

FOR PUBLICATION

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

CITY OF POMONA, <i>Plaintiff-Appellant,</i> v. SQM NORTH AMERICA CORPORATION, <i>Defendant-Appellee.</i>

No. 15-56062

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 May 10, 2017
Pasadena, California

Filed August 7, 2017

Before: J. Clifford Wallace, Morgan Christen,
and Paul J. Watford, Circuit Judges.

Opinion by Judge Wallace

SUMMARY*

Expert Testimony

The panel vacated the district court's judgment, which found that SQM North America Corporation was not liable for causing perchlorate contamination in the City of Pomona's water system, and held that the district court abused its discretion by limiting the testimony of one of the City's experts and failing to make sufficient findings before admitting the testimony of one of SQM's experts.

Dr. Neil Sturchio developed a methodology for collecting and analyzing perchlorate isotopes from groundwater, and he concluded that most of the perchlorate in the City's water had come from the Atacama Desert in Chile. The City filed this products-liability action, alleging that SQM's importation of perchlorate-containing fertilizer products from the Atacama Desert caused the contamination in the City's water supply.

First, the panel addressed the district court's denial of the City's motion to update Dr. Sturchio's report, which resulted in the exclusion of any testimony regarding post-2011 developments in Dr. Sturchio's research. The panel held that in denying the City's motion, the district court identified the correct legal standard. The panel held, however, that the district court applied the legal standard in an "illogical" manner, and thus committed an abuse of discretion. The panel further held that the district court's exclusion of Dr. Sturchio's testimony was prejudicial.

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

Second, the panel considered the district court's denial of the City's motion to exclude the testimony of SQM's alternative source expert, Dr. Richard Laton, who opined that the perchlorate at issue might have flowed from hundreds of potential alternative sources other than SQM's fertilizer. The panel held that the manner in which the district court denied the City's *Daubert* motion as to Dr. Laton constituted an abuse of discretion. Specifically, the panel held that the district court's failure to make any findings regarding the efficacy of Dr. Laton's expert opinions constituted an abdication of the district court's gatekeeping role, and was necessarily an abuse of discretion. The panel also held that based on the circumstances presented by the case, the City did enough to preserve its objection. Finally, the panel held that the erroneous inclusion of Dr. Laton's testimony, combined with the erroneous partial exclusion of Dr. Sturchio's testimony, was prejudicial.

On remand, the panel directed the district court to allow Dr. Sturchio to update his expert report, and testify to the state of stable isotope research up to the present. The panel also directed the district court to make findings regarding the scientific reliability of Dr. Laton's proposed opinions, and hold a *Daubert* hearing if deemed necessary.

COUNSEL

Susannah Weaver (argued), Donahue & Goldberg LLP, Washington, D.C.; Esther L. Klisura, Kathleen S. Kizer, SL Environmental Law Group, San Francisco, California; Robert S. Chapman, Sauer & Wagner, Los Angeles, California; Andrew L. Jared, Assistant City Attorney; Arnold M. Alvarez-Glasman, City Attorney; Office of the City Attorney

of the City of Pomona, Pomona, California; for Plaintiff-Appellant.

R. Gaylord Smith (argued), Lann G. McIntyre, Michael K. Johnson, and Malissa Hathaway McKeith, Lewis Brisbois Bisgaard & Smith LLP, San Diego, California, for Defendant-Appellee.

Anthony Z. Roisman, Weathersfield, Vermont; Ned Miltenberg, National Legal Scholars Law Firm P.C., Washington, D.C.; Kevin J. Madonna, Kennedy & Madonna LLP, Hurley, New York; for Amicus Curiae Law Professors Stephen A. Saltzburg, Michael M. Martin, and Joëlle Anne Moreno.

OPINION

WALLACE, Senior Circuit Judge:

After a seven-day trial, a jury found SQM North America Corporation (SQM) not liable for causing perchlorate contamination in the City of Pomona's (Pomona) water system. Pomona now appeals from that judgment. We have jurisdiction pursuant to 28 U.S.C. § 1291. We hold that the district court abused its discretion by limiting the testimony of one of Pomona's experts and failing to make sufficient findings before admitting the testimony of one of SQM's experts. These errors, in combination, were prejudicial. Accordingly, we vacate the district court's judgment and remand for a new trial.¹

¹ We resolve two other issues raised by Pomona in a concurrently filed memorandum disposition.

I.

Pomona owns and operates a public water system to provide its residents with clean drinking water. The State of California regulates the quality of that water by imposing maximum contaminant levels (MCL), which limit the amount of a given chemical that can be present in the water. In 2007, California established that the MCL for perchlorate, a chemical that interferes with the ability of the thyroid gland to produce hormones, would be six parts per billion. Shortly thereafter, Pomona discovered that fourteen of its wells possessed perchlorate levels in excess of the MCL. In response, Pomona shut down non-compliant wells, purchased water from other sources, and took other steps to remedy the perchlorate contamination in its drinking water.

In 2010, Pomona filed this products-liability action against SQM. SQM began importing fertilizer from the Atacama Desert in Chile in 1927, and from 1931 to 1968 imported a substantial portion of the Chilean nitrate (a component of that fertilizer) brought from Chile into the United States. The theory of Pomona's case is that SQM's importation of perchlorate-containing fertilizer products from the Atacama Desert, which were used in areas around Pomona's wells, caused the contamination in Pomona's water supply. Thus, Pomona sought to recover over \$32 million in past and future costs associated with investigating and remediating the perchlorate contamination.

The case progressed towards a January 2012 trial date. Unsurprisingly, the case involved several scientific experts, as the key dispute centered around whether the perchlorate from SQM's fertilizer had migrated into Pomona's wells and caused the contamination present in Pomona's water system.

Five days before trial, the district court conducted a *Daubert* hearing to consider whether the testimony of Pomona’s expert witness, Dr. Neil Sturchio, should be excluded. Dr. Sturchio, who was then the Head of the Department of Earth and Environmental Sciences at the University of Illinois at Chicago,² had developed a peer-reviewed methodology for collecting and analyzing perchlorate isotopes from groundwater. Dr. Sturchio’s research concluded that perchlorate from the Atacama Desert in Chile has a distinct isotopic fingerprint. Thus, by analyzing the chlorine and oxygen isotopes taken from Pomona’s wells, Dr. Sturchio determined that roughly ninety percent of the perchlorate present in Pomona’s groundwater matched the isotopic fingerprint of perchlorate unique to the Atacama Desert. Put simply, Dr. Sturchio concluded that most of the perchlorate in Pomona’s water had come from the Atacama Desert.

Four days before trial was to begin, the district court granted SQM’s motion to exclude Dr. Sturchio’s testimony. In a one half-page minute order, the district court held that Dr. Sturchio’s opinions had “not been generally accepted by the scientific community,” had “not been tested by other laboratories,” and that “Dr. Sturchio’s reference database [was] too limited.” As Dr. Sturchio was one of Pomona’s key witnesses, the parties stipulated to dismiss the case and allowed Pomona to appeal the exclusion of his testimony.

We reversed the district court’s exclusion of Dr. Sturchio’s expert testimony. *City of Pomona v. SQM North America Corp.*, 750 F.3d 1036 (9th Cir. 2014) (*Pomona I*). We held that the “district court’s ruling [was] unpersuasive

² Dr. Sturchio is now the Chair of the Department of Geological Sciences at the University of Delaware.

because both grounds for exclusion [were] without adequate support in the record.” *Id.* at 1047. Accordingly, we remanded the case for trial. The mandate from our court issued in December 2014.

Upon remand, the district court ordered a status conference for January 12, 2015. At that conference, Pomona requested to reopen fact and expert discovery to reflect scientific developments that had been advanced during the three years in which the case was on appeal. The district court requested that Pomona file a written motion to reopen discovery and set trial to begin June 2, 2015, less than five months from the date of the first post-remand status conference.

On February 9, 2015, Pomona filed its formal motion to reopen discovery. As to Dr. Sturchio, Pomona requested leave to supplement his expert report to reflect additional data concerning isotopic analysis of perchlorate that had been developed while the appeal had been pending. The motion contained a sworn declaration from Dr. Sturchio, in which he described the new developments in the science of isotopic analysis of perchlorate. Dr. Sturchio and other scientists had conducted new interlaboratory comparisons and the database sizes for their research had increased, which buttressed Dr. Sturchio’s conclusions and repelled the main criticisms of his research. On March 26, 2015, the district court denied Pomona’s motion to supplement Dr. Sturchio’s report. The district court concluded that Pomona failed to demonstrate that the information was material and determined that updating Dr. Sturchio’s report would “create back-and-forth discovery, which could delay trial.”

The case proceeded towards the June 2, 2015, trial date. Still pending, however, were the parties' motions *in limine*, which had been filed in 2011, before the original trial date. At that juncture, before the case made its first trip through our court, the district court had issued tentative rulings on the motions *in limine*. On May 29, 2015, four days before trial, the district court issued new rulings on the parties' motions *in limine*. Relevant for our purposes is the district court's ruling on Pomona's motion to exclude the testimony of SQM's expert, Dr. Richard Laton. Dr. Laton's proffered testimony contended that the perchlorate contamination present in Pomona's water system could have come from hundreds of alternative sources other than SQM's importation of fertilizer from the Atacama Desert. For example, Dr. Laton opined that the perchlorate in Pomona's water system could have come from "household bleach," "swimming pools," "septic tanks," "photographic flash powder," or even "fireworks." Pomona's motion asserted that Dr. Laton's testimony was unreliable under the standard set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Before the first appeal, the district court denied Pomona's *Daubert* motion as to Dr. Laton, without explanation, in a ruling that was explicitly labeled as tentative. The district court's May 29, 2015, ruling on Pomona's motion to exclude Dr. Laton did not include any analysis.

At trial, Dr. Sturchio testified to the circumstances as they existed in 2011. As the district court had denied Pomona's motion to update Dr. Sturchio's expert report, he was prohibited from testifying about the significant scientific progress that had taken place while the case had been on appeal. Furthermore, Dr. Laton testified that the perchlorate contamination could have arisen from many potential sources. After seven days of testimony and argument, the jury returned

its verdict, finding that SQM's sodium nitrate fertilizer was not a substantial factor in causing harm to Pomona—a complete defense verdict in favor of SQM.

This appeal followed, in which Pomona challenges the district court's denial of its motion to update Dr. Sturchio's expert report, which resulted in the exclusion of testimony regarding new scientific developments. Pomona also challenges the district court's denial of its motion to exclude Dr. Laton's testimony.

II.

“We review evidentiary rulings for abuse of discretion and reverse if the exercise of discretion is both erroneous and prejudicial.” *Pomona I*, 750 F.3d at 1043. Furthermore, “[t]he district court is given broad discretion in supervising the pretrial phase of litigation, and its decisions regarding the preclusive effect of a pretrial order . . . will not be disturbed unless they evidence a clear abuse of discretion.” *Johnson v. Mammoth Recreations, Inc.*, 975 F.2d 604, 607 (9th Cir. 1992) (second alteration in original) (citation and internal quotation marks omitted).

“[T]he first step of our abuse of discretion test is to determine de novo whether the trial court identified the correct legal rule to apply to the relief requested.” *United States v. Hinkson*, 585 F.3d 1247, 1261–62 (9th Cir. 2009) (en banc). “[T]he second step of our abuse of discretion test is to determine whether the trial court's application of the correct legal standard was (1) illogical, (2) implausible, or (3) without support in inferences that may be drawn from the facts in the record.” *Id.* at 1262 (citations and internal quotation marks omitted).

III.

A.

First, we turn to the district court's denial of Pomona's motion to update Dr. Sturchio's report, which resulted in the exclusion of any testimony regarding post-2011 developments in Dr. Sturchio's research.

In his 2011 expert report, Dr. Sturchio concluded that a substantial majority of the perchlorate in Pomona's water system had come from the Atacama Desert in Chile. The strongest criticisms of Dr. Sturchio's 2011 report were that the reference database he used was too small, and, that when the 2011 report was composed, Dr. Sturchio's specific method had not been tested widely and confirmed by other laboratories. Thus, upon remand in 2015, Pomona moved to update Dr. Sturchio's expert report, so his testimony would reflect the current state of knowledge in the scientific community in these areas. Pomona's motion included a sworn declaration from Dr. Sturchio, in which he described the developments that had taken place. Dr. Sturchio explained that "a number of laboratories, other than [his] own, have continued to engage in perchlorate isotopic analysis," resulting in "additional interlaboratory comparisons that fully verify the methods used and the results obtained in [his] previous research." Moreover, by 2015, "the database for natural perchlorate samples [had] become larger, and [included] samples from other locations across the US and around the world."

Despite these relevant scientific developments, the district court denied Pomona's motion to reopen discovery and update Dr. Sturchio's expert report, thus limiting his trial

testimony to the scientific world as it existed in 2011. The district court's three-sentence analysis of the issue provided two reasons for prohibiting Dr. Sturchio from updating his report, and thus testifying at trial to the then-current state of stable isotope research. First, the district court concluded that allowing Dr. Sturchio to update his report might "create back-and-forth discovery, which could delay trial." Second, the district court determined that the updates to Dr. Sturchio's report were not material.

When ruling on a motion to amend a Rule 16 scheduling order to reopen discovery, we instruct district courts to consider the following factors:

1) whether trial is imminent, 2) whether the request is opposed, 3) whether the non-moving party would be prejudiced, 4) whether the moving party was diligent in obtaining discovery within the guidelines established by the court, 5) the foreseeability of the need for additional discovery in light of the time allowed for discovery by the district court, and 6) the likelihood that the discovery will lead to relevant evidence.

United States ex rel. Schumer v. Hughes Aircraft Co., 63 F.3d 1512, 1526 (9th Cir. 1995) (citation omitted), *vacated on other grounds*, 520 U.S. 939 (1997).

In denying Pomona's motion, the district court identified the correct legal standard, which satisfies the first step of our abuse of discretion test. *Hinkson*, 585 F.3d at 1261–62. We hold, however, that the district court applied that legal standard in an "illogical" manner, thus committing an abuse

of discretion. *Id.* at 1262. As to the first reason the district court provided, any potential for the updated expert report to delay trial was of the district court's own making. Upon remand, the district court set a June trial date at the initial status conference, following which Pomona promptly filed its motion to reopen discovery. By the time the district court ruled on the motion, roughly two months before trial, reopening discovery would likely have caused delay. Any potential delay, however, was brought about by the combination of an expeditious trial date and the amount of time Pomona's motion sat undecided. The problem was not the result of a lack of diligence by Pomona.

The district court's second proffered reason for denying the motion, lack of materiality, was also illogical. SQM has acknowledged that "Sturchio was Pomona's key witness, and much of the case involved his forensic methods." As such, the level of support for his conclusions was critical and it was important that his proffered testimony be accurate and reflect the current state of knowledge in the scientific community. The main attack on Dr. Sturchio's testimony (as it stood in 2011) was that it had not been reproduced by other laboratories and that his reference database was too small. The proffered updates to Dr. Sturchio's report directly combated those criticisms. Based on Dr. Sturchio's sworn declaration (which accompanied Pomona's motion), and the fact that the first appeal focused heavily on Dr. Sturchio's testimony, the district court should have been on notice that the updates to Dr. Sturchio's report were material.

In defense of the district court's decision, SQM argues that Pomona was not diligent. Primarily, SQM asserts that Pomona should have updated Dr. Sturchio's report, and should have moved to do so, in May 2014, after we decided

Pomona I. Thus, by making its motion in February 2015, Pomona waited too long. But in May 2014, the appeal was still alive, a certiorari petition was pending, and the mandate had not issued. Pomona moved promptly once the case returned to the district court.

SQM also asserts that Pomona lacked diligence because it did not provide SQM with Dr. Sturchio's full updated expert report until eleven days before trial. This argument is irrelevant. By that time, the district court had already issued a firm ruling denying Pomona's motion to update Dr. Sturchio's report. Although the record would have been more complete had Pomona included the updated report with its February 2015 motion, Dr. Sturchio's declaration, attached to the motion, was sufficient to put the district court and SQM on notice of what the updated expert report would say. SQM's attempt to shift the relevant date to eleven days before trial, rather than when Pomona filed its motion four months before trial, has not convinced us.

SQM further argues that the updates Pomona sought to include in Dr. Sturchio's expert report were immaterial. In doing so, SQM asserts, as the district court did, that the updates were cumulative, did not change Dr. Sturchio's conclusions, and merely buttressed his previously-expressed opinion. We disagree. As expressed above, the parties knew Dr. Sturchio's causation analysis would be a key factor at trial. Thus, the degree of support for his conclusions was critical and the updates Pomona sought were material.

B.

Having determined that the district court's exclusion of Dr. Sturchio's testimony regarding post-2011 developments

was erroneous, we now must resolve whether that error was prejudicial. “[A] showing of prejudice is required for reversal.” *Ollier v. Sweetwater Union High Sch. Dist.*, 768 F.3d 843, 859 (9th Cir. 2014). Here, we hold that the exclusion of Dr. Sturchio’s testimony regarding post-2011 developments, combined with the erroneous inclusion of Dr. Laton’s expert testimony (as discussed in Section IV), more probably than not affected the verdict and was thus prejudicial.

After presentation of the evidence at trial, but before the jury had rendered its verdict, the district court described the trial as “a battle of the experts.” In keeping with this theme, SQM sought to discredit Dr. Sturchio, who it recognized “was Pomona’s key witness.” For example, SQM elicited the following testimony from its geochemical expert, Dr. Ramon Aravena, regarding Dr. Sturchio’s conclusions:

[T]he two main criticism[s] that I have on Dr. Sturchio[’s] research. One is that it’s the failure to reproduce his method and result by other laboratories. And second is – basically is the failure to have basically a complete database for interpretation of the data for the sources of perchlorate.

* * *

Q: In your prior chart where you had the two critiques of Dr. Sturchio’s method, the second one was failure to assemble a complete isotope database for sources of perchlorate. Do you have an opinion as to whether Dr.

Sturchio's interpretation of the isotopic data that he has developed is reasonable?

A: I have an opinion.

Q: What is your opinion, sir?

A: My opinion is that the database is incomplete.

Furthermore, during its closing argument to the jury, SQM asserted the following, regarding the scientific support for Dr. Sturchio's conclusions:

[Dr. Sturchio] also admitted his is the one and the only laboratory to do his technique. Now, I saw a big false sign next to my statement in my opening statement where I said that he was the one and only lab. Well, I didn't make that up, folks. That comes from Dr. Sturchio.

* * *

Isotope ratios don't give you a unique fingerprint. What they give you is a range of values, and those range of values are not unique from one place to one place or even within one place. It is so important to have a complete comparison database, and that's where Sturchio has dragged his feet. He says there's only 16 samples from Chile. An area of the Atacama desert, a vast area, 16 samples doesn't even tell us where those samples were taken from in Chile. And not one independent

lab has analyzed the isotopic signature or composition of those samples. You only have four samples from all of California.

* * *

Because Pomona is presenting weaker evidence when they had it in their power to present stronger evidence, you should disregard Dr. Sturchio.

These criticisms of Dr. Sturchio were accurate in 2011. By 2015, however, these characterizations of Dr. Sturchio's research were false, and counsel making them had to know they were false, based on the evidence SQM successfully kept from the jury. By the time of trial, Dr. Sturchio, along with other scientists, had amassed 50 samples from the Atacama Desert, 55 samples of naturally occurring perchlorate from other locations, and 79 samples of synthetic perchlorate. Had the district court allowed Dr. Sturchio to update his testimony, Pomona could have easily rebutted much of SQM's criticism of his research during trial. Given that Dr. Sturchio was Pomona's "key witness," that his credibility and the level of support for his conclusions was paramount, and that SQM attacked directly the level of support as it existed in 2011, we conclude that the district court's refusal to allow Dr. Sturchio to testify to scientific developments occurring between 2011 and 2015 was prejudicial.

In response, SQM's main argument is that even if the district court committed error, any such error was harmless. Put simply, SQM asserts that even if the jury agreed with Dr. Sturchio's conclusions, it could still have reasonably found that SQM did not cause the perchlorate contamination in

Pomona's water system. The record shows that from 1931 to 1968, SQM imported a substantial portion of the sodium nitrate brought from Chile to the United States. Other companies, however, imported Chilean nitrate before 1931. Accordingly, as Dr. Sturchio conceded that he could not age date the perchlorate found in Pomona's wells, the perchlorate, even if it had come from Chile, could have been imported by an entity other than SQM. This argument is buttressed, SQM argues, by the fact that some of the well sites below the historic orchards in the well capture zone tested non-detect for perchlorate. Had SQM's fertilizer (which was originally used in the orchards) been the cause of contamination, those sites should have tested positive for perchlorate contamination.

But the jury did not need to find that all of the perchlorate found in Pomona's water system came from SQM. Rather, the jury instructions asked whether SQM's importation of fertilizer was a "substantial factor in causing" the contamination, which the jury instructions defined as "more than a remote or trivial factor." Dr. Sturchio's ultimate conclusion was that ninety percent of the perchlorate contamination found in Pomona's wells came from the Atacama Desert in Chile. The record further shows that from 1931 to 1968, SQM imported substantially all of the Chilean nitrate coming into the United States, and imported especially large amounts during 1941 and 1942. Taking these facts into account, along with the erroneous inclusion of Dr. Laton's testimony (described below), we conclude that the preclusion of Dr. Sturchio's updated report and testimony more probably than not affected the verdict. Thus, the exclusion of Dr. Sturchio's testimony regarding post-2011 scientific developments was prejudicial.

IV.

A.

Next, we turn to the district court's denial of Pomona's motion to exclude the testimony of SQM's alternative source expert, Dr. Richard Laton. Dr. Laton opined that the perchlorate at issue might have flowed from hundreds of potential alternative sources other than SQM's fertilizer. Pomona first moved to exclude Dr. Laton's testimony under *Daubert* before the scheduled 2012 trial. The district court denied this motion in what was explicitly a "tentative" one-sentence ruling. On remand, Pomona again challenged Dr. Laton under *Daubert*. Pomona argued that Dr. Laton's proffered testimony failed to show any scientifically valid grounds for asserting that any of his alternative sources contained the specific type of perchlorate actually found in Pomona's groundwater. In a one-word ruling on Pomona's 2015 *Daubert* motion, the district court stated "DENY." Dr. Laton proceeded to testify at the 2015 trial.

The manner in which the district court denied the *Daubert* motion as to Dr. Laton constituted an abuse of discretion. In *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457 (9th Cir. 2014) (en banc), we held the district court had abdicated its gatekeeping authority, in denying a *Daubert* motion, because "[a]bsent from the explanation is any indication that the district court assessed, or made findings regarding, the scientific validity or methodology of [the expert's] proposed testimony. Therefore, the district court failed to assume its role as gatekeeper with respect to [the expert's] testimony." *Id.* at 464. Furthermore, in *Pyramid Technologies, Inc. v. Hartford Casualty Insurance Co.*, 752 F.3d 807 (9th Cir. 2014), we held that a district court abuses its discretion when

it fails to provide any “analysis or explanation” for its decision regarding expert testimony under *Daubert*. *Id.* at 814. In *Pyramid*, the district court abused its discretion by denying a *Daubert* motion “[i]n two conclusory sentences and without analysis or explanation.” *Id.*

So too here. The district court denied Pomona’s *Daubert* motion as to Dr. Laton with a one-word “DENY.” Under the standard we set in *Estate of Barabin* and *Pyramid*, the failure to make any findings regarding the efficacy of Dr. Laton’s expert opinions constituted an abdication of the district court’s gatekeeping role, and necessarily an abuse of discretion.

SQM’s main argument in response is that Pomona waived its right to appeal the denial of its *Daubert* motion. Under Federal Rule of Evidence 103(b), “[o]nce the court rules definitively on the record—either before or at trial—a party need not renew an objection or offer of proof to preserve a claim of error for appeal.” Here, SQM argues that by failing to appeal the district court’s tentative ruling in 2011, which denied the *Daubert* motion as to Dr. Laton, Pomona waived any right to appeal the district court’s 2015 ruling. We disagree. The district court’s 2011 ruling was explicitly tentative, and thus not definitive within the meaning of Rule 103. During the 2011 pretrial conference, in which the district court made oral rulings, the district court stressed several times that its rulings were tentative. Furthermore, the minute order expressing the motion *in limine* rulings stated the rulings were all “tentative.” “[I]n order to appeal an issue on which the district court ruled *in limine*, a party must first receive a final ruling on the issue.” *Adkins v. Mireles*, 526 F.3d 531, 542 (9th Cir. 2008). Thus, Pomona could not have appealed the original tentative ruling.

Next, SQM argues that Pomona waived its right to appeal because it did not object to Dr. Laton's testimony at the 2015 trial. Unlike the 2011 ruling, however, the district court's 2015 "DENY" ruling did not contain the tentative label in the minute order. Instead, the "tentative" heading on the district court's motion *in limine* rulings was conspicuously omitted. On the first day of trial, the district court stated as follows regarding its written rulings on the parties' motions *in limine*:

As to motions *in limine*, I think they're pretty clearly stated on my findings that I sent you. . . . [M]otions *in limine* almost always deal with evidentiary issues, evidentiary issues that come up during the trial. Any ruling on a motion *in limine* may or may not be revisited as the evidence comes in. It may or may not change, but these are the rulings until and unless the Court decides that it can come in. Some evidence may come up that may make something relevant that the Court had determined that up until the time that that comes in is not relevant. So all I'm telling you is, is that they're quasi tentative, depending on how the evidence comes in.

Thus, SQM's only relevant argument is that the district court's statement, that its *in limine* rulings were "quasi tentative," meant that Pomona was required to object to Dr. Laton's testimony during trial to preserve its right to appeal, which Pomona did not do explicitly.

Pretrial motions, such as motions *in limine*, "are useful tools to resolve issues which would otherwise clutter up the trial." *Palmerin v. City of Riverside*, 794 F.2d 1409, 1413 (9th

Cir. 1986) (internal quotation marks omitted). Furthermore, “a ruling on a motion *in limine* is essentially a preliminary opinion that falls entirely within the discretion of the district court. The district court may change its ruling at trial because testimony may bring facts to the district court’s attention that it did not anticipate at the time of its initial ruling.” *United States v. Bensimon*, 172 F.3d 1121, 1127 (9th Cir. 1999) (emphasis added) (internal citation omitted). “Still, parties expect a district court to adhere to its earlier ruling if no facts or circumstances arise to warrant a reversal.” *Id.* When a district court makes a pretrial ruling on a motion *in limine* that is subject to limitations regarding how the evidence actually comes in, and if the testimony “stay[s] within [those] parameters,” then “no additional objection [is] necessary.” *Mukhtar v. Cal. State Univ., Hayward*, 299 F.3d 1053, 1063 (9th Cir. 2002), *overruled in part on other grounds by Estate of Barabin*, 740 F.3d at 467.

Our reading of the district court’s statement on the first day of trial, quoted above, is that it was merely reiterating what we said in *Bensimon*—that a district court may change an *in limine* ruling at trial if facts or circumstances arise to warrant the change. The district court had denied the *Daubert* motion as to Dr. Laton in a written ruling without any tentative heading. As trial progressed, before Dr. Laton’s testimony, the district court had denied objections, making clear that it was “not going to argue with you in front of the jury” and later, that “we do not argue objections in front of the jury.” By the time Dr. Laton rose to testify, no facts or circumstances had arisen that would have warranted reversal of the district court’s pretrial ruling. In fact, during Dr. Laton’s testimony, Pomona’s counsel asked if it could briefly voir dire the witness, which request was quickly denied. By making this request, Pomona renewed its challenge to Dr.

Laton's testimony concerning alternative sources to perchlorate, giving the district court another opportunity to rule on the issue. Additionally, Pomona's counsel tried to object to Dr. Laton's "shotgun" testimony about potential sources of perchlorate, but the district court overruled him while he was midsentence.

Thus, we must decide whether Pomona preserved its objection to Dr. Laton's testimony. Without doubt, Pomona could have simplified this issue by restating its *Daubert* objection just before Dr. Laton testified, or by raising the objection during a recess. Nevertheless, given the importance of expert testimony in this case, the fact that the first appeal focused on a *Daubert* issue, and the district court's focus on moving the trial along briskly, Pomona's hesitation to object once more, and risk further irritating the district court, was understandable. Accordingly, based on the circumstances presented here, we hold that Pomona did enough to preserve its objection.

B.

Having determined that the district court abdicated its gatekeeping role by failing to make any findings of reliability as to Dr. Laton, we next must decide whether that error was prejudicial. "We treat the erroneous admission of expert testimony the same as all other evidentiary errors, by subjecting it to harmless error review. We reverse only if the error affect[ed] a substantial right of the party. In other words, we require a finding of prejudice." *Estate of Barabin*, 740 F.3d at 464 (internal citations and quotation marks omitted). Furthermore, "[p]rejudice is at its apex when the district court erroneously admits evidence that is critical to the proponent's case." *Id.* at 465.

Here, there can be no doubt that Dr. Laton's testimony was critical to SQM's case. Dr. Laton essentially testified about all the ways in which the perchlorate contamination could have manifested in Pomona's water system that had nothing to do with SQM. Dr. Laton's testimony undercut directly the testimony of Dr. Sturchio, Pomona's "key witness," as well as Dr. Stephen Wheatcraft, Pomona's hydrology expert, who testified about the manner in which the perchlorate flowed from the orchards into Pomona's water system. On direct examination, Dr. Laton testified as follows:

Q: Did you reach an opinion as to whether the City's experts, Dr. Sturchio, Dr. Wheatcraft, conducted a complete environmental investigation in Pomona?

A: No, they did not.

Q: And what do you base your opinion on?

A: The reports that I reviewed that were submitted on behalf of the City.

Dr. Laton's testimony went on with a further attack on Dr. Sturchio's and Dr. Wheatcraft's conclusions.

Dr. Laton's testimony, and that of Dr. Sturchio and Dr. Wheatcraft, went to the crux of the case—whether SQM's importation of fertilizer was a substantial factor in causing the perchlorate contamination in Pomona's water system. Dr. Laton was a key player in what the district court aptly described as "a battle of the experts." Therefore, the erroneous inclusion of Dr. Laton's testimony, combined with

the erroneous partial exclusion of Dr. Sturchio's testimony, was prejudicial.

We do not decide, one way or the other, whether Dr. Laton's proffered opinions satisfy the *Daubert* standard. Rather, we merely hold that the record lacks "any indication that the district court assessed, or made findings regarding, the scientific validity or methodology of [Dr. Laton's] proposed testimony." *Estate of Barabin*, 740 F.3d at 464.

V.

We are sympathetic with the district court's desire to keep this case on a fast track. A civil action may meander through discovery far too slowly and our system benefits when district judges keep the wheels of justice turning by employing effective case management. But there are limits. The record demonstrates that the science of stable isotope analysis evolved significantly during this case's first journey through the appellate system. By constraining Dr. Sturchio to his 2011 report, the district court abused its discretion. Furthermore, the district court's failure to make any findings regarding the reliability of Dr. Laton's testimony, despite Pomona's *Daubert* motion, was an abuse of discretion. These errors, in combination, were prejudicial.

Accordingly, the district court's judgment is vacated and this case is remanded for a new trial. On remand, the district court shall allow Dr. Sturchio to update his expert report and testify to the state of stable isotope research up to the present. In addition, the district court shall make findings regarding the scientific reliability of Dr. Laton's proposed opinions, and

hold a *Daubert* hearing if the district court determines one is necessary.

VACATED and REMANDED.