

No. 14-

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IN THE  
**Supreme Court of the United States**

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SQM NORTH AMERICA CORPORATION,  
*Petitioner,*

v.

CITY OF POMONA,  
*Respondent.*

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**On Petition for a Writ of Certiorari to the  
United States Court of Appeals  
for the Ninth Circuit**

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**PETITION FOR A WRIT OF CERTIORARI**

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### **QUESTION PRESENTED**

Whether, as the Ninth Circuit held, in open and admitted conflict with other courts of appeals, a district court may exclude expert testimony as unreliable only when it is based on a “faulty methodology or theory,” or whether, as the Third Circuit and other circuits have held, “any step that renders the analysis unreliable \* \* \* renders the expert’s testimony inadmissible.”

**PARTIES TO THE PROCEEDINGS**

The following were parties to the proceedings in the U.S. Court of Appeals for the Ninth Circuit:

1. SQM North America Corporation (SQMNA), Petitioner on review, was the Defendant-Appellee/Cross-Appellant below.
2. City of Pomona, Respondent on review, was the Plaintiff-Appellant/Cross-Appellee below.

**RULE 29.6 DISCLOSURE STATEMENT**

SQMNA is a subsidiary of Sociedad Quimica y Minera de Chile S.A., which is traded on the Chilean and New York Stock Exchanges. All of the shares of SQMNA are owned by Sociedad Quimica y Minera de Chile S.A., SQM Industrial S.A., and Soquimich European Holdings B.V.

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**PETITION FOR A WRIT OF CERTIORARI**

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SQMNA respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Ninth Circuit.

**OPINIONS BELOW**

The Ninth Circuit's published opinion is reported at 750 F.3d 1036. Pet. App. 1a-27a. The District Court's January 6, 2012 order excluding Respondent's proffered expert testimony is unreported. *Id.* 28a-29a.

**JURISDICTION**

The Ninth Circuit entered judgment on May 2, 2014. Rehearing was denied on June 10, 2014. *Id.* 30a-31a. This Court's jurisdiction rests on 28 U.S.C. § 1254(1).

### RELEVANT RULE

Federal Rule of Evidence 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education, may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based upon sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

### INTRODUCTION

Rule 702 requires trial judges to “ensure that any and all scientific testimony” admitted into evidence “is not only relevant, but reliable.” *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993). This petition presents a straightforward question: May a trial court exclude expert testimony as unreliable for reasons other than the expert’s use of a faulty principle or methodology? To state the question is to answer it, because Rule 702 gives two other factors equal prominence in the reliability determination—whether “the expert has reliably *applied*” his or her chosen “principles and methods to the facts of the case,” and whether “the testimony is based upon *sufficient facts or data*.” Fed. R. Evid. 702(b), (d) (emphases supplied). Permitting trial courts to address each of these threshold reliability inquiries is essential to the “gatekeeping” role that this Court assigned to trial judges in *Daubert* and reiterated in *General Electric Co. v. Joiner*, 522 U.S. 136, 142 (1997), and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999).

Inexplicably, the Ninth Circuit applied a different rule. According to the Ninth Circuit, “only a faulty methodology or theory” presents “a valid basis to exclude expert testimony.” Pet. App. 17a. This rule prevents district courts from exercising their assigned gatekeeping function. It flies in the face of both the text of Rule 702 and precedents of this Court. And, to make matters worse, as the panel opinion openly acknowledges, it conflicts with decisions from other courts of appeals.

The facts of this case well illustrate the dangers posed by the Ninth Circuit’s rule. Pomona seeks to hold SQMNA liable for perchlorate in its water supply. Although perchlorate exists naturally throughout the world, and synthetic perchlorate has been widely used in this country for decades in military, industrial, and commercial applications, the City has singled out Chilean fertilizers that SQMNA distributed in the United States more than sixty years ago as the chief cause of its current perchlorate problem. Pomona’s case rests on a lone expert’s novel application of a method known as stable isotope analysis, which purports to measure the relative weights of atoms of the same chemical element within a substance to determine its origin.

Unlike more established forensic tools such as DNA profiling, the particular method of stable isotope analysis used by Pomona’s expert lacks well-established hallmarks of scientific validity. Chief among the problems is the fact that no other scientists have ever actually used the procedure to verify that the results it produces are dependable. Equally troubling, the expert confidently “fingerprinted” indigenous perchlorate from the Atacama Desert in Chile as the nearly exclusive source of perchlorate in Pomona’s water supply based on a database consisting of indigenous samples from precisely three geographic locations, none of which was Pomona itself.

The District Court conducted exactly the analysis required under Rule 702, properly deemed the expert’s testimony to

be unreliable, and excluded it. The Ninth Circuit reversed, based on its stilted legal theory that “only a faulty methodology or theory \* \* \* is a valid basis to exclude expert testimony.” Pet. App. 17a. That theory is obviously wrong and emboldens appellate courts to substitute their own judgment for trial courts’ under the guise, but not the reality, of abuse-of-discretion review.

The decision below is emblematic of the challenges lower courts continue to face in applying Rule 702. It has been fifteen years since this Court last revisited *Daubert*, and in that time confusion has proliferated over the proper roles of judge and jury in cases involving expert testimony. The Ninth Circuit’s “faulty methodology” rule represents the high-water mark of that confusion. The clear and acknowledged circuit split sets this case apart from other cases in which lower courts have misapplied Rule 702 and makes it particularly well-suited for review. The Court should grant the petition for certiorari and reverse.

## STATEMENT

### A. Background.

1. Perchlorate is a naturally-occurring substance that continuously forms and is deposited in soil and in ground-, surface-, and seawater worldwide. It has even been detected across the surface of Mars. Perchlorate is also created artificially. Man-made perchlorate has been widely used since the 1940s, primarily as an oxidizer in solid rocket fuel and explosives by the military and the aerospace industry. It also has many commercial applications, including fireworks, safety flares, automobile airbag inflators, matches, lubricating oils, rubber manufacturing, paint and enamel production, and pharmaceuticals. See Richard A. Kerr, *Pesky Perchlorates All Over Mars*, 340 *SCIENCE* 138 (Apr. 12, 2013); U.S. EPA Contaminated Site Cleanup Information (CLU-IN), <http://www.cluin.org/contaminantfocus/default.focus/sec/perchlorate/cat/Overview/>.

High levels of perchlorate contamination were first discovered at Superfund sites in the 1980s. Due to advances in technology, much lower levels of perchlorate began to be detected in public water supplies throughout the country in 1997. National Research Council, *HEALTH IMPLICATIONS OF PERCHLORATE INGESTION 3* (National Academies Press 2005). In 2007, California began to regulate perchlorate levels in drinking water, adopting a maximum contaminant level (mcl) of 6 parts per billion (ppb). CAL. CODE REGS., tit. 22, § 64431. California's regulation prompted the present lawsuit, in which Pomona seeks to hold SQMNA liable for costs associated with investigating and remediating perchlorate in its water supply above California's mcl.<sup>1</sup>

2. Pomona's claim against SQMNA rests on a novel application of a method known as stable isotope analysis. Stable isotopes are different forms of a chemical element that share the same number of protons but have different numbers of neutrons and do not decay over time. Nearly all chemical elements have multiple stable isotopes. The premise of stable isotope analysis is that the ratio of stable isotopes within a chemical element varies across specimens, and those variations, which can be measured with high-precision instruments, provide an "isotope fingerprint" that can be used to compare specimens to one another. See James R. Ehleringer & Scott M. Matheson, Jr., *Stable Isotope Analysis and Courts*, 2010 Utah L. Rev. 385, 388-398 (2010).

Each application of stable isotope analysis presents its own substantial reliability concerns, particularly when the application is intended for forensic purposes. For this reason, stable isotope analysis has virtually never been used as a forensic tool in court. *Id.* at 411-414. The reliability concerns can

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<sup>1</sup> In 2008 EPA issued a "health reference level" for perchlorate of 15 ppb. Drinking Water: Regulatory Determination on Perchlorate, 76 Fed. Reg. 7762-01, 7764 (Feb. 11, 2011). The agency began developing a national regulation in 2011, *id.* at 7762, but it has not taken final action.

include, for example, the complexity of the collection and extraction processes, which may affect the isotopic composition of the samples being analyzed; whether heterogeneity within a sample is large enough to make differentiation from other samples difficult; and whether a sufficiently extensive database of previously studied sources exists to permit reasonable comparisons. *Id.* at 397-398.

Such concerns have previously led to the exclusion of expert testimony based on stable isotope analysis. In *Mejdrech v. Lockformer Co.*, 2003 WL 22078388 (N.D. Ill. Sept. 5, 2003), the district court rejected proposed testimony by Neil Sturchio, Ph.D., purporting to exclude the defendant as the source of TCE (trichloroethylene) contamination of the plaintiff's property. The court concluded that Dr. Sturchio's approach in that case "was not tested or subjected to peer review or publication, it appears to sustain a high potential rate of error, and it does not enjoy general acceptance within the relevant scientific community." *Id.* at \*3.

3. Dr. Sturchio also happens to be Pomona's expert. Although he used different isotope techniques to analyze the perchlorate in Pomona's water supply, his proposed testimony in this case was equally unreliable.

Dr. Sturchio's procedure for analyzing perchlorate in Pomona's water involved a subcontractor pumping large volumes of well water on-site through tubes filled with resin to isolate the perchlorate; extraction and purification of the perchlorate in Dr. Sturchio's laboratory; decomposition of the purified perchlorate in order to measure the stable isotopes with a specific mass spectrometer; and comparison of the results to a limited number of previously analyzed perchlorate samples in order to assign a source. Dr. Sturchio admits that no laboratory other than his own performs these steps as a process for reaching conclusions about the origins

of perchlorate in groundwater. 1-ER-14:3-5.<sup>2</sup> Even more problematic, no full description of the process had been published when he completed his expert report, meaning that there was no way for another scientist to test it. Indeed, the first publication of Dr. Sturchio's approach was disclosed only a week before trial, in a document entitled "Guidance Manual for Forensic Analysis of Perchlorate in Groundwater using Chlorine and Oxygen Isotopic Analyses," which Dr. Sturchio wrote. The so-called "Guidance Manual" was issued by the Department of Defense (DoD), which has funded Dr. Sturchio's perchlorate research, including his work on the "Guidance Manual." 1-ER-17:9-18:19; 1-ER-58:11-14; 2-ER-92-225; 1-SER-5-7.

The "Guidance Manual" repeatedly acknowledges that the methods, development, and verification work for Dr. Sturchio's approach are "ongoing" and refers to steps in the process as "evolving," "provisional," "subject to modifications," or "likely to be refined and improved." *E.g.*, 2-ER-118; 2-ER-134; 2-ER-138; 2-ER-149; 2-ER-152. Far from validating Dr. Sturchio's approach, the "Guidance Manual" confirms that his analyses cannot be independently verified by other laboratories, because no other laboratory performs all of the steps required for the analysis. 2-ER-124.

Furthermore, the database of perchlorate samples that Dr. Sturchio used to identify the Atacama Desert as the chief source of perchlorate in Pomona's water supply was patently deficient. His comparator sources included no samples of natural perchlorate from Pomona—or from anywhere else in the world other than the Atacama Desert, the Texas Southern High Plains, and Death Valley—and only a handful of synthetic sources. The "Guidance Manual" itself recognizes the limitations of Dr. Sturchio's database. It acknowledges that "the defined ranges of isotopic compositions" of differ-

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<sup>2</sup> Citations in this format refer to the Excerpts of Record filed in the Ninth Circuit.

ent perchlorate sources “may evolve as more sources are analyzed” and that “additional data will enhance the value of this approach for \* \* \* forensic applications.” 2-ER-202. Dr. Sturchio has calculated no rate of error associated with his reliance on the currently underdeveloped database, nor with any of the other steps in his experimental procedure. *See* 3-ER-462-470.

**B. The Decisions Below.**

1. SQMNA moved to exclude Dr. Sturchio’s testimony as unreliable under Rule 702. After reviewing the parties’ briefs and supporting evidence and holding a *Daubert* hearing at which Dr. Sturchio testified, the District Court agreed with SQMNA and excluded Dr. Sturchio’s testimony. The District Court concluded that: (1) Dr. Sturchio’s techniques are not yet generally accepted in the scientific community, as evidenced by the provisional language used in the “Guidance Manual”; (2) his procedures “have not been tested by other laboratories and are not subject to retesting given the failure to take dual samples”; and (3) his reference database is “too limited” to support his conclusions about the origin of perchlorate in Pomona’s water “with an acceptable rate of error.” Pet. App. 29a.

Recognizing that it could not prove causation at trial without Dr. Sturchio’s testimony, Pomona stipulated to dismissal of the action pursuant to Federal Rule of Civil Procedure 41(a)(1)(A)(ii) to facilitate appeal of the exclusion order. *See Nat’l Broiler Mkt’ing Ass’n v. United States*, 436 U.S. 816, 819 n.5 (1978).

2. The Ninth Circuit held that the District Court abused its discretion in excluding Dr. Sturchio’s testimony. According to the panel, SQMNA’s reliability challenges to Dr. Sturchio’s approach were for the jury to decide. Pet. App. 16a-20a. In the Ninth Circuit, the panel explained, “only a *faulty methodology or theory*, as opposed to imperfect execution of laboratory techniques, is a valid basis to exclude expert testimony.” *Id.* 17a (emphasis supplied).



The panel made no effort to reconcile this holding with Rule 702's requirement that the expert "has reliably applied" his or her chosen "principles and methods to the facts of the case" and that the testimony be "based upon sufficient facts or data." Fed. R. Evid. 702(b), (d). Moreover, the panel expressly recognized that the Ninth Circuit's rule conflicts with the Third Circuit's oft-quoted holding in *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717 (3d Cir. 1994) (*Paoli II*), that "any step that renders the analysis unreliable under the *Daubert* factors renders the expert's testimony inadmissible[,] \* \* \* whether the step completely changes a reliable methodology or merely misapplies that methodology." *Id.* at 745 (emphasis altered). See Pet. App. 16a-17a.

Applying the "faulty methodology" rule, the panel dismissed SQMNA's concerns about the reliability of multiple steps in Dr. Sturchio's procedure as complaints about "protocol" failures that the jury could consider. *Id.* 17a. It likewise held that the sufficiency of Dr. Sturchio's reference database was a question for the jury. Although the panel acknowledged *Joiner's* holding that a trial court may exclude expert testimony when there is "too great an analytical gap between the data and the opinion proffered," 522 U.S. at 146, it concluded that *Joiner* does not apply when the parties' experts disagree on the extent of the gap. Pet. App. 18a-20a.

The panel also took issue with the District Court's conclusion that Dr. Sturchio's approach had not been used or tested by other scientists, *id.* 14a-16a—notwithstanding Dr. Sturchio's and the "Guidance Manual's" clear admissions to that effect. According to the panel, the fact that scientists from two Government laboratories collaborated with Dr. Sturchio in preparing the "Guidance Manual" demonstrates adequate acceptance of the approach, along with some previously published articles co-authored by Dr. Sturchio that the "Guidance Manual" acknowledges contain only "abbreviated descriptions" of the approach. *Id.* 7a, 11a-13a. On this basis the panel concluded that Dr. Sturchio's proposed testimony

was not “the result of a faulty methodology or theory as opposed to imperfect execution of laboratory techniques whose theoretical foundation is sufficiently accepted in the scientific community to pass muster under *Daubert*.” *Id.* 16a (internal quotation marks omitted).

The panel vacated the District Court’s order excluding Dr. Sturchio’s testimony and remanded the case for trial.<sup>3</sup> SQMNA unsuccessfully petitioned for rehearing and rehearing en banc. *Id.* 30a-31a. This petition followed.

### **REASONS FOR GRANTING THE PETITION**

The Ninth Circuit’s “faulty methodology” rule rests on a rigid distinction between the “methodology” an expert employs and the “conclusions” he or she draws—a distinction that this Court rejected both in *Joiner* and in the 2000 amendments to Rule 702. The Ninth Circuit’s rule warrants reversal because it is irreconcilable with this Court’s decisions and Rule 702, and because it creates an open “conflict with the decision of another United States court of appeals.” S. Ct. R. 10(a).

Granting certiorari in this case will enable the Court to address the most important question remaining under Rule 702 after *Daubert*: the relative responsibilities of judge and jury in cases involving expert testimony. *See Apple, Inc. v. Motorola, Inc.*, 2012 WL 1959560, at \*1 (N.D. Ill. May 22, 2012) (Posner, J., sitting by designation) (“The biggest challenge to the judge at a *Daubert* hearing \* \* \* is to distinguish between disabling problems with the proposed testimony, which are a ground for excluding it, and weaknesses in the testimony, which are properly resolved at the trial itself on the basis of evidence and cross-examination.”)

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<sup>3</sup> The panel also affirmed the District Court’s denial of SQMNA’s summary judgment motion on two state-law issues, which were the subject of SQMNA’s cross appeal. Pet. App. 21a-26a. SQMNA does not seek review of that ruling.

(excluding expert damages testimony), *rev'd*, 757 F.3d 1286, 1313-26 (Fed. Cir. 2014) (reversing exclusion order). The lower courts are deeply divided on this issue. As discussed below, although some circuit court decisions properly apply all of the Rule 702 factors, others—including the panel decision here—pass to the jury questions concerning the reliability of expert testimony that, under the plain language of the Rule, remain the provenance of the trial court.

The issue demands this Court's attention and is unusually cleanly presented in this case by the sharp circuit conflict that the Ninth Circuit openly acknowledges. Scientific testimony plays at least as prominent a role in litigation today as it did when *Daubert* was decided in 1993. The Court has not addressed Rule 702 since the 2000 amendments, and the disarray in the lower courts will not be resolved without the Court's intervention. The petition should be granted.

**I. THE NINTH CIRCUIT'S DECISION CONFLICTS WITH DECISIONS OF THIS COURT AND OTHER CIRCUITS, AND WITH THE PLAIN LANGUAGE OF RULE 702.**

*Daubert* requires trial judges to exclude expert scientific testimony that fails to meet basic standards of reliability, including, for example, that the expert's method "can be (and has been) tested" and that it has an acceptable "known or potential rate of error." *Daubert*, 509 U.S. at 593-594. *Joiner* and *Kumho* make clear that in making these determinations, trial courts often must look beyond general methodology to the expert's particular application of his or her chosen theory, and to the quantity and quality of the data supporting the expert's conclusions. Rule 702 was specifically amended in 2000 to incorporate these rulings. The Ninth Circuit's rigid holding that only a "faulty methodology or theory" warrants exclusion of expert testimony cannot be squared with amended Rule 702 or this Court's precedents. The decision below also perpetuates a deep conflict in the

circuits over the scope of trial courts' "gatekeeping" function under the Rule.

**A. The Panel Opinion Perpetuates a Circuit Conflict that the 2000 Amendments to Rule 702 Should Have Resolved.**

1. The Ninth Circuit's "faulty methodology" rule apparently originated in *United States v. Chischilly*, 30 F.3d 1144 (9th Cir. 1994), *overruled on other grounds by United States v. Preston*, 751 F.3d 1008 (9th Cir. 2014) (en banc), a DNA profiling case decided the year after *Daubert*. Pet. App. 16a. Relying on *Daubert's* admonition that a trial court ruling on the reliability of expert testimony should focus "solely on principles and methodology, not on the conclusions that they generate," *Daubert*, 509 U.S. at 595, *Chischilly* rejected a criminal defendant's claim that the evidence against him may have been compromised, for example, by degradation of the samples. "The impact of imperfectly conducted laboratory procedures," the Ninth Circuit concluded, is "an issue going not to the admissibility, but to the weight of the DNA profiling evidence." *Chischilly*, 30 F.3d at 1154.

The Third Circuit announced a contrary rule in *Paoli II*, also decided the year after *Daubert*. As the Third Circuit recognized, an expert's application of a scientific theory may be so flawed—for example, because the expert "consistently fails to use certain quality controls"—that the analytical approach itself becomes inherently unreliable. *Paoli II*, 35 F.3d at 745. That is why the Third Circuit held that "any step" that renders the expert's testimony unreliable is grounds for exclusion. *Id.* (emphasis in original).

2. Soon thereafter, this Court rejected the rigid methodology-conclusion distinction on which the Ninth Circuit's rule was based. In *Joiner*, the Court held that trial court admissibility determinations under Rule 702 are reviewable only for abuse of discretion. 522 U.S. at 141-143. Explaining why the district court in that case did not abuse its discretion by excluding the proffered testimony, the Court also held that

conclusions and methodology are not entirely distinct from one another. Trained experts commonly extrapolate from existing data. But nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered. [*Id.* at 146.]

Similarly, when the Court held in *Kumho* that *Daubert* applies to non-scientific expert testimony, 526 U.S. at 147-153, it reaffirmed that “district courts must scrutinize whether the principles and methods employed by an expert have been properly applied to the facts of the case.” *Id.* at 157 (internal quotation marks omitted). Whenever an expert’s “factual basis, data, principles or their application are called sufficiently into question,” the Court explained, “the trial judge must determine whether the testimony has ‘a reliable basis in the knowledge and experience of [the relevant] discipline.’ ” *Id.* at 149 (quoting *Daubert*, 509 U.S. at 592).

3. The 2000 amendments to Rule 702 incorporate these principles. As amended, Rule 702 expressly requires trial courts to determine not only whether expert testimony “is the product of reliable principles and methods,” Fed. R. Evid. 702(c), but also whether “the testimony is based upon sufficient facts or data” and “the expert has reliably applied the principles and methods to the facts of the case.” *Id.* 702(b), (d).

The Ninth Circuit’s restrictive “faulty methodology” rule is irreconcilable with the plain language of amended Rule 702. See *Bourjaily v. United States*, 483 U.S. 171, 178-179 (1987) (rejecting interpretation of federal evidentiary rule that conflicted with the rule’s “plain meaning”). Indeed, that the Ninth Circuit’s rule does not survive the 2000 amendments is clear from the Advisory Committee’s Note, which quotes

*Paoli II*'s "any step" language in support of the amendments. See Rule 702 advisory committee's note (2000 amendments).

**B. Deep Confusion Nonetheless Persists Within the Circuits.**

Following *Joiner* and *Kumho*, the Supreme Court described the Rule 702 reliability standards as "exacting." *Weisgram v. Marley Co.*, 528 U.S. 440, 455 (2000). The 2000 amendments should have laid the methodology-conclusion distinction to rest and ensured rigorous scrutiny of all expert testimony, but they did not. Some circuit courts properly apply all of the Rule 702 factors, as the Rule directs. But others, like the panel decision below, continue to limit a trial court's inquiry to the reliability of the expert's "methodology," leaving challenges to the expert's application of his or her methods, and to the factual underpinnings of the testimony, to be decided by the jury. The upshot is a deep conflict in the circuit courts, one that the Ninth Circuit in this case expressly acknowledged.

1. The first approach is exemplified by *Attorney General of Oklahoma v. Tyson Foods, Inc.*, 565 F.3d 769 (10th Cir. 2009), which involved Oklahoma's claim that the defendant's use of poultry litter as fertilizer had caused bacterial contamination of the State's waterways. Although the experts' testimony rested on generally accepted methodologies such as DNA testing, those methodologies were applied in new ways that lacked "further indications of reliability." *Id.* at 780. One expert's approach was "novel and untested," as she herself admitted, and the record suggested that it suffered from "procedural flaws." *Id.* at 781 (internal quotation marks omitted). Another expert's approach "had not been tested or peer reviewed"; "doubts were raised regarding [his] sampling procedures and possible flaws in the data presented"; and his analysis failed to "account for alternative sources of the poultry-litter components." *Id.*

Citing the *Paoli II* "any step" rule, the Tenth Circuit concluded that the trial court did not abuse its discretion in

holding that the experts' testimony was unreliable and thus could not support a causal link between the defendants' fertilizers and contamination of Oklahoma's water. *Id.* at 780-781. It expressly rejected Oklahoma's argument "that *Daubert* should not have been used to assess the *application* of the experts' methodologies, but rather should have been used to assess *only the methodologies* upon which [they] relied." *Id.* at 779 (emphases in original). Of course, had the Tenth Circuit applied the Ninth Circuit's "faulty methodology" rule, it would have reached the opposite result. The very same deficiencies in the experts' procedures and data that supported the Tenth Circuit decision were treated by the Ninth Circuit below as issues for the jury.

Similarly, in *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 265-270 (2d Cir. 2002), the Second Circuit relied on the Rule 702 amendments and *Paoli II* to affirm a trial court order excluding expert testimony offered to show a causal link between the plaintiff's exposure to workplace toxins and his injuries. One expert "fail[ed] to apply his stated methodology reliably to the facts of the case" by omitting admittedly key variables from his analysis. *Id.* at 268-269 (internal quotation marks omitted). Another expert's testimony was unreliable because "the analytical gap between the studies on which she relied and her conclusions was simply too great." *Id.* at 270.

Like the Tenth Circuit, and unlike the Ninth Circuit, the Second Circuit treated the Rule 702(b) and (d) requirements as threshold admissibility determinations for the trial court to make. The Ninth Circuit's citation to dicta in *Amorgianos* for the proposition that " 'minor flaw[s]' " in an expert's reasoning or approach do not warrant exclusion does not diminish the split. Pet. App. 16a-17a (quoting *Amorgianos*, 303 F.3d at 267). As the District Court's exclusion order establishes, the defects that SQMNA identified in Dr. Sturchio's testimony—including that his procedure has never been used or tested by other scientists and that his database is

inadequate to support his conclusions—are not minor, but go to the heart of the reliability of his approach.

The Sixth Circuit’s decision in *Tamraz v. Lincoln Electric Co.*, 620 F.3d 665 (6th Cir. 2010), is also impossible to square with the panel decision below. In *Tamraz*, the Sixth Circuit relied on Rule 702(b) and (d) to reverse a trial court’s admission of expert testimony purporting to establish that the defendants’ products caused the plaintiff’s illness. Gaps in the expert’s reasoning from previously published studies meant that his testimony was “at most a working hypothesis, not admissible scientific ‘knowledge’ ” based upon “ ‘sufficient facts or data’ ” or “ ‘the product of reliable principles and methods \* \* \* applied reliably to the facts of the case.’ ” 565 F.3d at 670 (quoting Rule 702). The Sixth Circuit emphasized that scientific hypotheses “serve[ ] well in the clinic but not in the courtroom.” *Id.* at 673. “ ‘Conjectures \* \* \* are of little use \* \* \* in the project of reaching a quick, final, and binding legal judgment—often of great consequence—about a particular set of events in the past.’ ” *Id.* at 677 (quoting *Daubert*, 509 U.S. at 597). The Ninth Circuit’s “faulty methodology” rule is irreconcilable with the Sixth Circuit’s holding, because it allows the jury to determine liability based on expert testimony that rests on deficient data and an application of scientific principles that has not been validated.

2. Although the Ninth Circuit’s approach conflicts with that of the Second, Sixth, and Tenth Circuits, it is unfortunately not anomalous. Despite this Court’s rejection of the methodology-conclusion distinction in *Joiner* and Rule 702, other circuits continue to rely on that distinction to justify passing the Rule 702 reliability inquiry to the jury. See generally David H. Kaye, David E. Bernstein, & Jennifer L. Mnookin, *THE NEW WIGMORE: EXPERT EVIDENCE*, § 9.2, *The Usurpation Problem and the Methodology-Conclusion Distinction* (2014).



In *Johnson v. Mead Johnson & Co.*, 754 F.3d 557 (8th Cir. 2014), for example, the Eighth Circuit recently reversed the trial court's exclusion of expert testimony offered to prove that contaminated infant formula caused a child's brain damage. Although the experts did not rule out the child's home environment or the municipal water supply as possible sources of the contamination, the Eighth Circuit construed *Daubert* to "call for the liberal admission of expert testimony" and held that "such considerations go to the weight to be given the testimony by the factfinder, not its admissibility." *Id.* at 560-562, 564. Similarly, in *Manpower, Inc. v. Insurance Co. of Pennsylvania*, 732 F.3d 796 (7th Cir. 2013), the Seventh Circuit held that "[r]eliability \* \* \* is primarily a question of the validity of the methodology employed by an expert, not the quality of the data used in applying the methodology or the conclusions produced." *Id.* at 806. The Seventh Circuit reversed a trial court order excluding expert damages testimony because the concerns that prompted exclusion implicated not the reliability of the expert's methodology, but the data from which he chose to extrapolate. *Id.* at 807-810.

3. The circuit decisions do not always fall neatly into camps, with each circuit firmly planted on one side of the divide or the other. Sometimes the conflicting approaches can be seen within decisions of the same circuit. Notwithstanding *Paoli II*, for example, in *Walker v. Gordon*, 46 F. App'x 691 (3d Cir. 2002), the Third Circuit rejected a challenge to expert testimony that went to "the application rather than the legitimacy of [the expert's] methodology," reasoning that "the sufficiency of the data to support an expert's conclusion" is solely for the jury to decide. *Id.* at 695-696.

That there is conflict within, as well as among, circuits underscores the depth of lower courts' continuing confusion over the roles of judge and jury under Rule 702. See generally David E. Bernstein, *The Misbegotten Judicial Resistance*

to the *Daubert Revolution*, 89 NOTRE DAME L. REV. 27 (2013) (surveying additional cases on both sides of the split). The conflict will not go away absent this Court's intervention.

### **C. The Question Is Exceptionally Important.**

The issue in this case is unquestionably important and is presented with unusual clarity by the acknowledged circuit conflict. Continuing uncertainty over the proper application of Rule 702 leads to inconsistent and unpredictable results. The Ninth Circuit's "faulty methodology" rule, in particular, creates the risk that liability determinations will be based on unsound science and puts pressure on parties to settle claims based on unreliable testimony.

The importance of rigorously screening expert testimony so that only reliable testimony is presented to juries is critical to the integrity of our judicial process. Rapid technological advances promise to keep emerging scientific theories and methodologies at the center of many legal disputes. "Proper resolution of those disputes matters not just to the litigants, but also to the general public—those who live in our technologically complex society and whom the law must serve." Federal Judicial Center, REFERENCE MANUAL ON SCIENTIFIC EVIDENCE, Stephen Breyer, *Introduction* at 2 (National Academies Press 3d ed. 2011) (REFERENCE MANUAL). Just as the Court intervened in *Daubert*, *Joiner*, and *Kumho* to resolve important controversies over Rule 702, the Court should intercede here to resolve the continuing dispute over the proper roles of judges, juries, and appellate courts in ensuring the reliability of expert testimony.

## **II. THE DECISION BELOW IS PLAINLY INCORRECT.**

The fallout from the Ninth Circuit's "faulty methodology" rule is apparent from three significant legal errors in the panel decision.

1. The panel improperly treated the weaknesses that SQMNA identified in Dr. Sturchio's analysis as "protocol" failures that went to the weight of his testimony, not its admissibility. This was clearly wrong under Rule 702(d), which requires, as a condition of admissibility, that the trial court determine that the expert has "reliably applied" his or her chosen "principles and methods to the facts of the case." Pomona could not meet its burden of proof on this element, because Dr. Sturchio's procedures have not been replicated or validated by other scientists.

*Daubert* itself places the testability of the expert's approach—"whether it can be (and has been) tested"—first among the "key" reliability assessments that trial courts ordinarily must make before admitting expert scientific testimony. *Daubert*, 509 U.S. at 593. The other *Daubert* reliability factors flow from this requirement. Publication and peer review, for example, "increase[ ] the likelihood that substantive flaws in [the expert's] methodology will be detected," because it enables other scientists to perform and validate the expert's approach and identify its limitations. *Id.* at 594. Replication by independent laboratories also allows the scientific community to determine "the potential rate of error" associated with the approach. *Id.*

The National Academy of Sciences, in its influential 2009 report on the state of forensic science in the United States, similarly recognized that "meaningful scientific validation, determination of error rates, [and] reliability testing" is essential to ensure the reliability of all forms of forensic evidence. National Research Council of the National Academies, *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD* 107-108 (2009). "[E]xtensive validation" of DNA profiling techniques, for example, has led courts to deem them sufficiently reliable to be admissible for forensic identification purposes. *REFERENCE MANUAL* at 61 (internal quotation marks omitted). By contrast, other techniques, such as microscopic hair analysis, have dubious

forensic reliability because sufficient samples have not been studied to establish uniqueness, and because samples can vary even when taken from the same source. *Id.* at 112-119. *See also id.* at 64 n.45 (noting position of New England Journal of Medicine and other journals, participating as *amici* in *Daubert*, that “ ‘[g]ood science’ \* \* \* mandates that each proposition undergo a rigorous trilogy of publication, replication and verification before it is relied upon”) (internal quotation marks omitted).

Under these standards, Dr. Sturchio’s application of stable isotope analysis to groundwater perchlorate clearly has not undergone proper validation. Although Government scientists have collaborated with him on discrete aspects of his perchlorate research, it is undisputed that no laboratory other than Dr. Sturchio’s has ever tested or used his novel, multi-step process for analyzing the isotopes in low-level concentrations of groundwater perchlorate. Dr. Sturchio admitted this at the *Daubert* hearing, when he testified that his is “the only lab in the country” performing the analysis. 1-ER-14:3-5.

The “Guidance Manual” similarly acknowledges that, although “[s]plit samples” are often taken in groundwater analyses so that independent laboratories can “verify results,” such verification of Dr. Sturchio’s analyses is “not possible,” because “there is only one laboratory currently that conducts sample preparation and analysis as a commercial service.” 2-ER-124. The Ninth Circuit concluded that because two Government laboratories collaborated on aspects of Dr. Sturchio’s DoD-funded perchlorate research, they also have “used and tested” his approach. Pet. App. 14a. But there is no basis for that claim in the record, making the panel’s assumption sufficiently erroneous to undermine its entire analysis of the proposed expert testimony. Pet. Reh’g 5-7.

In short, the panel plainly erred in treating Dr. Sturchio’s proposed testimony as resting on a “theoretical foundation \* \* \* sufficiently accepted in the scientific community to

pass muster under *Daubert*.” Pet. App. 16a (internal quotation marks omitted). The testimony lacked any such foundation.

2. The panel’s myopic focus on “methodology” also led it erroneously to reject SQMNA’s challenges to Dr. Sturchio’s reference database, in contravention of Rule 702(b)’s requirement that the trial court determine whether expert testimony is based on “sufficient facts or data.” Indeed, this case demonstrates the futility of distinguishing between an expert’s methodology and conclusions, because, as the District Court recognized, reasoning from a deficient data set is not a reliable scientific method at all.

At the *Daubert* hearing, the District Court repeatedly asked Dr. Sturchio how he could know that the perchlorate in Pomona’s water was from the Atacama Desert, among all other possible natural and synthetic sources in the world, when so few other perchlorate sources have been analyzed. 1-ER-51:13-53:19. Although Dr. Sturchio testified that the isotope signatures of synthetic, indigenous Atacama, and indigenous U.S. perchlorate are distinctive, his published data set includes only a handful of analyzed samples from each of these sources—and none at all of indigenous perchlorate from Pomona itself.

Significantly, moreover, Dr. Sturchio admits that scientists do not know why natural perchlorate from different locations exhibits different isotope ratios. 1-ER-53:3-4. Thus, he has no plausible basis for concluding that all perchlorate from the Atacama Desert bears the same “signature” or that all as-yet unanalyzed sources of natural U.S. perchlorate, including from Pomona, will have “signatures” meaningfully different from Atacama perchlorate. In fact, recent analysis of new samples reveals greater isotopic variation in Atacama perchlorate than Dr. Sturchio’s analysis reflects. Thus, his database is deficient in both quality and quantity. *See* 2-SER-317-327.

There is no basis in law or reason for the Ninth Circuit's holding that these deficiencies were not a proper basis for the District Court to exclude Dr. Sturchio's testimony, simply because SQMNA offered its own expert. Experts usually disagree on the sufficiency of the facts or data on which the opposing expert's testimony is based; that is their job. Requiring trial courts to submit the Rule 702(b) question to the jury whenever opposing experts disagree eviscerates the trial court's obligation to exclude unreliable evidence from trial. The panel decision is irreconcilable with *Joiner*, which gives trial courts the authority to determine, in the first instance, that there is simply "too great an analytical gap" between the expert's "data and the opinion proffered." 522 U.S. at 146. Pomona offered nothing but Dr. Sturchio's "ipse dixit" that his database was sufficiently developed to yield reliable conclusions, and the District Court therefore correctly excluded his testimony. *Id.*

3. The panel's ruling also demonstrates its misunderstanding of abuse-of-discretion review. In *Kumho*, this Court held that because the trial court in that case reasonably determined that the expert's proposed testimony "fell outside the range where experts might reasonably differ," the trial court did not abuse its discretion by excluding the testimony, and the court of appeals erred in reversing the exclusion order. 526 U.S. at 153-158. Here, the Ninth Circuit did not assess the reasonableness of the District Court's exclusion order. Instead, the panel merely recited the competing assertions of Dr. Sturchio and SQMNA's expert about the adequacy of the database, tossed up its hands, and declared the matter a jury question.

The panel improperly substituted its judgment for the District Court's in other ways, as well. For example, it treated the "Guidance Manual" as proof that Dr. Sturchio's approach has been properly validated, Pet. App. 11a, notwithstanding the provisional language in the "Guidance Manual" on which the District Court relied to reach the opposite conclusion. *Id.* 29a. The panel also relied on a list of published articles co-

authored by Dr. Sturchio as proof of general acceptance of his approach, *id.* 11a, even though the articles were not in evidence, the “Guidance Manual” acknowledges that they contain only “[a]bbreviated descriptions” of the approach, and the articles recognize the approach’s limitations. 2-ER-118; 2-SER-320-321.

Such reweighing of evidence might be appropriate if appellate courts were tasked with reviewing the issue *de novo*. But it has no place under the limited abuse-of-discretion standard applicable to *Daubert* rulings. *See Piper Aircraft Co. v. Reyno*, 454 U.S. 235, 257 (1981) (court of appeals misapplies abuse-of-discretion review when it “substitute[s] its own judgment for that of the District Court”). The panel’s misapplication of abuse-of-discretion review is inextricably intertwined with its misunderstanding of the trial court’s obligation to screen expert testimony for reliability under Rule 702.

\* \* \* \*

“[T]he courtroom is not the place for scientific guesswork, even of the inspired sort. Law lags science; it does not lead it.” *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996) (Posner, J.). No matter how reliable an expert’s scientific theory or methodology may be on its own terms, unreliable *application* of that theory or methodology, or insufficient *data*, renders the expert’s testimony unreliable and, hence, inadmissible. Rule 702 explicitly recognizes this point, but the decision below and others like it do not. After fifteen years of percolating in the lower courts, the divergence of approaches to Rule 702 has only worsened. Review is urgently needed to clarify the governing legal standards in this increasingly important area of the law.

**CONCLUSION**

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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September 2014



## **APPENDIX**

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**APPENDIX A**

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

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No. 12-55147

D.C. No. 2:11-cv-00167-RGK-VBK

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CITY OF POMONA,

*Plaintiff-Appellant,*

v.

SQM NORTH AMERICA CORPORATION,

*Defendant-Appellee.*

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No. 12-55193

D.C. No. 2:11-cv-00167-RGK-VBK

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CITY OF POMONA,

*Plaintiff-Appellee,*

v.

SQM NORTH AMERICA CORPORATION,

*Defendant-Appellant.*

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**OPINION**

Appeal from the United States District Court  
for the Central District of California  
R. Gary Klausner, District Judge, Presiding

Argued and Submitted  
October 11, 2013—Pasadena, California

Filed May 2, 2014

Before: Harry Pregerson and Richard C. Tallman, Circuit  
Judges, and Michael H. Simon,  
District Judge.\*

Opinion by Judge Simon

**SUMMARY\*\***

**Expert Testimony**

The panel affirmed in part and reversed in part the district court's order, and remanded for trial in a case involving perchlorate contamination found in the City of Pomona's water system.

The City of Pomona alleged that SQM North America Corporation's importation of sodium nitrate for fertilizer was the primary source of Pomona's perchlorate contamination. The district court denied SQM's motion for summary judgment, and following a pre-trial *Daubert* hearing, granted SQM's motion *in limine* to exclude the expert testimony of Dr. Neil Sturchio, Pomona's expert witness on causation. The parties stipulated to a conditional dismissal and sought

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\* The Honorable Michael H. Simon, District Judge for the U.S. District Court 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.

review of the district court's order excluding the testimony, and other rulings.

Reversing the district court's exclusion of the expert testimony, the panel held that facts casting doubt on the credibility of an expert witness and contested facts regarding the strength of a particular scientific method are questions reserved for the fact finder. Affirming the district court's denial of SQM's motion for summary judgment, the panel held that there was a genuine factual dispute as to whether the City of Pomona's claims were barred by California's economic loss rule or by the applicable statute of limitations. The panel remanded for a trial.

#### **COUNSEL**

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Michael K. Johnson (argued), and R. Gaylord Smith, Malissa Hathaway McKeith, and Lisa Willhelm Cooney, Lewis Brisbois Bisgaard & Smith, LLP, San Francisco, California, for Defendant-Appellee/Cross-Appellant.

#### **OPINION**

SIMON, District Judge:

After excessive levels of the chemical perchlorate were found in a city's water system, the city undertook to investigate the source of that contamination and remediate. Using a methodology known as "stable isotope analysis," a scientist hired by the city determined that the most likely dominant source of the perchlorate found in the city's groundwater was sodium nitrate that had been used as fertilizer. The sodium nitrate had been imported in large

quantities from Chile several decades earlier and had been used as fertilizer over a substantial period of time. The city sued the company that imported the sodium nitrate into the United States. Before trial, the district court held an evidentiary hearing under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and excluded the city's expert witness. The parties then entered into a conditional stipulated dismissal to facilitate the appeal of the district court's evidentiary ruling, among other issues. Because the district court abused its discretion by not allowing a jury to resolve contested but otherwise admissible expert testimony, we reverse the district court's order of exclusion, affirm the district court's denial of the defendant's motion for summary judgment on other issues, and remand for trial.

## **BACKGROUND**

The City of Pomona, California ("Pomona"), administers a public water system. Pomona receives its water from the Chino Basin aquifer using a set of 14 wells that connect to Pomona's groundwater treatment facility. In 2007, the Chino Basin aquifer was found to have levels of the chemical perchlorate in excess of the Maximum Contaminant Level ("MCL") of six parts per billion ("ppb") permitted by the California Department of Public Health ("CDPH").

CDPH regulates contaminants in drinking water through several standards, including MCLs and Action Levels. MCLs are legally enforceable numerical standards, statutorily defined as "the maximum permissible level of a contaminant in water." Cal. Health & Safety Code § 116275(f). CDPH has the power to suspend or revoke a municipality's water system operating permit for failure to comply with an MCL. *Id.* § 116625(a). Action Levels (known as "Notification Levels" after 2004) are non-regulatory advisory levels for contaminants. *Id.* § 116455(c)(3). The only action required when a

contaminant exceeds an Action Level, but remains below an MCL or when no MCL has been set, is notification to CDPH. *Id.* § 116455(a)(2).

In 1999, the CDPH set the perchlorate Action Level at 18 ppb. At this time, consistent with its responsibility under California law, Pomona began monitoring perchlorate levels in its groundwater and reporting these levels to the CDPH. In 2002, the CDPH reduced the perchlorate Action Level to four ppb. Pomona continued to monitor perchlorate levels. In 2007, CDPH established a perchlorate MCL of six ppb. In response to the MCL, Pomona immediately took steps towards compliance, including shutting off wells, purchasing water from other sources, and blending well water with non-well water to reduce the levels of perchlorate. Pomona also began shifting its existing nitrate removal processes to perchlorate removal and hired an engineer to identify a long-term solution for compliance with the MCL.

On October 15, 2010, Pomona filed this lawsuit against SQM North America Corporation (“SQMNA”) to recover the cost of investigating and remediating perchlorate contamination in the groundwater in and around Pomona, California. Pomona alleges that SQMNA’s importation of natural sodium nitrate from the Atacama Desert in Chile for use as a fertilizer was the primary source of Pomona’s perchlorate contamination.

On October 31, 2011, SQMNA moved for summary judgment on two grounds. First, SQMNA argued that Pomona had not suffered a compensable injury under strict products liability law based on California’s “economic loss rule.” Second, SQMNA argued that even if Pomona had suffered a compensable injury, Pomona’s claim was barred by the applicable three-year statute of limitations. The district court denied SQMNA summary judgment on both arguments. The case then proceeded toward trial.

On January 6, 2012, the district court held a *Daubert* hearing to consider SQMNA's pretrial motion *in limine* to exclude the testimony of Dr. Neil Sturchio, Pomona's expert witness on causation. Dr. Sturchio is the director of the Environmental Isotope Geochemistry Laboratory at the University of Illinois at Chicago. Dr. Sturchio began working on Pomona's perchlorate case in April 2011, using a methodology known as "stable isotope analysis."<sup>1</sup>

Acting under the direction of Dr. Sturchio, Wildermuth Environmental, Inc. ("Wildermuth") collected well water samples from Pomona using methods based on the *Guidance Manual for Forensic Analysis of Perchlorate in Groundwater using Chlorine and Oxygen Isotopic Analyses* ("Guidance Manual"). Wildermuth shipped those samples to Dr. Sturchio with blind labels. Dr. Sturchio analyzed the isotopic composition of the perchlorate in Pomona's groundwater using stable isotope analysis and compared the resulting information with a reference database of known perchlorate sources.

Dr. Sturchio used a four-step methodology with multiple sub-parts. Dr. Sturchio disclosed this methodology in his expert report filed in this litigation. It was also published in 2011 in the *Guidance Manual*, which was commissioned by

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<sup>1</sup> An atom is a basic unit of matter that consists of a central or core nucleus surrounded by a cloud of negatively charged electrons. Inside the nucleus are positively charged protons and, typically, electrically neutral neutrons. An isotope is a form of a chemical element that has the same number of protons in the nucleus (*i.e.*, the same atomic number) as that element but a different number of neutrons in the nucleus (*i.e.*, a different atomic weight). Isotopes that are not subject to nuclear decay are known as "stable isotopes," whereas isotopes that are subject to nuclear decay are known as "radioactive isotopes." Isotope analysis is the study of the nucleus of an atom. Stable isotope analysis is based on the proposition that stable isotopes of a given chemical element (*e.g.*, perchlorate) can have distinct isotopic compositions that may indicate the origin or source of a molecule containing that element.

the Environmental Security Technology Certification Program (“ESTCP”) of the United States Department of Defense. The four steps described in the *Guidance Manual* are: (1) collection of groundwater samples; (2) extraction and purification; (3) oxygen and chlorine isotopic analyses on the purified samples; and (4) determination of probable sources by comparing the resulting isotope data to a reference database. Before the publication of the *Guidance Manual*, peer-reviewed articles provided abbreviated descriptions of the fundamental methods used for stable isotope analysis by Dr. Sturchio and his colleagues.

Based on this analysis, Dr. Sturchio opined that the dominant source of perchlorate in the Pomona groundwater is from the Atacama Desert in Chile and that the samples also contained minor amounts of perchlorate from other non-Atacama sources, including synthetic or indigenous natural sources. Based largely upon Dr. Sturchio’s findings, Pomona argued that the perchlorate found in its groundwater had the same distinctive isotopic composition as the perchlorate imported into southern California from Chile by SQMNA between 1927 and the 1950s.

SQMNA moved to exclude Dr. Sturchio’s opinions, arguing that “stable isotope analysis” failed to satisfy *Daubert* and was insufficiently reliable to be received in evidence under Rule 702 of the Federal Rules of Evidence. After an evidentiary hearing, the district court granted SQMNA’s motion *in limine* to exclude Dr. Sturchio’s testimony. The district court excluded Dr. Sturchio’s opinions as unreliable on the grounds that: (1) the opinions were subject to future methodological revisions and not yet certified; (2) the procedures he used had not yet been tested and were not subject to retesting; and (3) the reference database used by Dr. Sturchio was too small. Shortly thereafter, Pomona and SQMNA stipulated to a conditional dismissal with prejudice in order to facilitate review of the



district court's order excluding Dr. Sturchio's testimony, among other rulings.<sup>2</sup>

## STANDARDS OF REVIEW

We review evidentiary rulings for abuse of discretion and reverse if the exercise of discretion is both erroneous and prejudicial. *Nevada Dept. of Corr. v. Greene*, 648 F.3d 1014, 1018 (9th Cir. 2011) (citation omitted). We review underlying factual determinations for clear error. *United States v. Lukashov*, 694 F.3d 1107, 1114 (9th Cir. 2012). We review a district court's order granting or denying summary judgment *de novo*. *Ford v. City of Yakima*, 706 F.3d 1188, 1192 (9th Cir. 2013).

## DISCUSSION

### A. Exclusion of Pomona's Expert Witness Dr. Sturchio

#### 1. Legal Standards

Rule 702 of the Federal Rules of Evidence provides that expert opinion evidence is admissible if: (1) the witness is sufficiently qualified as an expert by knowledge, skill, experience, training, or education; (2) the scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (3) the testimony is based on sufficient facts or data;

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<sup>2</sup> Pomona also argued that the district court abused its discretion by failing expressly to apply the factors considered in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311 (9th Cir. 1995) ("*Daubert I*"). "[W]hether *Daubert's* specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine." *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 153 (1999). The district court cited *Daubert* as the controlling rule of law in evaluating SQMNA's motion to exclude Dr. Sturchio's testimony. The district court did not abuse its discretion by not explicitly reciting the factors analyzed in *Daubert II*. See *United States v. Preston*, 706 F.3d 1106, 1118 (9th Cir. 2013).

(4) the testimony is the product of reliable principles and methods; and (5) the expert has reliably applied the relevant principles and methods to the facts of the case. Fed. R. Evid. 702.

Under *Daubert* and its progeny, including *Daubert II*, a district court's inquiry into admissibility is a flexible one. *Alaska Rent-A-Car, Inc. v. Avis Budget Grp., Inc.*, 738 F.3d 960, 969 (9th Cir. 2013). In evaluating proffered expert testimony, the trial court is "a gatekeeper, not a fact finder." *Primiano v. Cook*, 598 F.3d 558, 565 (9th Cir. 2010) (citation and quotation marks omitted).

"[T]he trial court must assure that the expert testimony 'both rests on a reliable foundation and is relevant to the task at hand.'" *Id.* at 564 (quoting *Daubert*, 509 U.S. at 597). "Expert opinion testimony is relevant if the knowledge underlying it has a valid connection to the pertinent inquiry. And it is reliable if the knowledge underlying it has a reliable basis in the knowledge and experience of the relevant discipline." *Id.* at 565 (citation and internal quotation marks omitted). "Shaky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion." *Id.* at 564 (citation omitted). The judge is "supposed to screen the jury from unreliable nonsense opinions, but not exclude opinions merely because they are impeachable." *Alaska Rent-A-Car*, 738 F.3d at 969. Simply put, "[t]he district court is not tasked with deciding whether the expert is right or wrong, just whether his testimony has substance such that it would be helpful to a jury." *Id.* at 969-70.

The test of reliability is flexible. *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457, 463 (9th Cir. 2014) (en banc). The court must assess the expert's reasoning or methodology, using as appropriate criteria such as testability, publication in peer-reviewed literature, known or potential error rate, and general acceptance. *Id.*; see also *Primiano*,

598 F.3d at 564. But these factors are “meant to be helpful, not definitive, and the trial court has discretion to decide how to test an expert’s reliability as well as whether the testimony is reliable, based on the particular circumstances of the particular case.” *Primiano*, 598 F.3d at 564 (citations and quotation marks omitted); *see also Barabin*, 740 F.3d at 463. The test “is not the correctness of the expert’s conclusions but the soundness of his methodology,” and when an expert meets the threshold established by Rule 702, the expert may testify and the fact finder decides how much weight to give that testimony. *Primiano*, 598 F.3d at 564-65. Challenges that go to the weight of the evidence are within the province of a fact finder, not a trial court judge. A district court should not make credibility determinations that are reserved for the jury.

## **2. Methodology and certification**

The district court concluded that Dr. Sturchio’s procedures are not reliable because they are not generally accepted in the scientific community. The court gave two reasons: (1) the Quality Assurance/Quality Control (“QA/QC”) parameters were still being refined; and (2) the Environmental Protection Agency (“EPA”) has not yet certified stable isotope analysis for organic or inorganic compounds. These reasons are insufficient to exclude Dr. Sturchio’s testimony.

First, scientific methods that are subject to “further testing and refinement” may be generally accepted and sufficiently reliable. There are “no certainties in science.” *Daubert*, 509 U.S. at 590. For scientific evidence to be admissible, the proponent must show the assertion is “derived by [a] scientific method.” *Id.* Opinion based on “unsubstantiated and undocumented information is the antithesis of . . . scientifically reliable expert opinion.” *Cabrera v. Gordis Corp.*, 134 F.3d 1418, 1423 (9th Cir. 1998). The existence of ongoing research, however, does not necessarily invalidate the reliability of expert testimony. *See Metabolife Int’l, Inc.*

v. *Wornick*, 264 F.3d 832, 843 (9th Cir. 2001) (holding that it was “plain error to hold that the Columbia study was not finished—while the overall project was ongoing, all of the relevant data had been gathered in final form, and Metabolife presented an expert interpretation of that data”). For example, during the “raging controversy” surrounding the new technique of DNA testing, the Ninth Circuit rejected the argument that “the FBI’s DNA testing and statistical procedures may warrant review and revision” as an adequate reason to exclude expert testimony. *United States v. Chischilly*, 30 F.3d 1144, 1152-53 (9th Cir. 1994).

The controlling standards published in the *Guidance Manual* are subject to further evolution. A “disagreement over, not an absence of, controlling standards” is not a basis to exclude expert testimony. *Chischilly*, 30 F.3d at 1154. The methods described in the *Guidance Manual* are the product of 12 peer-reviewed publications on stable isotope analysis of perchlorate. The *Guidance Manual* is a product of inter-laboratory collaboration that began before the initiation of this litigation. Further, all the methods that Dr. Sturchio used were fully disclosed in his expert report from October 2011. There is no record evidence that Dr. Sturchio’s opinion is the product of a hasty, incomplete effort.<sup>3</sup>

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<sup>3</sup> SQMNA argues that Dr. Sturchio’s analysis is incomplete and was previously excluded by another court. In 2003, the Northern District of Illinois excluded the expert testimony of Dr. Sturchio in a matter that, at best, is tangentially related to the analysis he completed for Pomona. *Mejdrech v. Lockformer Co.*, No. 01 C 6107, 2003 WL 22078388, at \*1 (N.D. Ill., Sept. 5, 2003). Although both *Mejdrech* and this case involve the science of stable isotope analysis, they are factually distinct. In *Mejdrech*, Dr. Sturchio testified about chlorine isotope ratios between volatile organic compounds taken from the plaintiff’s locations and the trichloroethylene (TCE) found on the defendant’s property. *Id.* at \*1. The district court found Dr. Sturchio’s opinion to be unreliable due to a risk of sample contamination because he departed from peer-reviewed

Second, the district court noted that because “there are no USEPA-certified methods for CSIA of organic or inorganic compounds,” Dr. Sturchio’s methods were not reliable. Pomona, however, may satisfy its burden of establishing that the evidence is scientifically valid by “pointing to some objective source to show that the conclusions are based on ‘scientific method, as it is practiced by (at least) a recognized minority of scientists in the[] field.’” *Southland Sod Farms v. Stover Seed Co.*, 108 F.3d 1134, 1141 (9th Cir. 1997) (quoting *Daubert II*, 43 F.3d at 1318-19 (alteration in original)). Thus, EPA certification of the isotopic analysis of perchlorate is not a precondition to admissibility.

Dr. Sturchio and two other laboratories compiled the *Guidance Manual*, which shows that the methods Dr. Sturchio employed were reviewed by other laboratories and subject to inter-laboratory calibration. In particular, Dr. Sturchio has collaborated on the methodology used in this case with Dr. J.K. Böhlke, who is among the world’s leading authorities on the measuring and reporting of isotope ratios. This demonstrates that Dr. Sturchio’s method is “practiced by (at least) a recognized minority of scientists in the[] field.” *Id.* at 1141. SQMNA attempts to discredit Dr. Sturchio’s perchlorate techniques by quoting from an EPA manual on the stable isotope analysis of organic compounds at hazardous waste sites. The statements in the EPA manual relating to hazardous waste sites do not relate to the methodologies employed by Dr. Sturchio to analyze Pomona’s groundwater. EPA’s warning regarding the

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methodologies, because the chlorine isotopes that Dr. Sturchio purported to measure could not be measured on a compound-specific basis (such that he could identify or source specific TCE), and based on the allegation that Dr. Sturchio had failed to address unfavorable results in his expert report. *Id.* at \*2-3. Dr. Sturchio is using different methodologies in this case, and SQMNA raises unique challenges that are not analogous to the facts of *Mejdrech*. Thus, the *Mejdrech* decision has little or no bearing on the analysis here.

application of isotope analysis to new, untested areas is a valid basis to require additional indicia of reliability for those new areas of application. *See Att’y Gen. of Okla. v. Tyson Foods Inc.*, 565 F.3d 769, 780-81 (10th Cir. 2009) (rejecting a new application of PCR method DNA typing where there was no testing or peer-reviewed publications specific to the application). In this case, however, the stable isotope study of chlorine and oxygen in perchlorate found in groundwater has been tested, analyzed, and subjected to peer review for at least ten years.

Thus, despite the fact that there is no EPA-certified method of analysis, the record shows that Dr. Sturchio’s methodology and report are based on the scientific method, practiced by recognized scientists in the field, and have a basis in the knowledge and experience of the relevant discipline, thereby rendering the report reliable. *See Southland Sod Farms*, 108 F.3d at 1141. Dr. Sturchio’s expert report details how he analyzed the relevant data and applied the data to reach his conclusions. The Federal Rules of Evidence do not require an endorsement from the EPA approving Dr. Sturchio’s results. The district court’s conclusion to the contrary was an abuse of discretion. *See Preston*, 706 F.3d at 1118.

### **3. Testing and retesting**

The district court also excluded Dr. Sturchio’s testimony because his methods “have not been tested by other laboratories and are not subject to retesting given the failure to take dual samples.” In order for a scientific technique to be reliable, there must be evidence in the record indicating the methodology “can be or has been tested.” *Cooper v. Brown*, 510 F.3d 870, 880-81 (9th Cir. 2007). The question is whether an expert’s methodology can be “challenged in some objective sense, or whether it is instead simply a subjective, conclusory approach that cannot reasonably be assessed for reliability.” Fed. R. Evid. 702 Advisory

Committee's Note to 2000 Amendments. *Daubert* described the "testability" prong in the context of a hypothesis that is falsifiable. 509 U.S. at 593. Testability "assures the opponent of proffered evidence the possibility of meaningful cross-examination (should he or someone else undertake the testing)." *United States v. Mitchell*, 365 F.3d 215, 238 (3d Cir. 2004). The district court incorrectly applied this standard.

The district court's conclusion was erroneous for three reasons: (1) other laboratories have tested the methodologies from the *Guidance Manual* used by Dr. Sturchio; (2) Dr. Sturchio's procedures are subject to retesting by another laboratory; and (3) challenges to the results obtained by using the techniques from the *Guidance Manual* go to the weight of the evidence and are a question for the fact finder, not the trial court.

First, Dr. Sturchio's methods were fully disclosed in the *Guidance Manual* and are the same methods that Dr. Sturchio used in his analysis of Pomona's groundwater.<sup>4</sup> The *Guidance Manual* represents the latest compilation of QA/QC processes for any laboratory engaged in stable isotope analysis of perchlorate. The test under *Daubert* is whether the method "can be or has been tested." *Cooper*, 510 F.3d at 880 (citation omitted). In *Cooper*, for example, the court excluded expert testimony because there was "no evidence in the record that application of mass spectrometry to forensic analysis of blood evidence to determine EDTA levels can be or has been tested." *Id.* Unlike in *Cooper*, here several laboratories have used and tested the methodologies described in the *Guidance Manual*, including the U.S.

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<sup>4</sup> SQMNA contends that Dr. Sturchio's methods are not fully disclosed. Dr. Sturchio, however, provided a detailed description of the Pomona analysis in his expert report, which correlates with the processes described in the *Guidance Manual*.

Geological Survey, the Oak Ridge National Laboratory, and the University of Illinois at Chicago where Dr. Sturchio works. Although Dr. Sturchio operates the only commercial laboratory using this methodology, testing at governmental laboratories demonstrates that Dr. Sturchio's methods can be objectively challenged.

Second, Dr. Sturchio's processes are subject to retesting. Under *Daubert's* testability factor, the primary requirement is that "[s]omeone else using the same data and methods . . . be able to replicate the result[s]." *Zenith Elecs. Corp. v. WH-TV Broad. Corp.*, 395 F.3d 416, 419 (7th Cir. 2005). The district court stated that the "failure to take dual samples" meant that Dr. Sturchio's "methods" could not be retested. SQMNA argues that the district court did not err because there were two relevant defects in Dr. Sturchio's sampling procedures: (1) Dr. Sturchio failed to use duplicate columns in collecting groundwater samples; and (2) Dr. Sturchio failed to take split samples in order to compare analytical results.

SQMNA's defense of the district court's ruling is unpersuasive because both grounds for exclusion are without adequate support in the record. Neither of the alleged "defects" are "required" analytical steps for stable isotope analysis and, hence, neither are necessary for retesting to occur. The use of duplicate columns during sampling is not mandatory. The basic diagram of the technique employed by Dr. Sturchio shows that the duplicate ion exchange column is "optional." The *Guidance Manual* also explains that "[i]n many instances, single a columns are collected from each well." Duplicate columns are recommended for use on wells that have low levels of perchlorate, not for all sampling. In addition, the sample splitting mentioned in the *Guidance Manual* also is not mandatory. Dr. Sturchio contends that he ran duplicate analyses of his samples, verifying the Pomona results. Dr. Sturchio's Pomona results were also consistent with the pre-litigation Chino Basin Watermaster study.



SQMNA correctly notes that Dr. Sturchio failed independently to verify his test results with a separate lab. This point, however, may serve to undermine or impeach the weight that should be afforded to Dr. Sturchio's testimony, but it does not refute the scientific reliability of his analysis.

Third, it is a question for the jury, not the court, to determine what weight to afford Dr. Sturchio's testimony. SQMNA argues that Pomona did not follow the *Guidance Manual* protocols and that Pomona's collection and extraction procedures were "makeshift." *Daubert*, however, "does not forbid admission" of a report where the weight of the conclusions are subject to challenge. *United States v. Brannon*, 146 F.3d 1194, 1196 (9th Cir. 1998) (permitting the admission of breathalyzer evidence where the scientific technique was not challenged, but rather, the results obtained).

SQMNA's argument relates to adherence to protocol, which typically is an issue for the jury. *See Chischilly*, 30 F.3d at 1154. SQMNA urges the Court to take a guarded approach to the issue of an expert's adherence to protocol. *See, e.g., In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994) (holding that "any step that renders the analysis unreliable . . . renders the expert's testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology."). In the Ninth Circuit, however, expert evidence is inadmissible where the analysis "is the result of a faulty methodology or theory as opposed to imperfect execution of laboratory techniques whose theoretical foundation is sufficiently accepted in the scientific community to pass muster under *Daubert*." *Chischilly*, 30 F.3d at 1154 & n.11 (citations omitted). The rationale of this approach is that "[a] minor flaw in an expert's reasoning or a slight modification of an otherwise reliable method" does not render expert testimony inadmissible. *Amorgianos*

*v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002). A more measured approach to an expert's adherence to methodological protocol is consistent with the spirit of *Daubert* and the Federal Rules of Evidence: there is a strong emphasis on the role of the fact finder in assessing and weighing the evidence. *Daubert*, 509 U.S. at 594-95.

The district court did not provide an explanation as to why Dr. Sturchio's alleged failure to adhere to the protocols in the *Guidance Manual* were significant enough to render his entire analysis unreliable. SQMNA argued to the district court that there was insufficient documentation of the sampling and extraction procedures. Dr. Sturchio's testimony, however, belies this conclusion. He explained that he had documentation verifying that the sampling procedures were followed pursuant to the *Guidance Manual*. He also verified in his expert report and during the *Daubert* hearing that he followed the very detailed standard operating procedure for every sample that was analyzed. The district court did not apply the correct rule of law: only a faulty methodology or theory, as opposed to imperfect execution of laboratory techniques, is a valid basis to exclude expert testimony. *Chischilly*, 30 F.3d at 1154. Ignoring a controlling rule of law constitutes an abuse of discretion. *See Preston*, 706 F.3d at 1118. Moreover, given that Dr. Sturchio refuted SQMNA's assertion that the *Guidance Manual* protocols were not followed, the district court's application of the *Chischilly* standard is "without... inferences that may be drawn from the facts in the record." *See id.*

SQMNA's arguments challenging Dr. Sturchio's expert testimony are not uncontroverted, and they go to the weight that a fact finder should give to his expert report. The district court erroneously ruled that Dr. Sturchio's methodologies have not been and cannot be tested.

#### 4. Reference database

The district court ruled that Dr. Sturchio's "reference database is too limited in order for him to reliably comment on the exclusiveness of the location of the potential source of perchlorate in Pomona's water with an acceptable rate of error." The district court, however, was presented with conflicting expert evidence. SQMNA's expert Dr. Ramon Aravena ("Dr. Aravena") contended that the perchlorate reference database was too small. Dr. Sturchio, on the other hand, explained that the database was sufficiently large to permit him reasonably to draw a connection to the Atacama perchlorate.

At the *Daubert* hearing, the trial court was presented with Dr. Sturchio's analysis that the "dominant source of perchlorate in the Pomona groundwater is from Atacama (Chile)" and that the samples contained "minor amounts of perchlorate from other non-Atacama sources including synthetic and/or indigenous natural sources." Dr. Aravena's expert report cautioned that "not all the potential perchlorate sources have been characterized." Dr. Sturchio, however, responded to Dr. Aravena's contention by arguing that Dr. Aravena's opinion was based on disclosures and quotations from old and outdated publications. Dr. Sturchio also explained that when the Pomona study was conducted, synthetic and Atacama sources of perchlorate were well known and well characterized. At most, this battle among experts merely shows that Dr. Sturchio may not know the isotopic composition of every source of perchlorate in the world with a certainty. Under *Daubert*, however, such a "certainty" is not required, thus making this an invalid basis to exclude expert testimony. 509 U.S. at 590.

The Supreme Court has stated that "[t]rained experts commonly extrapolate from existing data." *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (2007). It is where expert opinion is "connected to existing data only by the *ipse dixit*

of the expert” that there may be “too great an analytical gap between the data and the opinion preferred” to support inclusion of the testimony. *Id.* *Joiner* requires an expert to justify a foundational assumption or refute contrary record evidence.

*Chischilly* is illuminating on this point. In that case, the defendant challenged the use of the FBI’s ethnic-specific database for Native Americans (the “I-3 database”). 30 F.3d at 1155. The court considered whether the FBI’s I-3 database was too small and may have contained too few Navajos to be reliable. *Id.* Both sides of the debate could find “support in the journals and research, and both sides [had] prominent spokespeople.” *Id.* Under *Daubert*’s liberal standard, this sort of debate functioned more as an adverse admission and proved deadlock on both sides of an issue. *Id.* at 1555-56. The *Chischilly* court found that this evidence disproved a lack of “general acceptance” in the scientific community. *Id.*

The *Chischilly* analysis also demonstrates how trial courts ought to treat conflicting expert testimony. A factual dispute is best settled by a battle of the experts before the fact finder, not by judicial fiat. Where two credible experts disagree, it is the job of the fact finder, not the trial court, to determine which source is more credible and reliable. *United States v. Sandoval-Mendoza*, 472 F.3d 645, 654 (9th Cir. 2006).

The district court’s resolution of this debate was an abuse of discretion and sufficient grounds for reversal. *See Preston*, 706 F.3d at 1118. Under Rule 702, it is reasonable for the jury to be presented with conflicting expert testimony. *Sandoval-Mendoza*, 472 F.3d at 654. Even if Dr. Sturchio’s conclusions were “shaky,” they should be attacked by “cross examination, contrary evidence, and attention to the burden of proof, not exclusion.” *Primiano*, 598 F.3d at 564. The district court abused its discretion in concluding that the

reference database was too small. This is a matter for the jury.

## **B. Denial of SQMNA’s Motion for Summary Judgment**

### **1. Legal Standards**

A party is entitled to summary judgment if the “movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). The moving party has the burden of establishing the absence of a genuine dispute of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). The court must view the evidence in the light most favorable to the non-movant and draw all reasonable inferences in the non-movant’s favor. *Clicks Billiards Inc. v. Sixshooters Inc.*, 251 F.3d 1252, 1257 (9th Cir. 2001). Although “[c]redibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge . . . ruling on a motion for summary judgment,” the “mere existence of a scintilla of evidence in support of the plaintiff’s position [is] insufficient. . . .” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252, 255 (1986). “Where the record taken as a whole could not lead a rational trier of fact to find for the non-moving party, there is no genuine issue for trial.” *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986) (citation and quotation marks omitted).

The substantive law governing both the economic loss rule and the statute of limitations in this case is California law. *See Neely v. St. Paul Fire & Marine Ins. Co.*, 584 F.2d 341, 345 (9th Cir. 1978). Whether evidence on a particular issue is sufficient to raise a question of fact for the jury, on the other hand, is governed by federal law. *Id.*

## 2. Economic loss rule

SQMNA argues that the damages sought by Pomona are barred by the economic loss rule. Under California law, “economic loss” consists of damages for inadequate value, cost of repair, cost of replacement of defective products, and lost profit. *Robinson Helicopter Co., Inc. v. Dana Corp.*, 102 P.3d 268, 273 (Cal. 2004). California’s economic loss rule provides that the recovery of economic loss under strict products liability is appropriate only when there has been physical harm to persons or property *other* than the allegedly defective product itself. *Id.*

Pomona is not seeking to recover economic loss for an allegedly defective product. Instead, Pomona claims that the allegedly defective product and the damaged property are distinct. The allegedly defective product at issue is SQMNA’s fertilizer, and the damaged or physically harmed property is Pomona’s groundwater. Because Pomona has presented a genuine dispute of material fact regarding property damage to the affected groundwater, the economic loss rule does not bar the recovery of economic damages.

SQMNA relies on two cases for its argument that Pomona’s claims are barred by the economic loss rule. These cases are distinguishable from the facts here. First, SQMNA cites *County of Santa Clara v. Atlantic Richfield Company* for the holding that costs incurred for “abatement, removal, replacement and/or remediation” of lead paint were nonrecoverable economic loss. 40 Cal. Rptr. 3d 313, 335-37 (Cal. Ct. App. 2006). In *Santa Clara*, however, the plaintiff made no allegations that the defective lead paint had caused any damage to persons or property outside the defective product itself. *Id.* at 337 n.10. In this case, Pomona asserts damage to property independent of the fertilizer.

The second case SQMNA cites is *California Department of Toxic Substances Control v. Payless Cleaners*, No. CIV02-

2389 LKK/DAD, 2007 WL 2580626 (E.D. Cal. Aug. 17, 2007) (“*Payless*”). SQMNA cites *Payless* for the proposition that “the cost of removing hazardous substances and their remediation are economic costs—not physical injuries to property.” *Id.* at \*6. The plaintiffs in *Payless*, a dry-cleaning business and the original defendants in the action, had improperly disposed of dry cleaning solvent, which leaked into the ground and water supply. *Id.* at \*1. Filing a third-party complaint, the plaintiffs sued the manufacturers of the dry-cleaning solvent, claiming strict liability and negligence and seeking indemnity and contribution. *Id.* The court dismissed the plaintiffs’ strict liability and negligence claims, finding that they “failed to plead the existence of damage to any physical component of their land, and they have not shown that they could allege that [the contaminant] physically injured their property.” *Id.* at \*6. These facts make the case distinguishable from the *Pomona* lawsuit because unlike the plaintiffs in *Payless*, *Pomona* alleges damage to its groundwater supply in which it has a property interest. In addition, it appears that the *Payless* court’s application of the economic loss rule is contrary to established California law. The court in *Payless* appears to disregard the fact that there were allegations of damage to property “other than” the defective product itself. See *Robinson Helicopter*, 102 P.3d at 273.

SQMNA also argues that *Pomona* is barred from recovery under the economic loss rule because *Pomona* does not own the water supply at issue and, therefore, is not the proper party to bring the action. Although California Water Code § 102 directs that all water within the state of California is the property of the people of California, *Pomona* maintains a usufructuary right to the water located in its wells. See Cal. Water Code § 102. California and federal courts alike have held that pollution of groundwater is damage to property and that usufructuary rights confer sufficient standing to claim damages caused by pollution. See, e.g., *Tulare Lake Basin*

*Water Storage Dist. v. United States*, 49 Fed. Cl. 313, 319 (Fed. Cl. 2001) (relying on California law); *Aerojet-Gen. Corp. v. Superior Court of San Mateo Cnty.*, 209 Cal. App. 3d 973, 229-30 (Cal. Ct. App. 1989), *abrogated on other grounds by AIU Ins. Co. v. Superior Court*, 799 P.2d 1253 (Cal. 1990).

Reviewing this portion of the district court’s opinion *de novo*, SQMNA has failed to show that there is no genuine factual dispute as to whether Pomona’s claims are barred by the economic loss rule. Pomona provided evidence regarding its possessory interest in the groundwater and damage to its groundwater that is sufficient to survive summary judgment. The district court’s analysis is correct.

### **3. Statute of limitations**

Under California law, the statute of limitations for injury to real property is three years. Cal. Civ. Proc. Code § 338(b). The limitations period for tort actions commence with the occurrence of the last element essential to the cause of action. *San Francisco Unified Sch. Dist. v. W.R. Grace & Co.*, 37 Cal. App. 4th 1318, 1326 (Cal. Ct. App. 1995). When the last element to occur is damage, the limitations period starts upon the occurrence of “appreciable and actual harm, however uncertain in amount, that consists of more than nominal damages.” *Id.* (citation and quotation marks omitted). Although the speculative or uncertain nature of the damages will not toll the period of limitations, the “mere breach of duty—causing only nominal damages, speculative harm or the threat of future harm not yet realized—normally does not suffice to create a cause of action.” *Id.*

The test for when appreciable harm has occurred in water contamination cases has not been well defined in the California courts. In a relatively recent water contamination case, a federal district court applying California law found that appreciable harm occurs when the contamination



“caused or should have caused” the party to act in response to the contamination. *In re MTBE Prods. Liab. Litig.*, 475 F. Supp. 2d 286, 293-95 (S.D.N.Y. 2006). In *In re MTBE*, a consolidated multi-district litigation case, the plaintiffs sought relief from contamination of groundwater from the defendants’ use of methyl tertiary butyl ether (“MTBE”), a gasoline additive. *Id.* at 287. Because the plaintiffs had been testing for MTBE for many years, the defendants argued that their claims were time barred.

The court in *MTBE* held that when “the MTBE detected in the groundwater was such that [the plaintiffs] took, or should have taken, steps to investigate, cleanup, abate, and/or remediate the alleged contamination,” the appreciable harm had occurred. *Id.* at 295 (quotation marks omitted). The court noted that the inquiry regarding when a party “should” have acted in response to contamination is a very fact intensive inquiry that is not easily decided on summary judgment. *Id.* Notably, the court also found that the city’s actions in testing the water for MTBE levels and reporting those levels to the state did not, by themselves, establish appreciable harm. *Id.* at 292-94.

Pomona contends that the statute of limitations commenced when the state issued an MCL for perchlorate in 2007. SQMNA argues that Pomona’s actions in testing for perchlorate and reporting perchlorate levels to CDPH in the years before 2007 establish appreciable harm and trigger the statute of limitations. In support of its argument, SQMNA identifies a 2001 water permit contract with CDPH that requires that “[a]ll water produced by the City shall meet all Maximum Contaminant Levels (MCLs) and all Action Levels established by [CDPH].” Although there was no existing MCL for perchlorate in 2001, a perchlorate Action Level was in place. Moreover, before 2007, some of the wells at issue in this litigation had perchlorate levels above the established Action Level.

Action Levels, unlike MCLs, however, do not legally require Pomona to take action to reduce contaminants in the water. In fact, before the adoption of the perchlorate MCL in 2007, the perchlorate suggested “response level” was set at 40 ppb, a number significantly higher than the perchlorate levels in any of the Pomona wells. Therefore, despite the seemingly inflexible text in Pomona’s water permit contract, Pomona’s only “required” actions in response to perchlorate contamination before 2007 consisted of testing and reporting. The *In re MTBE* court found that testing and reporting requirements, standing alone, do not constitute appreciable harm under California law. 475 F. Supp. 2d at 292-94. The court’s finding is persuasive, particularly considering that municipalities across California are required to test and report on hundreds of unregulated chemicals.

SQMNA also argues that Pomona either acted or should have acted to reduce the perchlorate level in the water supply before 2007, which also triggered the running of the statute of limitations. This claim is predicated on disputed facts. Although SQMNA argues that Pomona actively treated groundwater to reduce perchlorate before 2007, Pomona presents testimony from employees who note that before the perchlorate MCL in 2007, there was no program to remove perchlorate from the water and that any removal that did occur was “ancillary” to Pomona’s active nitrate treatment program.

SQMNA also argues that Pomona knew about the perchlorate contamination and therefore should have acted to reduce the perchlorate levels; however, Pomona has provided evidence that its failure to act was reasonable at the time, given the scientific uncertainty regarding the safety of perchlorate in drinking water and the fact that Pomona relied

on MCLs as “guideposts” for determining what levels of contamination were safe.<sup>5</sup>

Other than Pomona’s testing and reporting, all of SQMNA’s assertions regarding Pomona’s pre-2007 actions in response to perchlorate contamination are based on disputed facts. As such, determining when appreciable harm may have occurred is inappropriate for resolution on summary judgment. Viewing the evidence in the light most favorable to Pomona, SQMNA cannot demonstrate as a matter of law that Pomona’s claim is barred by the three-year statute of limitations. Therefore, the district court did not err in denying summary judgment to SQMNA on its statute of limitations defense.

### CONCLUSION

Expert testimony may be excluded by a trial court under Rule 702 of the Federal Rules of Evidence only when it is either irrelevant or unreliable. Facts casting doubt on the credibility of an expert witness and contested facts regarding the strength of a particular scientific method are questions reserved for the fact finder. Accordingly, we reverse the district court’s exclusion of Dr. Sturchio’s expert testimony. In addition, viewing the evidence in the light most favorable

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<sup>5</sup> SQMNA also argues that Pomona should be bound by its initial Rule 26 damages disclosures, which assert damages for perchlorate related expenses before the adoption of the MCL. This argument is without merit. Pomona’s amended Rule 26 disclosures eliminate the pre-October 2007 claim for damages. Although Ninth Circuit authority provides that initial disclosures that have been later amended are admissible in evidence, SQMNA cites no authority for the proposition that an original disclosure, before being amended, is a “binding” admission. SQMNA implies that the “sham affidavit” rule, *see Nelson v. City of Davis*, 571 F.3d 924, 927-28 (9th Cir. 2009), might apply in this context by analogy. There is, however, no evidence that Pomona’s amended discovery disclosures and calculations are a “sham.” Thus, SQMNA’s implied argument is unavailing.

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to the non-moving party, SQMNA has failed to show that there is no genuine factual dispute as to whether Pomona's claims are barred by the economic loss rule or by the applicable statute of limitations. Therefore, we affirm the district court's denial of SQMNA's motion for summary judgment.

**AFFIRMED IN PART, REVERSED IN PART, and REMANDED FOR TRIAL.** The parties shall bear their own costs on appeal.

**APPENDIX B**

UNITED STATES DISTRICT COURT  
CENTRAL DISTRICT OF CALIFORNIA

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**CIVIL MINUTES – GENERAL**

Case No.: CV 11-00167-RGK (VBKx)

Date: January 6, 2012

Title: City of Pomona v. Sociedad Quimica Y  
Minera De Chile SA, et al.

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Present:

The Honorable R. GARY KLAUSNER,  
UNITED STATES DISTRICT JUDGE  
Deputy Clerk: Sharon L. Williams  
Court Reporter/Recorder: Not Reported  
Tape No.: N/A

Attorneys Present for Plaintiffs: Not Present  
Attorneys Present for Defendants: Not Present

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**Proceedings:**

**(IN CHAMBERS) Order Re: Defendant's Motion  
in Limine Number 3 to Strike or Limit Expert Testimony  
of Neil Sturchio (DE 102)**

The Court **GRANTS** Defendant's Motion in Limine to exclude the opinions in Dr. Neil Sturchio's October 12, 2011 expert report, regarding the source of perchlorate in Pomona's water.

The Court excludes the opinions on the grounds that the test methods used do not meet the reliability standards set

forth in *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579 (1993). In assessing the admissibility of scientific expertise under *Daubert*, a court looks to whether the technique is tested and subject to retesting, whether the technique has been subjected to peer review and publication, the known rate of error of the technique, and whether the technique has acquired general acceptance in the scientific community. *Daubert*, 509 U.S. at 593-94.

First, the procedures used by Dr. Sturchio for isotopic analysis of perchlorate have not been generally accepted by the scientific community. In fact, the Department of Defense's "Guidance Manual for Forensic Analysis of Perchlorate in Groundwater using Chlorine and Oxygen Isotopic Analysis" states that "the techniques and Quality Assurance/Quality Control (QA/QC) parameters are still being refined, and there are no USEPA-certified methods for CSIA of organic or inorganic compounds." (Sturchio Supp. Decl. Ex. 1.) The procedures used in this case are further flawed in that they have not been tested by other laboratories and are not subject to retesting given the failure to take dual samples. Second, Dr. Sturchio's reference database is too limited in order for him to reliably comment on the exclusiveness of the location of the potential source of the perchlorate in Pomona's water with an acceptable rate of error.

Therefore, Dr. Sturchio's expert opinions on the source of perchlorate in Pomona's water are hereby excluded.

**IT IS SO ORDERED.**

Initials of Preparer

\_\_\_\_\_: \_\_\_\_\_  
slw

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**APPENDIX C**

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

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No. 12-55147

D.C. No. 2:11-cv-00167-RGK-VBK

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CITY OF POMONA,

*Plaintiff-Appellant,*

v.

SQM NORTH AMERICA CORPORATION,

*Defendant-Appellee.*

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No. 12-55193

D.C. No. 2:11-cv-00167-RGK-VBK

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CITY OF POMONA,

*Plaintiff-Appellee,*

v.

SQM NORTH AMERICA CORPORATION,

*Defendant-Appellant.*

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Before: PREGERSON and TALLMAN, Circuit Judges, and SIMON, District Judge.\*

The panel has voted to deny the petition for panel rehearing; Judges Pregerson and Tallman have voted to deny the petition for rehearing en banc and Judge Simon so recommends.

The full court has been advised of the petition for rehearing en banc and no judge has requested a vote on whether to rehear the matter en banc. Fed. R. App. P. 35.

The petition for panel rehearing and the petition for rehearing en banc are DENIED.

IT IS SO ORDERED.

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\* The Honorable Michael H. Simon, United States District Judge for the District of Oregon, sitting by designation.