether a harm "is, by nature, too unified for apportionment" without knowing certain details about the "nature" of the harm. *Burlington Northern I*, 520 F.3d at 942, *rev'd on other grounds*, 556 U.S. 599 (2009); *see also Bell Petroleum*, 3 F.3d at 895 ("The nature of the harm is the key factor in determining whether apportionment is appropriate."). As one commentator has explained: "Even if a party's waste stream can be separately accounted for, its effect on the site and on other parties' wastes at the site must also be taken into account." William C. Tucker, *All Is Number: Mathematics, Divisibility and Apportionment Under Burlington Northern*, 22 *Fordham Env'tl. L. Rev.* 311, 316 (2011). That is, "a defendant must take into account a number of factors relating not just to the contribution of a particular defendant *to* the harm, but also to the *effect* of that defendant's waste on the environment." *Id.* Those factors generally include when the pollution was discharged to a site, where the pollutants are found, how the pollutants are presented in the environment, and what are the substances' chemical and physical properties. *See NCR*, 688 F.3d at 838. Chief among the relevant properties are "the relative toxicity, migratory potential, degree of migration, and synergistic capacities of the hazardous substances at the site." *United States v. Alcan Aluminum Corp.*, 990 F.2d 711, 722 (2d Cir. 1993) (*Alcan-PAS*).

Teck's divisibility expert identified hundreds of heavy metal sources that may have contributed to Upper Columbia River's pollution throughout its watershed over the course of more than a century. At Teck's direction, however, Dr. Johns expressly curtailed his divisibility analysis to the six hazardous substances allegedly "attributable to Teck." But Teck did not claim that these were the only pollutants found at the Site.

Both the Tribes and the State pointed out this deficiency in their motions for summary judgment. The Tribes cited evidence of the Site containing the hazardous substances antimony, beryllium, chromium, nickel, radon, selenium, thallium, 2,3,7,8-tetrachlorodibenzo-pdioxin, polycyclic aromatic hydrocarbons ("PAHs"), polychlorinated biphenyls ("PCBs"), and DDTs. And one of the State's experts submitted a declaration stating that EPA was evaluating the Site for around 199 contaminants of concern, including PAHs, PCBs, dioxins and furans, and pesticides. This declaration further showed that sediment samples found Teck's metals physically mixed with other hazardous substances in the northern stretches of the Site. Zinc, for example, "was detected with other metals like antimony, arsenic, cadmium, copper, mercury, and lead, and also in several instances with up to 14 reported organic PAH chemicals present, as well as less frequently with pesticides like 2,4-DDT, 4,4 DDE, and 4,4-DDT."

Despite this evidence, Teck's opposition to the motions for summary judgment continued to rely on Dr. Johns's limited analysis. Teck reiterated its assumption that the Site's harm was solely traceable to the specific metals that Teck discharged. While conceding that its slag was "co-located" with "other slag and tailings," Teck made no mention of its pollutants being found alongside non-metal

pollutants. And Teck relied on Dr. Johns's view that if Teck's slag "is not leaching," as he believed, then "the location of the slag in sediment is irrelevant to the apportionment analysis."

On these points Teck erred. At the outset, Teck repeatedly misapprehended the harm here. For the purpose of apportioning CERCLA liability, the relevant "harm" is the entirety of contamination at a site that has caused or foreseeably could cause a party to incur response costs, suffer natural resource damages, or sustain other types of damages cognizable under section 107(a)(4). *See, e.g., Burlington Northern II*, 556 U.S. at 618 (suggesting that the harm is "the overall site contamination requiring remediation" in a response cost action); *NCR*, 688 F.3d at 840–41 ("[T]he underlying harm caused [is] the creation of a hazardous, polluted condition . . ."); *Burlington Northern I*, 520 F.3d at 939 (holding that each share of liability for the harm is "the contamination traceable to each defendant"), *rev'd on other grounds*, 556 U.S. 599 (2009); *Chem-Nuclear Sys., Inc. v. Bush*, 292 F.3d 254, 259 (D.C. Cir. 2002) ("[T]he harm at issue was the release or threatened release of hazardous substances into groundwater" (internal quotation marks omitted)).

Dr. Johns instead based his apportionment methods on three inconsistent notions of the Site's harm: (1) "the extent of sediment contamination by hazardous substances released at the Site"; (2) "harm [to] the river," namely "the surface water"; and (3) "the placement of hazardous substances" at the Site. Dr. Johns's first and second measures of the harm are incomplete because they look only to the actual releases of hazardous substances from toxic wastes at the Site, ignoring the fact that wastes with a "threatened release of hazardous substances" are likewise contamination that could

give rise to response costs. *Chem-Nuclear Sys.*, 292 F.3d at 259 (emphasis added); *see also* 42 U.S.C. § 9607(a)(4). Further, the second measure excludes contamination deeper than five centimeters, even though remedial activities like dredging would obviously need to excavate these materials too. Only Dr. Johns's third apportionment method—the approach that he sketched briefly in his deposition rather than outlining in his detailed report—correctly recognized that the presence of contaminants throughout the Site is the relevant harm.

More importantly, all of Dr. Johns's analysis overlooked the fact that “the mixing of the wastes raises an issue as to the divisibility of the harm.” *Chem-Dyne*, 572 F. Supp. at 811. Mixing of pollutants “is not synonymous with indivisible harm,” *Alcan-PAS*, 990 F.2d at 722, but it does create a rebuttable presumption of such harm, *see id.*; *see also Monsanto*, 858 F.2d at 172; *Chem-Dyne*, 572 F. Supp. at 811. The State put this presumption at issue by submitting evidence of Teck's metals being found with unrelated pollutants, yet Teck chose not to address the potential for synergistic harm from these pollution hotspots.

Teck responds that the only relevant synergistic effects are from substances that are chemically commingled, not just physically interspersed. To that end, Dr. Johns opined that Teck's slag cannot chemically interact with other substances based on his understanding that the slag does not leach pollutants.

We are not persuaded. Even if pollutants do not chemically interact, their physical aggregation can cause disproportionate harm that is not linearly correlated with the amount of pollution attributable to each source. In *Monsanto*, a key case addressing chemical commingling, the Fourth Circuit explained: “Common sense counsels that a

million gallons of certain substances could be mixed together without significant consequences, whereas a few pints of others improperly mixed could result in disastrous consequences.” 858 F.2d at 172. Also common sense, however, is the old adage that sometimes dilution is the solution to pollution. See, e.g., Carol M. Browner, *Environmental Protection: Meeting the Challenges of the Twenty-First Century*, 25 Harv. Envtl. L. Rev. 329, 331 (2001). For example, “[i]f several defendants independently pollute a stream, the impurities traceable to each may be negligible and harmless, but all together may render the water entirely unfit for use.” W. Keeton et al., *Prosser and Keeton on Law of Torts* § 52, p. 354 (5th ed. 1984). The Second Circuit thus allowed a PRP to be apportioned no liability if “its pollutants did not contribute more than background contamination and also cannot concentrate,” provided that there were no EPA thresholds below those ambient contaminant levels. *Alcan-PAS*, 990 F.2d at 722. And the Third Circuit has held that “the fact that a single generator’s waste would not in itself justify a response is irrelevant . . . , as this would permit a generator to escape liability where the amount of harm it engendered to the environment was minimal, though it was significant when added to other generators’ waste.” *Alcan-Butler*, 964 F.2d at 264.

Without knowing more about the accumulation of Teck’s wastes with unrelated pollutants, with like materials, and by themselves, a court could not tell whether “their presence is harmful and the River must be cleaned.” *NCR*, 688 F.3d at 840. That question is particularly important here because the most likely remedy for the Site will involve cleaning up some, but not all, of the contaminants in the 150-mile long stretch of river. See 40 C.F.R. § 300.430(f)(1)(ii)(D) (requiring EPA to select a cost-

effective remedy). More intensive remediation will no doubt be prioritized where the level of contamination, and the accompanying danger, is the greatest.

In conclusion, once the State identified mixing of Teck's metals with non-metal pollutants, Teck was required to rebut the presumption that these pollution hotspots caused greater harm than the sum of the individual pollutants, each of which may be so widely dispersed as to be harmless on its own. Teck did not carry its burden of showing that the harm is theoretically capable of apportionment by simply "considering the effects of its waste in isolation from the other contaminants at a site." *United States v. Alcan Aluminum Corp.*, 315 F.3d 179, 187 (2d Cir. 2003) (*Alcan-Consolidated*).

On a related issue concerning the significance of the buildup of slag, we again reject Teck's contentions. Contrary to Dr. Johns's mistaken assumption, the buildup of Teck's slag with other metal-bearing slag or tailings and even on its own affects the extent of the harm. Disproportionate harm can occur whether or not the slag actively leaches pollutants because, as mentioned, the mere *threat* of leaching can prompt a response action, and the accumulation of materials that pose a potential risk makes a response action more likely. *See* 42 U.S.C. § 9607(a)(4); *Chem-Nuclear Sys.*, 292 F.3d at 259. Teck responds that Dr. Johns's declaration at least creates a disputed issue of fact on this point that precludes summary judgment, but in light of the statutory scheme, no rational trier of fact could believe this unsupported assumption that the distribution of the slag is irrelevant. *See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). And because Teck's slag itself contains a mixture of pollutants, Teck also had to proffer evidence that the clustering of these pollutants did

not create disproportionate environmental harm. No reasonable factfinder could otherwise assume, as Dr. Johns's apportionment methods require, that rocks and sand from landslides and erosion, for example, are candidates for remediation on par with Teck's toxic slag. *See id.*

Finally, because the divisibility of the Upper Columbia River's contamination turns on the specific facts of that contamination, Teck is also mistaken in arguing that river pollution is categorically divisible under the Restatement. *See NCR*, 688 F.3d at 838. Besides, the Restatement provides dueling examples of river pollution, and the types of harm for which section 107(a) provides damages—and which the Tribes seek—are more akin to the illustration of an indivisible harm than a divisible harm. *Compare* Restatement (Second) of Torts § 433A cmt. *i*, illus. 15 (river pollution poisoning animals is indivisible), *with id.* cmt. *d*, illus. 5 (river pollution depriving a riparian owner of the use of water for industrial purposes is divisible). The Seventh Circuit reached the same conclusion in *NCR*, writing: “The problem here is not that downstream factories were prevented from using the [river] for some period, but that wholly apart from water usage, a toxic chemical in the water causes significant and widespread health problems in both animals and in humans.” 688 F.3d at 842.

We hold that Teck did not make a sufficient showing to establish that liability for environmental harm to the Site is theoretically capable of apportionment. We fully agree with the district court that “because [Teck] has failed to account for all of the harm at the [Upper Columbia River] Site, it cannot prove that harm is divisible.” And to borrow the apt words of *Alcan-Consolidated*, a case involving a defendant-appellant not carrying its burden of production at trial rather than on a motion for summary judgment,

appellant did not satisfy its substantial burden with respect to divisibility because it failed to address the totality of the impact of its waste at [the Site]; it ignored the likelihood that the cumulative impact of its waste [mixture] exceeded the impact of the [mixture's] constituents considered individually, and neglected to account for the [mixture's] . . . physical interaction with other hazardous substances already at the site.

315 F.3d at 187. Although Teck must only produce evidence sufficient to create a genuine issue of material fact at the summary judgment stage, for the reasons stated above, it has not done so here.

2

As an additional ground for summary judgment, the Tribes and the State argued that Teck did not have enough evidence to show a reasonable basis for apportioning liability. The district court briefly considered this argument and again sided with the plaintiffs on the ground that Teck did not show that the chosen proxy—volume of hazardous substances deposited in the Upper Columbia River—was proportional to the environmental harm. We agree that the lack of a reasonable factual basis for apportioning Teck's liability provides yet another reason for upholding the district court's grant of summary judgment on Teck's divisibility defense.

A defendant asserting a divisibility defense must show that “there is a reasonable basis for determining the contribution of each cause to a single harm.” *Burlington Northern II*, 556 U.S. at 614 (quoting Restatement (Second) of Torts § 433A(1)(b)). What is reasonable in one case may

not be in another, so apportionment methods “vary tremendously depending on the facts and circumstances of each case.” *Hercules*, 247 F.3d at 717. Still, the basis for apportionment may rely on the “simplest of considerations,” most commonly volumetric, chronological, or geographic factors. *Burlington Northern II*, 556 U.S. at 617–18 (quoting *Burlington Northern I*, 520 F.3d at 943). The only requirement is that the record must support a “reasonable assumption that the respective harm done is proportionate to” the factor chosen to approximate a party’s responsibility. *Bell Petroleum*, 3 F.3d at 896, 903 (quoting Restatement (Second) of Torts § 433A cmt. d).

Here, no rational trier of fact could find that Teck has provided a reasonable basis for apportionment. All three of Dr. Johns’s apportionment methods are variants of a volumetric approach in that they are premised on an estimate of the mass of pollutants at the Site. But as the Fourth Circuit has noted, “[v]olumetric contributions provide a reasonable basis for apportioning liability only if it can be reasonably assumed, or it has been demonstrated, that independent factors had no substantial effect on the harm to the environment.” *Monsanto*, 858 F.2d at 172 n.27. Teck “presented no evidence, however, showing a relationship between waste volume . . . and the harm at the site.” *Id.* at 172. Instead, the available record undercuts the reasonableness of Teck’s assuming a proportional relationship between waste volume alone and the Site’s contamination, for two main reasons.

First, as the Tribes point out, Teck’s evidence shows that geographic factors clearly affected the river’s contamination throughout this massive site. The Trail smelter’s pollution entered the Upper Columbia River at the international border and, according to Dr. Johns, Teck’s slag deposits extend only

45 river miles south. But Dr. Johns accounted for the potential contribution of metals from sources as far as 150 miles downriver, many of which were concentrated at more than ten different confluences between the River and its tributaries. Further, conditions varied greatly throughout the Site; the River is free flowing close to the Canadian border, causing less sediment to accumulate, but it eventually slows and forms Lake Roosevelt, preserving more sediment. As discussed above, these differences in pollution hotspots will doubtless entail varying remediation needs and injuries to the natural environment. See *Hercules*, 247 F.3d at 717. But even if the harm from those hotspots is capable of division, the fact that contamination strongly correlates with geography means that this is an independent factor that substantially affects the environmental harm at issue. Any proxy for the harm that did not account for geography thus could not be found reasonable.

Second, Teck's evidence also shows that the passage of time could have a substantial impact on the river's contamination given the long time period under consideration. Dr. Johns accounted for materials deposited into the Columbia River from the late 1800s through the present. He testified in his deposition that over time, the accumulation of new sediment could bury old contaminants, and in his declaration he said that remediation is not needed if contaminants are buried beneath at least five centimeters of sediment. Further, Dr. Johns acknowledged that over time, slag may slowly release—and thus lose—hazardous substances to the surrounding environment. The upshot is that older wastes may present less of a need for cleanup than more recently disposed wastes. On this record, no reasonable fact-finder could assume that the time at which wastes entered the River is irrelevant to determining the extent of harmful contamination at the Site.

Other independent factors could also affect the environmental harm here, but were similarly ignored by Teck. To take a ready example, some pollutants in the Upper Columbia River may be more toxic than others, like lead compared to zinc. And pollutants may have different migratory potentials based on the media in which they are deposited, such as glassy slag, powdery tailings, or suspended particulates. See *Monsanto*, 858 F.2d at 173 n.26; see also, e.g., *United States v. Manzo*, 279 F. Supp. 2d 558, 572–73 (D.N.J. 2003) (rejecting a volumetric apportionment theory where the defendants did not account for relative toxicity and migratory potential).

Absent evidence of how these factors affected the contamination of the Site, any apportionment would have been arbitrary. The district court properly “refused to make an arbitrary apportionment for its own sake.” *Burlington Northern II*, 556 U.S. at 614–15 (quoting Restatement (Second) of Torts § 433A cmt. *i*). But Teck of course can always bring a contribution action under section 113(f), 42 U.S.C. § 9613(f), against other pollution sources it identified, which “mitigates any inequity arising from the unavailability of apportionment.” *PCS Nitrogen*, 714 F.3d at 182.

In holding that Teck did not carry its burden of production, we do not mean to suggest that Teck had to rush the ongoing RI/FS and exhaustively document every contaminant at the Site to save its divisibility defense from summary judgment. That was not required. What was required, however, was that Teck survey the Site, “comprehensively and persuasively address the effects of its waste,” and come up with an apportionment method that a rational trier of fact could find reasonable. *Alcan-Consolidated*, 315 F.3d at 187. Teck did not do so here.

V

For the foregoing reasons, we affirm the district court's judgment holding Teck jointly and severally liable for the Colville Tribes' costs of response.

AFFIRMED.