UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF CALIFORNIA

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CITY OF WEST SACRAMENTO, CALIFORNIA; and PEOPLE OF THE STATE OF CALIFORNIA,

Plaintiffs,

v.

R AND L BUSINESS MANAGEMENT, a California corporation, f/k/a STOCKTON PLATING, INC., d/b/a CAPITOL PLATING, INC., a/k/a CAPITOL PLATING, a/k/a CAPITAL PLATING; CAPITOL PLATING, INC., a dissolved California corporation; ESTATE OF GUS MADSACK, DECEASED; ESTATE OF CHARLES A. SCHOTZ a/k/a SHOTTS, DECEASED; ESTATE OF E. BIRNEY LELAND, DECEASED; ESTATE OF FRANK E. ROSEN, DECEASED; ESTATE OF UNDINE F. ROSEN, DECEASED; ESTATE OF NICK E. SMITH, DECEASED; RICHARD LELAND, an individual; SHARON LELAND, an individual; ESTATE OF LINDA SCHNEIDER, DECEASED; JUDY GUESS, an individual; JEFFREY A. LYON, an individual; GRACE E. LYON, an individual; THE URBAN FARMBOX LLC, a suspended California limited liability company; and DOES 1-50, inclusive,

No. 2:18-CV-00900 WBS EFB

MEMORANDUM AND ORDER RE: DEFENDANTS' DIVISIBILITY DEFENSE

Defendants.

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Plaintiffs City of West Sacramento, California and the People of the State of California (collectively, "plaintiffs") brought this action to address toxic levels of soil and groundwater resulting from the release of hazardous substances at a property once occupied by a metal plating facility. Plaintiffs' lawsuit involves the contamination at the property located at 319 3rd Street in West Sacramento, California (the "Site"). This court described much of the factual and procedural background to this lawsuit in its prior orders. (See Docket Nos. 18, 33, 44, 63, 115, & 125).

This court previously granted plaintiffs' motion for partial summary judgment and found defendants R and L Business Management ("R&L"), John Clark, and the Estate of Nick E. Smith (collectively, "defendants") liable under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9607(a). (Order at 10 (Docket No. 125).) The court then set an evidentiary hearing to determine whether defendants' contribution to the pollution at the Site is divisible from the total contamination present at the Site (the "divisibility hearing"). (Docket No. 129.) The divisibility hearing began on August 25, 2020 and lasted three days, concluding on August 27, 2020.

At the hearing, defendants offered the testimony of John Clark, the general manager who oversaw R&L's plating

operations at the Site, and Richard Leland, the owner of R&L. Defendants also offered the expert testimony of Dr. Adam Love. Plaintiffs offered the testimony of Andrew Reimanis, a hazardous substances engineer at the California Department of Toxic Substances Control ("DTSC"), and Daniel Gallagher, a senior engineering geologist at DTSC. Plaintiffs also offered the expert testimony of Dr. Anne Farr.

Based on this testimony and additional evidence submitted by the parties, the court finds that the defendants have not met their burden to prove divisibility and are therefore jointly and severally liable for the harm caused to the Site. This memorandum constitutes the court's findings of fact and conclusions of law pursuant to Federal Rule of Civil Procedure 52(a).[1]

I. Factual Background

A. Background on the Site's Characteristics and Operations

The Site at issue is a relatively small parcel--approximately 80x160 feet, or 0.3 acres--located in a portion of West Sacramento zoned "Mixed-Use Neighborhood Commercial." (Expert Report Dr. Adam Love, Ex. 3, at 5 ("Love Report") (Docket No. 180-1)[2]; Tr. of Evidentiary Hr'g 531:7-9 ("Hr'g Tr.") (Docket No. 200-202).) The Site is bordered by property containing a firehouse to the north, Third Street to the east, and largely vacant lots to the south and west. (See Love Report at 5.) The

[1] The court expresses no opinion as to whether or to what extend defendants may offset their liability by the liability of another in a subsequent contribution proceeding under CERCLA section 113. See 42 U.S.C. § 9613(f).

[2] All exhibit numbers refer to the parties' joint exhibit list for the divisibility hearing.

Site and the surrounding properties were originally developed on top of imported fill material. (Love Report at 10.)

Beginning in the 1930s, the Site was used for residential purposes and then as a bus and automobile repair facility until 1949. (Id.) Between 1949 and 1973, a series of businesses performed vehicle electroplating operations on the Site. (Id.) Operations largely took place in a single facility that abutted the northern and western property lines.[3] (See Ex. 23). The remainder of the Site consisted of a drainage area in the southwest corner and a driveway where workers would park in the southeast corner. (See id.)

Defendant R&L purchased the business operating on the Site, Capitol Plating, in 1973. (Id.) At the time, R&L was incorporated as "Stockton Plating, Inc."[4] (Hr'g Tr. 139:7-141:1.) Stockton Plating continued the same type of electroplating operations on the Site as Capitol Plating, and even retained the business' name, until 1985. (Id.) From 1985 to 1991, defendants used the Site to store bumpers. (Id.) No operations have occurred on the Site since 1991. (Id.)

B. Overview of Contamination at the Site

Various environmental consulting groups have conducted environmental investigations at the Site since 1986, including defendants' expert, who collected soil and groundwater data at the Site in 2020 for the purposes of preparing a remedial cost estimate for the Site. (See Love Report; Expert Report of Dr.

[3] This facility has since been demolished, but the concrete foundation is still present at the Site. (See Ex. 7.)

[4] Defendant would later reincorporate as "R and L Business Management" in 1996.

Anne Farr, Ex. 1, at 7-16 ("Farr Report").) Based on these investigations, DTSC has determined that chromium, copper, lead, nickel, and cadmium are present in Site soils at levels that require remediation. (Farr Report at 15.) Samples from monitoring wells and borings also show that groundwater at the Site is contaminated with nickel, copper, chromium, and cadmium, as well as a volatile organic compound ("VOC") known as 1,2-DCA. (See, e.g., id. at 10.)

C. Sources of Nickel, Copper, and Chromium Contamination

Electroplating operations at the Site have contributed to the elevated levels and distribution of nickel, copper, and chromium at the Site. (See Farr Report at 16; Love Report at 12-14.) The process of electroplating objects like car bumpers is likely to produce this type contamination because the process is so reliant on liquid solutions containing metal. (See Farr Report at 16.)

Both defendants and previous electroplating businesses at the Site primarily plated chrome bumpers. (Id.) The process involved initially stripping away the bumper's plating down to the bare metal using acid or alkaline solutions. (Id.) Any damaged portions of the bumper were then ground, polished, and straightened in two rooms located on the northeast corner of the Site. (Id.; Hr'g Tr. 110:23-112:1.) Metal previously used to plate the bumpers was released as particulates were ground off, fell through the air, and settled on the ground. (Hr'g Tr. 110:23-112:1). Defendants and their predecessors gathered these particulates with a dust collector or swept them up and eventually placed them in a dumpster located in the southwestern

portion of the Site. (Hr'g Tr. 77:14-78:11, 134:23-135:4; Ex. 23.)

Workers then placed the bumpers into tanks in the facility's plating area that contained specific metal solutions--first, copper; then, nickel; last, chromium--and applied an electric current while they were submerged. (Love Report at 6; Ex. 23.) A worker would manually lift each bumper by using two hooked rods to leverage it in and out of the tank. (Id.) Workers also lowered the bumpers in and out of tanks containing rinse water, and buffed the bumpers after each stage of the plating operation and the finish coat. (Id.)

Due to the height of the tanks, an elevated "duckboard" floor was built in the plating area so the workers could stand in the optimal position to lift and lower bumpers into the metal solutions. (Id. at 7.) The duckboard consisted of two-by-fours with half-inch spacers set in a grid pattern on the floor to create an elevated platform approximately three feet high for the workers to walk on around the tank. (Id.) Because of the space between the two-by-fours, the duckboard permitted fluid falling from above to fall directly onto the concrete floor below. (Id.) "Dragout" releases occurred when plating fluid or rinse water would drip from the bumpers as they were pulled out of one tank and moved into another. (Rebuttal Expert Report of Dr. Farr, Ex. 5, at 7-11 ("Farr Rebuttal").) These releases would not only cause plating fluid or rinse water fluid to fall onto the concrete, they would also cause the duckboard to get slippery and wet. (Id.) Platers would sometimes slip, dropping the bumpers and causing the contents of the tank to splash and fall onto the

ground. (Id. at 9.) Releases onto the concrete floor also occurred when plating tanks leaked or holes developed due to normal wear and tear, or when employees dropped the bumpers when trying to move them from one tank to the next. (Id. at 8-9.)

Any releases that reached the concrete floor in the plating room would initially flow into a floor drain that connected to a larger sewer system. (Love Report at 7.) When the floor drain was unable to handle the volume of fluid released, the plating fluids would flow out of the building through a hole in the southern wall or through the back door where they would spill out onto the ground outside. (Id.) Indeed, when Clark started as the general manager at the Capitol Plating facility in 1973, he noticed that the ground outside the hole in the wall was stained blue--evidence of releases of liquids from the plating tanks and/or rinse tanks in the plating room. (Hr'g Tr. 49:15-50:12.)

Releases of metal plating wastes occurred in three primary source areas. (See Hr'g Tr. 251:7-253:7, 597:25-598:15; Farr Report at 16.) Plating operations released metals through the footprint of the plating room and through the hole in the southern wall of the plating process building into the parking lot area. (Farr Report at 16.) Releases also occurred in the northeastern portion of the Site. (Id.)

D. Stockton Plating's Efforts to Prevent Releases

After Stockton Plating arrived at the Site in 1973, the company made several operational and structural changes to try to limit the number and magnitude of releases of plating metals to the subsurface. In 1973, Clark plugged the hole in the southern

wall of the plating facility with packed dirt to prevent releases of plating fluid and rinse water from reaching the parking lot area. (Love Report at 7; Hr'g Tr. 56:15-57:5.) Clark testified that he recalled the earthen dam failing "five to ten" times before he decided to replace it with a concrete retaining wall that surrounded the wet plating operations the next year. (Hr'g Tr. 59:14-63:4; Farr Rebuttal at 6.)

Between 1973 and 1976, Stockton Plating also installed a "counterflow" plumbing system and restrictor valves in the rinse tanks, reduced overall water usage in the rinse tanks, and installed racks above the plating tanks to reduce the number of dragout and spillover releases from the tanks and pipe rinse water directly into the sewer pump. (Love Report at 14.)

II. Legal Standard

Liability for potentially responsible parties under CERCLA "is ordinarily joint and several, except in the rare cases where the environmental harm to a site is shown to be divisible." Pakootas v. Teck Cominco Metals, Ltd., 905 F.3d 565, 588 (9th Cir. 2018) (emphasis added); see also Burlington N. & Santa Fe Ry. Co. v. United States, 556 U.S. 599, 614 (2009). The divisibility defense allows CERCLA defendants to avoid joint and several liability by showing "that a reasonable basis for apportionment exists." Burlington, 556 U.S. at 614.

"The divisibility analysis involves two steps." Pakootas, 905 F.3d at 588. First, the court determines whether the contamination at issue is "theoretically capable of apportionment." Id. "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." Id. If the CERCLA defendant carries its burden, the court will apportion liability among the responsible parties so that "each is subject to liability only for the portion of the total harm that he has himself caused." See id. (quoting United States v. Chem-Dyne Corp., 572 F. Supp. 802, 810 (S.D. Ohio 1983)) (alteration omitted). Otherwise, the responsible parties will be held jointly and severally liable so that "each is subject to liability for the entire harm." Id. (quoting Chem-Dyne, 572 F. Supp. at 810).

"[T]he defendant asserting the divisibility defense bears the burden of proof" as to both elements of the defense. Pakootas, 905 F.3d at 589; see also Burlington, 556 U.S. at 614. "This burden is 'substantial' because the divisibility analysis is 'intensely factual.'" Pakootas, 905 F.3d at 598 (quoting United States v. Alcan Aluminum Corp., 964 F.2d 252, 269 (3d Cir. 1992)). "The necessary showing requires a 'fact-intensive, site-specific' assessment," id. at 589 (quoting PCS Nitrogen Inc. v. Ashley II of Charleston LLC, 714 F.3d 161, 182 (4th Cir. 2013)), "generating 'concrete and specific' evidence," id., 905 F.3d at 589 (quoting United States v. Hercules, Inc., 247 F.3d 706, 718 (8th Cir. 2001)). While absolute certainty is not required, "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." Id.

Apportionment under the divisibility defense is

"conceptually distinct from contribution or allocation of damages." Hercules, 247 F.3d at 718. In a CERCLA §113(f) contribution action, during "the allocation phase, the only question is the extent to which a defendant's liability may be offset by the liability of another; the inquiry at this stage is an equitable one and courts generally take into account the so-called 'Gore factors.'" Id.; see also 42 U.S.C. § 9613(f) (providing that a court "may allocate response costs among liable parties using such equitable factors as the court determines are appropriate") (emphasis added). "The divisibility of harm inquiry, by contrast, is guided not by equity--specifically, not by the Gore factors--but by principles of causation alone." Hercules, 247 F.3d at 718; see United States v. Rohm Haas Co., 2 F.3d 1265, 1280-81 (3d Cir. 1993); APL Co. Pte. Ltd. v. Kemira Water Sols., Inc., 999 F. Supp. 2d 590, 624 (S.D.N.Y. 2014) ("The divisibility doctrine is not a means by which courts allocate the costs incurred in a cleanup and response operation among PRPs [potentially responsible parties] on an equitable basis (i.e., on the basis of relative fault)."). Instead, "equitable considerations play no role in the apportionment analysis[.]" PCS Nitrogen, 714 F.3d at 182 (quoting Burlington, 556 U.S. at 615 n.9).

Because courts must not consider equitable factors, "where causation is unclear, divisibility is not an opportunity for courts to 'split the difference' in an attempt to achieve equity." Hercules, 247 F.3d at 718. "Rather, '[i]f they are in doubt, district courts should not settle on a compromise amount that they think best approximates the relative responsibility of

the parties.' In such circumstances, courts lacking a reasonable basis for dividing causation should avoid apportionment altogether by imposing joint and several liability." Id. at 718-19 (citations omitted).

III. Discussion

A. Whether the Contamination Is Theoretically Capable of Apportionment

Whether the environmental harm is theoretically capable of apportionment "is primarily a question of law." Pakootas, 905 F.3d at 588. "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.'" Id. (quoting NCR Corp., 688 F.3d at 838). This is because "a court cannot say whether a harm 'is, by nature, too unified for apportionment' without knowing certain details about the 'nature' of the harm." Pakootas, 905 F.3d at 591. "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.'" Id. (quoting William C. Tucker, All Is Number: Mathematics, Divisibility and Apportionment Under Burlington Northern, 22 Fordham Envtl. 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." Id. "Chief among the relevant properties are 'the relative toxicity, migratory potential, degree of migration, and synergistic capacities of the hazardous substances at the site.'" Id. (quoting United States v. Alcan Aluminum Corp., 990 F.2d 711, 722 (2d Cir. 1993)).

Moreover, "[f]or 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)." Id. at 592. The defendant asserting the divisibility defense must therefore produce evidence showing divisibility of the entirety of contamination at a site, the harm caused by its wastes combined with all other pollution, not just the harm caused by its wastes alone. Id. at 590–91.

Finally, the mixing of pollutants raises a rebuttable presumption of indivisible harm. Id. at 592–93. This presumption arises for pollutants that are physically interspersed, not just those that are chemically commingled. Id. at 593. "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." Id. In other words, "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." Id. (quoting Alcan, 964 F.2d at 264).

In this case, defendants' expert, Dr. Love, seeks to determine defendants' contribution to the contamination at the site by dividing the contaminants up three ways: geographically, chemically, and volumetrically. (See Hr'g Tr. 250:13-251:6.) He then proposes a remedial plan that shows three distinct areas of contamination, corresponding to the three primary source areas of the releases at the Site. (See Hr'g Tr. 250:13-253:7.) Within each of the three geographic areas, Dr. Love first looks to the chemical nature of the contamination, concluding that because defendants were not responsible for any lead releases at the property, the plating metal contamination (i.e., nickel, copper, and chromium) is divisible from the lead contamination. (See id. at 258:1-24.)

Dr. Love then estimates the portion of the plating metal contamination that the defendants contributed, using time spent at the Site as a proxy for volume and considering the improvements to the plating equipment and operations that Stockton Plating made after arriving on the Site. (See id. at 259:17-262:2.) Based on these estimates, Dr. Love calculates that defendants should only be liable for 3.1% of the costs laid out in his plan to remedy the Site's soil and 3.7% of the costs to remedy the Site's groundwater. (See id. at 296:3-24; Love Report at 22-23.)

A fundamental problem with Dr. Love's analysis is that it fails to take into account the impact of the ongoing investigation by the DTSC. Before any remedial plan can be

implemented it must be approved by the DTSC. Michael Gallagher is the DTSC hazardous substance engineer tasked with investigating the Site and recommending a remedial plan. He testified at the hearing that the subsurface contamination at the Site still has not been fully delineated. (See id. at 466:14-23, 472:10-473:17.) Based on his investigation of the Site to date, Gallagher concludes that further sampling of soil and groundwater beyond the property line to the southeast and the northeast is needed to determine how far vertically and laterally chromium, copper, nickel, and lead extend beyond the Site's property line. (Id. at 489:23-490:3; Ex. 38 at 5.)

Gallagher also testified that it is impossible to know whether Site groundwater contamination has been adequately characterized, since reliable groundwater data has not been collected since 2004 and the samples taken by Dr. Love were biased. (Hr'g Tr. 488:9-489:15, 490:16-25; Ex. 38 at 5.) Because the full scope of the contaminant plume at the site is still unknown, Gallagher has recommended to DTSC that it wait to implement a remedial plan for the Site until additional delineation of the contamination can be performed. (Hr'g Tr. 473:5-17; Ex. 38 at 5.) DTSC adopted Gallagher's recommendation when it issued its imminent and substantial endangerment order. (Hr'g Tr. 493:9-494:7.)

Thus, because Gallagher and (by extension, DTSC) is not yet willing to approve a remedial plan for the Site, a percentage cannot be accurate if the whole from which it is measured is not known. See Pakootas, 905 F.3d at 590-91 ("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." (emphasis added)). Because the nature and extent of the contamination at the Site have still not been fully defined, it is entirely possible that further harm caused by Stockton Plating beyond the property line or within it will be discovered. Granting defendants' divisibility request based on Dr. Love's analysis would leave the remaining defendants in the case holding the bag for additional contamination or harm that was in fact caused by Stockton Plating.

Considering all the evidence offered at the hearing, the court is not convinced that Dr. Love's divisibility analysis fully defines the contamination at the Site that will require remediation. Contamination that originated at the Site but has since spread beyond the property line is part of the "relevant harm" because it is foreseeable that it could cause a party to incur response costs under CERCLA to remove it. Pakootas, 905 F.3d at 591. But testimony and reports by plaintiffs' expert, Dr. Farr, as well as engineers at DTSC--the state regulatory agency that will eventually have to review and approve a plan for cleanup of the Site--indicate that the nature and extent of the contamination at the Site, including how far the contamination extends beyond the property line, has yet to be determined. (See Hr'g Tr. 549:11-551:21.) Accordingly, Dr. Love's analysis fails to satisfy defendants' burden of showing that the contamination is theoretically capable of apportionment.

The trial court is given broad latitude in judging the credibility of a witness and determining the weight to be given

to his testimony. See Young Ah Chor v. Dulles, 270 F.2d 338, 341 (9th Cir. 1959). Based upon the court's perception of the witnesses at the evidentiary hearing and discrepancies between Dr. Love's testimony and the evidence presented, the court finds the testimony of Gallagher and Dr. Farr to be more credible than that of Dr. Love.

Dr. Farr agrees that the full scope of the contamination beyond the property lines to the southeast and northeast remains undefined. She testified that significant data gaps remain for copper, chromium, and nickel soil concentrations extending beyond the northeast and southeast property lines of the Site, despite the amount of sampling that has taken place over the years, including by Dr. Love. (See Hr'g Tr. 473:5-17, 476:2-15; Ex. 2, fig.s 1, 5, 6.) Similar data gaps exist with respect to copper, nickel, and chromium concentrations in the groundwater extending beyond the property line in all directions. (See id., fig.s 7, 8, 9.)

Dr. Love also does not adequately account for the uncertainty that remains surrounding the nature and extent of the contamination at the Site. He proposes a soil remedial scheme that divides the Site into fourteen discrete "excavation areas," where the soil would be excavated and removed in volumes determined according to the extent of metal contamination at that location. (See Hr'g Tr. 272:13-19; Love Report at 16-18; Ex. 4, fig. 12.) None of the excavation areas proposed for the northeast corner of the Site extend beyond the property line, despite the evidence showing that the contamination likely spreads further out onto adjacent properties. (Compare Ex. 4,

fig. 12 with Ex. 2, fig.s 1, 5, 6.) And though the proposed excavation area for the southeast corner of the Site does extend onto the adjacent property, Dr. Love conceded on cross-examination that additional investigation of the southeast corner of the Site is still necessary to determine exactly how far remediation there would need to extend. (See Hr'g Tr. 332:19-333:4.) Absent an evaluation of the contamination as a whole, the court cannot conclude that the harm is divisible. See Pakootas, 905 F. 3d at 594.

Moreover, Dr. Love fails to evaluate the contamination beyond Stockton Plating's contribution to the pollution or the additional impacts that mixing pollutants may have had, even in the portions of the Site where the experts agree that the nature and extent of the contamination is well-understood. (See Hr'g Tr. 473:5-17; 476:2-15.) For instance, Dr. Love's groundwater analysis does not adequately consider the impact of 1,2 DCA in the groundwater. He acknowledges the presence of 1,2 DCA at unsafe levels, but his analysis does not provide enough information to adequately assess current groundwater conditions at the Site because it does not provide adequate field sampling information for the data upon which the analysis relies or indicate whether sampling wells were properly re-developed prior to sample collection. (Farr Report at 19-20; Ex. 38 at 5.)

Dr. Love also does not adequately evaluate the impact of lead in the soil. He concludes that the heightened lead levels observed at the Site are due to fill material upon which the Site was developed, not Stockton Plating's operations. (Love Report at 10-11; Farr Rebuttal at 3-4.) Though plaintiff's

expert disputes this conclusion, (see Farr Rebuttal at 3-4), even if the court assumes that Dr. Love is correct, his analysis concedes that the lead is commingled and collocated with other contaminants in the soil. (See Love Report at 23; Hr'g Tr. 273:24-274:7.) This type of commingling raises a rebuttable presumption of indivisible harm. Pakootas, 905 F. 3d at 594. Yet Dr. Love makes no effort to rebut this presumption by showing that lead does not chemically or physically interact with other contaminants in the soil. Id.; see also id. at 590-91 ("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.")

Dr. Love also dismisses the additional effects that Stockton Plating's releases of plating metals may have had through chemical or physical reactions with the plating metals or other contaminants already present in the soil (often referred to as "synergistic effects"). (See Farr Rebuttal at 12-13.) He acknowledges that the plating metals released by Stockton Plating are commingled in the soil with plating metals released by prior operators, but nevertheless concludes that the metals have not produced any synergistic effects because they do not react chemically with one another. (See Hr'g Tr. 231:15-232:19.) In Pakootas, the court rejected a similar argument by the defendant: "[e]ven 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." Pakootas, 905 F.3d at 593. Thus, even if Dr. Love is

correct in asserting that Stockton Plating's plating metals could not have chemically interacted with metals released by prior operators, his analysis is insufficient because it does not address the potential exacerbating effects of physical commingling between Stockton Plating's releases and plating metals already present in the soil. See id.

The court is persuaded by Dr. Farr's Rebuttal Report, which points out that Dr. Love overlooked the potential for releases from Stockton Plating's facility to drive metals already in the soil deeper into the subsurface and into groundwater as concentrations near the surface reached equilibrium. (See Farr Rebuttal at 12-13.) The court therefore cannot conclude that the impact of Stockton Plating's releases of additional copper, nickel, and chromium into the soil or groundwater was linear. See Pakootas, 905 F.3d at 593.

For these reasons, defendants have not established that the entirety of the contamination is theoretically capable of apportionment.

B. Whether a Reasonable Basis for Apportionment Exists

Even if the contamination were theoretically capable of apportionment, the defendants' claim of divisibility would still fail because they have not put forward a reasonable basis for apportionment. In the second step of the divisibility analysis, a CERCLA defendant must show that "there is a reasonable basis for determining the contribution of each cause to a single harm." Burlington, 556 U.S. at 614 (quoting Restatement (Second) of Torts § 433A(1)(b)); Pakootas, 905 F.3d at 595. "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.'" Pakootas, 905 F.3d at 595 (quoting Hercules, 247 F.3d at 717). The basis for apportionment may rely on the "simplest of considerations," most commonly volumetric, chronological, or geographic factors. Burlington, 556 U.S. at 617–18; Pakootas, 905 F.3d at 595. "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." Pakootas, 905 F.3d at 595 (quoting Restatement (Second) of Torts § 433A cmt. d).

Here, defendants argue that amount of contamination attributable to defendants can be apportioned chemically, geographically, and volumetrically. For the following reasons, none of these options provides a reasonable basis for apportionment.

1. Chemical Apportionment

Dr. Love concludes that soil contaminants at the Site are readily distinguishable as metals originating from plating operations (copper, nickel, and chromium) and metals originating from fill material (lead). (See Love Report at 20.) In other words, because Dr. Love concludes that all lead at the Site originated from fill material, he apportions no responsibility or cost for remediation to defendants for soil that contains only lead, and apportions 50% responsibility for portions of soil that contain lead and another metal originating from plating operations. (See id. at 23.)

Dr. Love's assumption that all lead at the Site must originate with fill material is not based on site-specific data.

Rather it is based only on shallow soil samples collected at the Firehouse Property north of the Site. (Farr Rebuttal at 3.) Dr. Love provides no analysis to determine whether the elevated lead concentrations in these shallow soil samples were also detected in fill soils. (Id.) And, crucially, his analysis fails to account for sampling in 2008 that failed to detect lead at elevated concentrations in fill soils at the Site and to the east of the Site. (Id. at 4.) If anything, the evidence tends to show that one of the primary source areas for lead was the parking lot located in the southeastern corner of the Site. (Id.) The elevated lead concentrations in this portion of the Site are commingled and collocated with elevated chromium, copper, and nickel, suggesting that Stockton Plating could have been the source of at least some of the lead contaminants found in the soil. (See id.) It is therefore not reasonable to assume that defendant contributed 0% of the harm to soil contaminated only with lead or even 50% of the harm to soil contaminated with lead and one other metal. See Burlington, 556 U.S. at 617-18; Pakootas, 905 F.3d at 595.

2. Geographic Apportionment

Dr. Love's analysis uses geographic location to try to apportion fault by identifying three distinct areas of the Site where plating metal contamination can be found: the plating facility footprint, the southern rinse water drainage area, and the northeast dumping area. (See Love Report at 19.) According to the analysis, defendants cannot be held responsible for any of the contamination in the northeast dumping area because all the contaminants found there originate from fill material or dumping

of plating metals that occurred prior to Stockton Plating's operations at the Site. (See id. at 20.)

This attempt to apportion fault geographically ignores evidence that Stockton Plating likely contributed to contamination in the northeast corner of the Site. Stockton Plating's operations in the northeast corner of the Site included grinding, straightening, and polishing chrome-plated bumpers. (Hr'g Tr. 110:23-112:19; 115:22-116:17.) This process resulted in releases of copper, nickel, and chromium that fell through the air and settled onto the ground. (Id.) Though these operations took place indoors and above a concrete floor, two fires in 1973 and 1985 could have resulted in the release of particles outside the building either directly or via firefighters' efforts to douse the flames. (Id. at 161:18-162:22.) A major rain event in the Sacramento area in 1986, after defendant had ceased operations but before it had completely removed its chemicals and equipment from the property, could have also spread metal particles to the subsurface. (See Ex. 52.) In light of the evidence of additional ways that releases of plating metals from the northeast corner of the facility could have made their way to the subsurface, the court cannot find that the record reasonably supports an assumption that defendants are not responsible for any of the harm to the northeastern portion of the Site. See Pakootas, 905 F.3d at 595.

In addition, Dr. Love gives the impression that the geographic areas he defines would remain distinct throughout the process of remediation. (See Ex. 4, fig. 12.) But as Dr. Love conceded on cross-examination, the excavation areas his analysis

proposes would not remain separate and distinct once excavation began. (See Hr'g Tr. 342:1-343:20.) The court is persuaded by Dr. Farr's testimony and rebuttal report, which point out that repeated releases over a period of years at a site this small are likely to form "one big blob" in the soil. (See Hr'g Tr. 531:23-532:7, 625:3-626:24; Farr Rebuttal at 15.) It is simply not possible in this case to carve up the Site geographically into separate and distinct portions that reflect the defendants' "contribution . . . to a single harm." Burlington, 556 U.S. at 614 (quoting Restatement (Second) of Torts § 433A(1)(b)). There is therefore no reasonable basis upon which to apportion the harm geographically.

3. Volumetric Apportionment

Finally, Dr. Love attempts to apportion defendants' contribution to the harm at the Site within the geographically and chemically divisible areas in his analysis using a volumetric approach. (See Love Report at 20-22.) Essentially, Dr. Love calculates the relative amount of plating metals within the three defined portions of the Site that Stockton Plating's operations were responsible for, as compared to prior operators at the Site. (See id.)

To distinguish between releases attributable to defendant and releases attributable to prior operators at the Site, Dr. Love argues that the measures taken by Stockton Plating shortly after it took over operations at the Site eliminated the possibility of releases occurring through the hole of the southern wall of the plating facility after 1974 or through the footprint of the plating room after 1975. (See Love Report at

14.) He also concludes that any releases that occurred as Stockton Plating was implementing these operational changes were "minimal and incremental" compared to prior plating operations at the Site. (See id. at 14-15.) Because neither defendants nor prior operators kept adequate records to determine the specific volume of plating fluids used at the Site, Dr. Love's analysis uses time on the Site as a proxy for volume. (Love Report at 20.) Resting on the assumption that "the production volume of the plating operations was fairly similar throughout the history of Site operations," the analysis calculates that defendants only contributed 3.1% of the harm to Site soil and 3.7% of the harm to Site groundwater. (Love Report at 20, 22-23.)

The court cannot accept Dr. Love's attempt to apportion fault volumetrically because his analysis relies on fundamentally flawed assumptions and reaches conclusions that are belied by evidence concerning Stockton Plating's operations and the nature of the contamination at the Site. See Burlington, 556 U.S. at 617-18; Pakootas, 905 F.3d at 595. Dr. Love opines that any discharges by the defendant prior to 1974 were minimal or incremental, but his analysis does not mention the "five to ten" known releases of plating metals that Stockton Plating's general manager admitted occurred before he replaced the earthen dam with the concrete retaining wall. (Hr'g Tr. 57:16-25.) Dr. Love also provides no analysis or estimate of the volume of waste or contaminant mass released through the hole in the southern wall of the plating facility as a result of these known discharges. (Farr Rebuttal at 6.)

Dr. Love also assumes that the concrete retaining wall

prevented any liquid from migrating out of the plating area. (Love Report at 14.) While the wall likely reduced the amount of releases that made their way outside the plating area, the court is not convinced that it eliminated the risk entirely. (See Farr Rebuttal at 6.) Dr. Farr's testimony confirms that the wall was not designed to be impermeable to liquids. (Hr'g Tr. 534:14-535:4.) Site inspections revealed cracks and erosion of the concrete retaining wall as well as mineral discoloration, indicating that liquids did in fact migrate through the concrete wall during Stockton Plating's operations after 1974. (Farr Rebuttal at 7.) Because the opening to the sewer was located within the bounds of the retaining wall, any fluid that made it beyond the retaining wall would likely have been released onto the land south of the plating facility. (Id.)

Dr. Love also assumes that Stockton Plating's installation of racks above the plating tanks and improvements to the rinse tanks' pipes eliminated the potential for releases to occur from the plating room after 1975. (Love Report at 14.) This is contrary to testimony by Clark that the floor of the plating room would still get wet as a result of plating operations even after Stockton Plating installed the counterflow and drainpipe systems.[5] (Hr'g Tr. 119:22-120:4.)

[5] Dr. Farr's rebuttal report also relied on deposition testimony by Stockton Plating's own officers and owners indicating that plating operations continued to cause discharges of plating liquids and rinse water onto the concrete floor after Stockton Plating's improvements were put into place. (Farr Rebuttal at 7-11.) Deposition testimony by Leland specifically showed that dragout releases continued to occur all the way up until plating operations at the Site ceased in 1985. (Id.)

Even if Stockton Plating's improvements to its plating equipment reduced the frequency with which releases occurred, it strains credulity to believe that they eliminated the risk completely. (Id. at 9-10.) And, contrary to Dr. Love's assumption, a release onto the concrete floor or directly into the sewer system would not necessarily prevent the plating metal from reaching the subsurface. Neither the concrete slab nor the sewer system was completely impermeable to liquids; releases therefore could have made their way through the concrete slab--especially if there were joints or fractures in the floor--or through joints and cracks in the sewer lines. (Id. at 11-12; Hr'g Tr. 534:14-535:4.)

Finally, Dr. Love's entire volumetric analysis rests on the assumption that the production volume of plating operations at the Site remained relatively constant from 1949 to 1975. But Clark and Leland's testimony tends to establish that business increased during Stockton Plating's time at the Site. (Hr'g Tr. 73:15-25, 99:19-101:21.) Stockton Plating added a second 1,250-gallon copper tank to the premises that allowed workers to plate two bumpers simultaneously, and implemented efficiency improvements that allowed the Site to process more bumpers each shift. (Id.) Dr. Farr agreed that changes in the facility's footprint indicated that production at the facility was likely increasing over time. (Hr'g Tr. 539:24-540:17, 561:8-19; Farr Rebuttal at 14-18.) While some evidence indicates that Stockton Plating pursued increased "finished bumpers" business in the late 1970s that would have had little to no potential for releases of plating metals, the weight of the evidence--much of it provided

by defendants' own managers and owners--indicates that operations that carried a risk of releases increased over time at the Site. Dr. Love's assumption that production stayed relatively constant was therefore unreasonable. See Pakootas, 905 F.3d at 595 (quoting Hercules, 247 F.3d at 717).

In summary, to accept Dr. Love's theory of volumetric apportionment, the court would have to (1) accept that the memory of Stockton Plating's general manager of events that occurred almost 50 years ago is accurate and that there were only five to ten releases of plating fluids at the Site in 1973, (2) assume that these releases were de minimis, and (3) assume that the structural and operational improvements defendants implemented over the next two years prevented any releases of plating fluids from reaching the subsurface, all while assuming, contrary to the evidence, that operations at the Site remained relatively constant over time.

Defendants essentially ask the court to stack assumption on top of assumption to conclude that they should be held liable for exactly 3.1% of the harm to Site soil and exactly 3.7% of the harm to Site groundwater. (See Love Report at 20, 22-23.) Because these assumptions run counter to the weight of the evidence, defendants have not met the "substantial" burden of showing a reasonable basis for determining their contribution to the overall harm at the Site. Pakootas, 905 F.3d at 598 (quoting Alcan, 964 F.2d at 269).

IT IS THEREFORE ORDERED that the defendants' request for a finding of divisibility be, and the same hereby is, DENIED. The court hereby finds and declares as follows:

1. Defendants have not met their burden of establishing that the contamination at the Site is theoretically capable of apportionment.
2. Even if the contamination were theoretically capable of apportionment, defendants have not met their burden of establishing that there is a reasonable basis by which to determine their contribution to the overall harm.
3. The CERCLA liability of Defendants R&L, John Clark, and the Estate of Nick E. Smith is not divisible from the total contamination present at the Site.
4. Defendants R&L, John Clark, and the Estate of Nick E. Smith are therefore jointly and severally liable for the CERCLA violations that have occurred at the Site.
5. The court expresses no opinion as to whether or to what extent defendants may offset their liability by the liability of another in a subsequent contribution proceeding under CERCLA section 113.

Dated: September 16, 2020

WILLIAM B. SHUBB
UNITED STATES DISTRICT JUDGE