FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

CITY OF POMONA, *Plaintiff-Appellant*, v. SQM NORTH AMERICA CORPORATION, *Defendant-Appellee*.	No. 12-55147 D.C. No. 2:11-cv-00167-RGK-VBK
CITY OF POMONA, *Plaintiff-Appellee*, v. SQM NORTH AMERICA CORPORATION, *Defendant-Appellant*.	No. 12-55193 D.C. No. 2:11-cv-00167-RGK-VBK 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 review of the district court's order excluding the testimony, and other rulings.

[*] 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.

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

Victor M. Sher (argued), and Todd E. Robins, Esther L. Klisura, and Jed J. Borghei, Sher Leff, LLP, San Francisco, California; Arnold M. Alvarez-Glasman and Andrew L. Jared, Alvarez-Glasman & Colvin, City of Industry, California, for Plaintiff-Appellant/Cross-Appellee.

Michael K. Johnson (argued), and R. Gaylord Smith, Malissa Hathaway McKeith, and Lisa Willhelm Cooney, Lewis Brisbois Bisgaard & Smith, LLP, San Franscisco, 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."[1]

[1] 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

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 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.

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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.

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.[2]

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[2] 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 II*"). "[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

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; (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.

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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).

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. Cordis 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.[3]

[3] 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

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.

(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 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.

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 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.[4] 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. 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

[4] 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*.

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 IX 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 non-recoverable 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, clean up, 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.[5]

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

[5] 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.

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 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.