

In the
United States Court of Appeals
For the Seventh Circuit

No. 99-3863

NutraSweet Company,
and Monsanto Company,

Plaintiffs-Appellees,

v.

X-L Engineering Company,
and Paul T. Prikos, individually,

Defendants-Appellants.

Appeal from the United States District Court
for the Northern District of Illinois, Eastern Division.
No. 95 C 6024--Charles R. Norgle, Sr., Judge.

Argued April 11, 2000--Decided September 8, 2000

Before Manion, Diane P. Wood, and Evans, Circuit
Judges.

Manion, Circuit Judge. The Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), 42 U.S.C. sec. 9601 et seq., allows private parties to recover the costs they incur in cleaning up hazardous wastes. NutraSweet and Monsanto (collectively "NutraSweet") sued X-L Engineering and its president and principal shareholder, Paul Prikos (collectively "X-L"), for improperly disposing of hazardous compounds which contaminated NutraSweet's property. The district court entered partial summary judgment in favor of NutraSweet, finding X-L to be at least partly responsible for the hazardous wastes on NutraSweet's property. After a bench trial, the district court found that X-L was in fact 100% liable for these wastes and awarded NutraSweet the full amount of its requested damages. X-L raises numerous issues concerning the proceedings below. We affirm in all respects.

I. Background

NutraSweet (a subsidiary of Monsanto) owned a food manufacturing facility in Niles, Illinois. Its neighbor to the east was X-L Engineering, a machine shop. In October 1990, NutraSweet thought

about expanding its Niles facility on vacant land on the east side of its property (which bordered the west side of X-L's shop), so it ordered soil testing of that area. The tests revealed high levels of hazardous volatile organic compounds ("VOCs") near X-L's property. That month NutraSweet hired another company to perform a "phase one" assessment of the problem; the assessment concluded that spills at X-L could have caused the contamination.

In the spring of 1992, NutraSweet employees began observing an X-L employee dumping out wastewater from a mop-bucket on the west side of X-L's property near NutraSweet's property. NutraSweet sampled the wastewater and found that it contained a VOC called "trichloroethene" (or "TCE"). It also took a soil sample from X-L's property where the mop-bucket dumping was observed. This sample also contained TCE. NutraSweet began video surveillance of X-L's dumping, and after one month, it recorded 82 occasions where an X-L employee had dumped wastewater onto X-L property next to NutraSweet's property, and four occasions in which the standing wastewater had spilled onto NutraSweet's property.

At NutraSweet's request, the Illinois EPA and State Police also began surveillance of X-L. On two occasions, state officials observed X-L dumping wastewater on its own property but near NutraSweet's property. On the second occasion they sampled the wastewater; it contained TCE, another VOC called perchloroethylene (or "PCE"), and several other hazardous compounds, including trichloroethane (or "TCA"). The dumping ended in July 1992, when the officials returned to X-L for a third inspection, wherein they confronted Prikos, X-L's owner. At the beginning of this inspection, the officials repeatedly observed the same X-L employee again dumping wastewater onto X-L property that was adjacent to NutraSweet's property. The inspectors sampled the wastewater just before it was dumped; TCA was again present.

NutraSweet hired an environmental consulting firm, Geraghty and Miller ("G & M"), to investigate and plan for the "remediation" (or clean-up) of its property. G & M tested the soil and designed and implemented a plan with Illinois EPA approval and under its supervision. NutraSweet cleaned up the property until the agency told it that the remediation had succeeded to the maximum extent possible. NutraSweet then sued X-L under CERCLA and the Declaratory Judgment Act, 28 U.S.C. sec.sec. 2201-2202 (with common law claims for nuisance, trespass and negligence). See *NutraSweet Co. v. X-L Eng'g Corp.*, 933 F. Supp. 1409, 1412 (N.D. Ill. 1996).

II. The Proceedings Below

NutraSweet moved for summary judgment as to both liability and damages. It produced considerable evidence to establish that X-L was responsible for at least some of the contaminants on its property, such as:

1. the videotape of X-L's mop-bucket dumping;
2. eyewitness accounts of this dumping (from NutraSweet employees, Illinois EPA officials, and Illinois State Troopers);
3. NutraSweet's 1992 soil and water samples which revealed the same VOCs in the mop-bucket wastewater as were present in the area of NutraSweet's property onto which the wastewater had spilled, and as were present in an immediately adjacent area of X-L's property where the dumping was observed;
4. test results from Illinois officials of the contents of the wastewater which showed the same VOCs as were found on NutraSweet's property;
5. an affidavit from G & M stating that the highest level of VOCs on NutraSweet's property were near X-L's property where the dumping was observed and that the groundwater flowed away from X-L's property to NutraSweet's property;
6. records from X-L showing its use of a TCA-based solvent; and
7. an affidavit stating that NutraSweet did not use chlorinated solvents in its manufacturing process, and it never used such solvents at its facility except for a self-contained parts cleaner that was returned to the manufacturer for recycling and which never had any releases during the two years that NutraSweet used it.

In response, X-L admitted that it used chemical solvents in its business, and it did not establish that prior to 1992 it had properly disposed of spent solvents (X-L stated that "in the 1992 time frame" it disposed of spent solvents through licensed waste haulers). Also, Prikos stated that to "the best of his knowledge" no X-L employee "has ever dumped or otherwise discarded any item on the NutraSweet property." But as to the X-L employee caught on video "mop-bucket dumping," Prikos stated that he was unaware "of the specifics as to how [that employee] went about his duties and how he disposed of the mop water." Prikos added that after Illinois officials told him about the mop-bucket dumping, he "issued orders directed to

ensure that [the employee] would no longer dump mop water on or about [the area in question]," and that although Prikos had "no personal knowledge that [the employee] ever did dump mop water in or near [the area in question], it is my understanding that, after I indicated that this [dumping] should not be done, that it was never done again." X-L's only other affidavit was from its expert, Richard Shepherd, an environmental engineer, who opined that NutraSweet had failed "to prove, through a degree of scientific certainty, that X-L Engineering Company was the cause of contamination found on the NutraSweet Property, much less the sole cause." Shepherd's conclusion was based on the lack of a "chemical fingerprint" which, in turn, was based on his assumption that TCA was the only VOC that X-L ever used. Shepherd also concluded that the groundwater flowed away from NutraSweet's plant, thus showing (he believed) that any solvents dumped on X-L property could not have "migrated" onto NutraSweet's property.

In reply, NutraSweet's experts used Illinois EPA reports to show that all twelve of the VOCs on NutraSweet's property were found on X-L's property where the dumping had occurred, thus showing, NutraSweet contended, a "chemical fingerprint." A NutraSweet expert also disputed Shepherd's analysis of groundwater migration. He opined that Shepherd's conclusion was faulty because it reflected rainwater recharging of the soil--a condition where rainwater briefly alters the "normal" direction of flow. NutraSweet's experts stated that they measured the groundwater flow in the winter when the ground was frozen, thus minimizing the effect of rainwater recharging and indicating the usual direction of groundwater migration, which was away from X-L's property to NutraSweet's property. Finally, a NutraSweet expert stated that based upon his review of the surveillance tapes, X-L's dumping along a railroad ditch to the north of its property sometimes created a 50-foot wide pond of wastewater that would extend onto NutraSweet's property. Soil samples from this area of NutraSweet's property revealed the presence of VOCs.

The district court found that there was no genuine dispute that X-L was responsible under CERCLA for at least some of the VOCs on NutraSweet's property and that it was liable to NutraSweet under state law for nuisance, trespass and negligence. NutraSweet, 933 F. Supp. at 1422-25. Because X-L did not respond at all to NutraSweet's evidence of its clean-up costs (about \$560,000), the district court found that its costs were those NutraSweet put forth. Id. at 1415. The court entered partial summary judgment

for NutraSweet on X-L being at least partially liable for NutraSweet's costs. It ordered a trial on the remaining issue: the amount of VOCs for which X-L was responsible (which would determine its liability). Id. at 1423-25.

In preparing for trial, X-L repeatedly missed deadlines. It first failed to make Shepherd available for a deposition or to produce its expert witness report on time. As a result, NutraSweet moved under Fed. R. Civ. P. 37(c) to bar Shepherd from testifying at trial. The district court struck the trial date and ordered the parties to brief whether Shepard should be barred. X-L then filed Shepherd's report, one week after the deadline. This late filing prejudiced NutraSweet's ability to examine Shepherd on his theory as to why X-L was not liable for the VOCs. NutraSweet therefore requested that the court bar Shepherd from testifying or in the alternative, that it be allowed to take soil samples from X-L's property to rebut the factual assumptions and theories in Shepherd's report. The district court again declined to bar Shepherd from testifying, but agreed to allow each side to take soil samples from the NutraSweet and X-L sites, which the parties completed in October 1997.

The district court set a new trial date for July 14, 1998 and directed the parties to disclose their reports of the site work by March 4, 1998. NutraSweet complied with the March 4 deadline, but X-L did not. One week after the deadline, X-L sought another extension for filing its report of the site work, an extension for filing its supplemental expert witness report on the site work, and an extension for other pretrial deadlines. To support its motion, X-L noted that because of the extensive field work that was done, NutraSweet would probably be supplementing its theories of the case, and for that reason X-L would need additional time to respond to NutraSweet's supplemental expert report. The district court granted X-L's motion and set pre-trial deadlines as X-L had proposed.

NutraSweet filed the supplemental expert report of its rebuttal expert, Dr. Roy Ball, a week early on March 20, 1997. X-L's supplemental report was due on April 10, 1997, but it did not meet this deadline. A week later, X-L moved for an extension of time until May 5, 1998. The district court did not act on this motion, but it was just as well that it didn't because that proposed deadline also came and went, with X-L still not filing a supplemental report. NutraSweet again moved to bar expert testimony that went beyond Shepherd's initial expert report. Finally, about six weeks after the April

10, deadline, X-L responded by complaining that Ball's report was not sufficiently specific and that it expanded NutraSweet's theory of the case. X-L argued that it should not be required to file a supplemental report until NutraSweet filed a more complete report. The district court granted NutraSweet's motion, limiting Shepherd's trial testimony to his initial report and precluding him from testifying on the results of the site work.

At trial, NutraSweet called Prikos to establish that X-L had used cleaning solvents containing TCA and PCE from 1973 (when Prikos acquired the company) until the fall of 1992. He also testified that X-L used PCE in its "hot degreaser," it used a TCA-based solvent in its "cold degreaser" beginning in the mid- to late 1970s, and X-L cleaned parts a third way by dropping them into a bucket (he did not know whether PCE was used in cleaning parts this way). G & M's supervising hydrologist testified that the soil and groundwater samples from X-L's property showed concentrated solvent dumping. Dr. Ball, NutraSweet's expert, testified that laboratory chromatograms of the PCE found on both NutraSweet and X-L's property indicated that the PCE was from essentially the same source but was disposed of at different times. Various methodologies that Ball used--such as the degree of degradation or "speciation" of the VOCs at each site, the rate of groundwater flow on the NutraSweet site, and aerial photographs--supported his theory that the dumping of solvents began on X-L property when its shop was built in the mid-1960's but moved over to NutraSweet's property in the early 1980's (probably once X-L had paved over part of its property, thereby making dumping impracticable). Finally, NutraSweet rebutted X-L's argument that it had been properly disposing of its VOCs: it introduced X-L's shipping manifests and Illinois EPA records that showed that it was not until December 1990 at the earliest (ten years after federal regulations required proper disposal of VOCs) that X-L began to dispose properly of VOCs. In its case, X-L did not introduce any evidence or proffer a theory as to who besides X-L could have been responsible for the VOCs on NutraSweet's property. The district court found X-L 100% responsible and entered damages in favor of NutraSweet equal to 100% of its costs (with \$113,000 in prejudgment interest, the total award was thus \$673,000).

X-L appeals the partial summary judgment in favor of NutraSweet that X-L was at least partly liable for the VOCs on NutraSweet's property. It also appeals the district court's decision not to allow it further time to file a supplemental

expert report and in limiting its expert's testimony at trial. Furthermore, X-L contends that the district court abused its discretion in admitting the testimony of NutraSweet's expert, and it contends that the court erred in denying X-L's motion for a directed verdict. Finally, X-L appeals the district court's finding at trial that it was the source of all the VOCs on NutraSweet's property and the determination of damages.

III. Discussion

Under sec. 107(a) of CERCLA, 42 U.S.C. sec. 9607(a), an owner of land is strictly liable for hazardous wastes that are contaminating his property. See *Kerr-McGee Chem. Corp. v. Lefton Iron & Metal Co.*, 14 F.3d 321, 325 (7th Cir. 1994) ("A responsible person includes the current owner and any person who formerly owned and operated the facility in question at a time of actual or threatened release of a hazardous substance."); *id.* at 326 (owners "are strictly liable under CERCLA sec. 107"). But under sec. 113(f) of CERCLA, 42 U.S.C. sec. 9613(f), the landowner "may seek contribution from another person who is liable or potentially liable under sec. 107." *Kerr-McGee*, 14 F.3d at 326. Thus, under "the CERCLA statutory scheme, sec. 107 . . . governs liability, while sec. 113(f) creates a mechanism for apportioning that liability among responsible parties." *Town of Munster, Ind. v. Sherwin-Williams Co., Inc.*, 27 F.3d 1268, 1270 (7th Cir. 1994).

In *Azko Coatings, Inc. v. Aigner Corp.*, 30 F.3d 761, 764 (7th Cir. 1994), we noted that subpart (B) of sec. 107(a) "permits any 'person'--not just the federal or state governments--to seek recovery of appropriate costs incurred in cleaning up a hazardous waste site." As a result, we indicated that a landowner who, although technically strictly liable for hazardous wastes on its property was innocent of the contamination, would not have to bring a contribution action under sec. 113(f) (because he did not "contribute" to the contamination); he could instead bring "a direct cost recovery action" under sec. 107(a) against the responsible party. *Id.* A few years later we held that an innocent landowner could indeed use the "Azko exception" to pursue a sec. 107 "direct cost action." *AM Int'l, Inc. v. DataCard Corp., DBS, Inc.*, 106 F.3d 1342, 1347 (7th Cir. 1997); *Rumpke of Ind., Inc. v. Cummins Engine Co., Inc.*, 107 F.3d 1235, 1241 (7th Cir. 1997); see also *PNC, Inc. v. Sherwin-Williams Co.*, 151 F.3d 610, 617 (7th Cir. 1998) (noting availability of sec. 107 action for innocent landowners). Such an action is available if "a landowner [is] forced to clean

up hazardous materials that a third party spilled onto its property or that migrated there from adjacent lands." Azko, 30 F.3d at 764; see also Rumpke, 107 F.3d at 1240 ("the Azko exception" certainly applies to "the landowner who discovers someone surreptitiously dumping wastes on its land"). To establish the Azko exception under sec. 107(a), a plaintiff must establish that: (1) the defendant is a covered person under sec. 107(a); (2) there is a release or threatened release of a hazardous substance from a "facility" as defined by sec. 101(9);/1 (3) the release caused the plaintiff to incur response costs that are consistent with the national contingency plan, Kerr-McGee, 14 F.3d at 325; Dedham Water Co. v. Cumberland Farms Dairy, Inc., 889 F.2d 1146, 1150 (1st Cir. 1989); and (4) the plaintiff "did not pollute the site in any way." Rumpke, 107 F.3d at 1241. In this case, the major issue is whether the hazardous wastes on NutraSweet's property were released from the X-L facility.

A. Summary Judgment

We review a grant of summary judgment de novo. Miller v. American Fam. Mut. Ins. Co., 203 F.3d 997, 1003 (7th Cir. 2000). Summary judgment is appropriate if "there is no genuine issue as to any material fact and . . . the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). To ward off summary judgment by showing that there is a genuine dispute on a material fact, the non-moving party must do more than raise a "metaphysical doubt" as to the fact's existence. Gleason v. Mesirow Fin., Inc., 118 F.3d 1134, 1139 (7th Cir. 1997). The evidence must be "such that a reasonable jury could return a verdict for the nonmoving party." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). "If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." Id. at 249-50 (internal citations omitted).

X-L contends that a genuine issue existed as to whether it caused the hazardous wastes on NutraSweet's property (whether there was a release from X-L's facility). It argues that the district court's determination that X-L was partially responsible was based on the expert testimony of G & M engineers Robert Smith and James Hill because this testimony was the only evidence that linked the "mop-bucket dumping at X-L to the contamination at the NutraSweet site." Basing summary judgment on this testimony was erroneous, X-L contends, because its expert, Shepherd, had a contrary opinion as to the source of the VOCs.

We disagree. The summary judgment concludes that X-L caused some of the VOCs on NutraSweet's property, not necessarily all of them. Regardless of the "battle of the experts," there is not a genuine dispute that this limited holding was correct. X-L used solvents in its business that broke down into the type of VOCs that were found on NutraSweet's property. In one month alone, video surveillance captured an X-L employee dumping waste water eighty-two times on X-L's property in an area adjacent to NutraSweet's property. On at least four of these occasions, the standing wastewater clearly spilled over onto NutraSweet's property, sometimes forming a fifty-foot wide pond. NutraSweet tested this wastewater, soil samples from its property onto which the wastewater had spilled, and soil samples from X-L's property where the dumping had occurred. These tests all revealed the presence of TCE. With this evidence alone, there is not even a "metaphysical doubt" that X-L caused at least some of the VOCs on NutraSweet's property.

Further, contrary to X-L's assertion, the expert opinions are not genuinely in conflict. Shepherd's conclusions, as to both a lack of a "chemical fingerprint" for the VOCs and "groundwater migration," were based on faulty assumptions. He mistakenly assumed that only one VOC that X-L used in its business, TCA, was found on NutraSweet's property. But NutraSweet's expert showed that all twelve of the VOCs that were found on NutraSweet's property were also found on X-L's property. Shepherd also used a problematic method in analyzing groundwater flow: his calculations were based on the time of year when rainwater recharge would give misleading results on the direction of the flow. By contrast, NutraSweet's expert minimized the effect of rainwater recharge. On appeal, X-L does not dispute these problems with Shepherd's assumptions and analyses. These defects result in an expert opinion that is substantially incomplete if not inaccurate. In any event, because it does not address (much less contradict) several matters asserted by NutraSweet's expert, it cannot create a genuine issue on whether X-L caused at least some of the VOCs on NutraSweet's property. See *Liberty Lobby*, 477 U.S. at 249-50 (summary judgment may be granted if the evidence "is not significantly probative").

B. Limiting Shepherd's Trial Testimony Under Fed. R. Civ. P. 37(c)

The Federal Rules of Civil Procedure require parties to file reports of expert witnesses they intend to use at trial. See Fed. R. Civ. P. 26(a)(2). If a party does not timely file his

reports, the district court may exclude the party's expert from testifying at trial on the matters the party was required to disclose. See Fed. R. Civ. P. 37(c)(1). The sanction of exclusion is "automatic and mandatory unless the party to be sanctioned can show that its violation of Rule 26(a) was either justified or harmless." *Finley v. Marathon Oil Co.*, 75 F.3d 1225, 1230 (7th Cir. 1996). We review the district court's exclusion of testimony for abuse of discretion. See *Salgado v. General Motors Corp.*, 150 F.3d 735, 739 (7th Cir. 1998).

Because X-L did not file a supplemental expert witness report on the site work at X-L's property, the district court excluded Shepherd from testifying about this work and limited his testimony to his initial expert witness report. X-L attempts to explain its failure to file a supplemental expert report by complaining that NutraSweet used a new expert (Dr. Ball) in its supplemental report and changed (more accurately, supplemented) its theory of the case. Assuming NutraSweet did so (on that, more later), X-L still fails to explain why this justified its failure to file a supplemental expert report. The site work occurred in early October 1997; NutraSweet filed its test results by the March 4, 1998 deadline (X-L did not); and NutraSweet filed its supplemental expert witness report of Dr. Ball ahead of schedule on March 20, 1998. Even though Ball's report contained new theories, X-L does not explain why it could not file its supplemental expert report by the April 10, 1998 extended deadline it requested and received. Nor does it explain why it could not meet its proposed, revised May 5 super-extended deadline. By the time of these deadlines, X-L had had Ball's report for three weeks and five and one-half weeks, respectively. Even if Ball's report was not sufficiently specific (an argument X-L made below but not here), it should have at least filed a preliminary supplemental report or told the court of its concerns with Ball's report by the April 10 deadline (or certainly by its proposed May 5 deadline). There was no reason for it to just sit by for six weeks after the April 10 deadline and do nothing while the trial date was fast approaching. There appears to be no justification for X-L's failure to file some sort of a supplemental report that would have enabled Shepherd to expand his testimony. See *Salgado*, 150 F.3d at 741 ("Salgado never offered--indeed, does not offer to this date--a satisfactory explanation for its failure to comply with the directive of the district court").

X-L's failure to file a supplemental report also was not harmless. The district court granted NutraSweet's Rule 37(c) motion on May 22. At that

time, the court had already postponed the trial date once. The trial was in less than two months (on July 14), and the pretrial order was due in about three weeks (on June 15). Without even a preliminary or draft supplemental expert witness report from Shepherd, NutraSweet was greatly hampered in its ability to examine him about his analysis of the site work. See Salgado, 150 F.3d at 742. In these circumstances, the use of the "automatic" sanction of exclusion was not an abuse of discretion. *Id.*

C. The Trial

X-L raises numerous issues regarding the trial. It first argues that NutraSweet "sandbagged" it and violated Fed. R. Civ. P. 56(d) by changing its theory of liability from summary judgment to trial, where NutraSweet relied on Ball's additional theories. X-L fails to support its Rule 56(d) argument with a single case citation and thus has not properly presented this issue for appellate review. See Fed. R. App. P. 28(a)(9)(A); *United States v. Mason*, 974 F.2d 897, 901 (7th Cir. 1992) (failure to cite case law in support of argument waives appellate review). Furthermore, X-L did not object below to Ball's expert witness report, even though it was on file for months before the trial, and X-L was fully aware that the report contained new theories (X-L complained about the new theories in the report, but it did not move to bar NutraSweet from using them). Moreover, X-L cannot complain that it was duped when prior to the filing of Ball's report, it acknowledged that it knew the report would likely contain additional theories, but far from objecting, X-L simply requested that NutraSweet file its supplemental report first.² Thus, X-L waived the issue of Ball's supplemental theories. *Consolidated Bearings Co. v. Ehret-Krohn Corp.*, 913 F.2d 1224, 1232 n.9 (7th Cir. 1990) (failure to raise arguments below waived them on appeal).

Even if X-L had properly presented this issue, we would disagree that NutraSweet had pulled a "bait and switch."³ Recall that at summary judgment, NutraSweet argued that X-L was at least partially responsible for the VOCs on its property due to mop-bucket wastewater ponding over to its property or leaching into the soil and then traveling to its property. After summary judgment, X-L's expert opined in his report that: 1) the amount of VOCs in diluted mop-bucket wastewater was too small to account for the substantial deposits of VOCs on NutraSweet's property; and 2) the type of soil did not allow the wastewater to migrate in groundwater to NutraSweet's property. To rebut these theories, NutraSweet tested the soil on X-L's property. In

doing so, it realized the environmental problem was much bigger than it had thought: the testing indicated that concentrated solvents had been dumped directly onto X-L's property near NutraSweet's property. NutraSweet also discovered that concentrated solvents had been dumped onto its own property. In response to these findings, Ball conducted tests (discussed later) which led him to opine that: 1) the type of soil allowed solvents to migrate in groundwater from the X-L site to the NutraSweet site and; 2) direct dumping of concentrated VOCs had begun on the X-L site but moved to the NutraSweet site after X-L had paved its property with a parking lot in the mid-1970's. Based upon his analyses, Ball concluded that X-L's activities were the cause of the VOCs on NutraSweet's property. It was not inappropriate for NutraSweet to supplement its theory of the case due to newly-discovered evidence, and X-L was not unfairly surprised by NutraSweet doing so (indeed, because NutraSweet filed Ball's supplemental report months before the trial, X-L was able to move to bar Ball from testifying on grounds that his testimony would be based on speculation, and it objected at trial on the same ground). Because X-L not only failed to object that Ball's rebuttal theories would prejudice it, but stated that all it wanted was NutraSweet to file its new theories first (note 2, *supra*), X-L in effect agreed to NutraSweet proceeding at trial with these theories. See Fed. R. Civ. P. 15(b); *Walton v. Jennings Community Hosp., Inc.*, 875 F.2d 1317, 1320 n.3 (7th Cir. 1989) (Rule 15(b) "allows great latitude in amending complaints to conform with subsequent changes as the case develops").

X-L next complains that Ball's testimony did not satisfy the standards for admissibility for expert witnesses. "In deciding whether to admit the proffered expert testimony, a district court must be guided by the instructions of *Daubert*." *Walker v. Soo Line R.R. Co.*, 208 F.3d 581, 586 (7th Cir. 2000) (citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993)). Under the so-called *Daubert* framework, a district court must determine whether: (1) the expert would testify to valid scientific, technical, or other specialized knowledge; and (2) his testimony will assist the trier of fact. Fed. R. Evid. 702; *Kumho Tire Co., Ltd. v. Carmichael*, 119 S. Ct. 1167, 1174 (1999); *Walker*, 208 F.3d at 586. "The admission of expert testimony from technical fields is governed by the same concerns and criteria as the admission of scientific expert testimony", but with respect to technical testimony, the "Supreme Court in *Kumho Tire* explained that the *Daubert* 'gatekeeper' factors had to be adjusted to fit the facts of the particular case at issue, with the goal of

testing the reliability of the expert opinion." United States v. Brumley, 217 F.3d 905, 911 (7th Cir. 2000) (citing Kumho Tire Co., 119 S. Ct. at 1175). "We review de novo whether the district court properly followed the framework set forth in Daubert." Id. If the district court properly applied the Daubert framework, we review its decision to admit or exclude expert testimony only for an abuse of discretion. Kumho Tire Co., 119 S. Ct. at 1176; Brumley, 217 F.3d at 911.

X-L does not argue that the district court failed to follow the two-part Daubert framework; rather, it disputes the court's application of it. Specifically, X-L argues that Dr. Ball's opinions were not based on reliable methods and techniques, the first part of the framework. X-L does not challenge the reliability of solvent degradation (speciation), chemical chromatography, or Darcy's equation for groundwater migration; these are all tested, well-accepted, and frequently used methodologies or technologies in the fields of hydrology and environmental engineering. See Kumho Tire Co., 119 S. Ct. at 1175 (testing and acceptance of technique in the relevant field may indicate reliability). But X-L argues that it is speculation to look at a sequence of aerial photos to determine the history of chemical dumping.

Initially, it must be noted that Ball used these photographs in conjunction with his other tests as a means of confirming his hypothesis. Ball first used chromatography to determine that the same type of VOCs were on the NutraSweet and X-L sites. The relative stages of decay of the VOCs on the respective sites, which he determined by soil degradation or speciation, showed that the VOCs on the X-L site were much older than those on the NutraSweet site. And the rate of groundwater migration of VOCs on the NutraSweet site, determined by using Darcy's equation, confirmed their approximate ages. Ball then analyzed historical photographs of the sites to further confirm the dumping sequence: the photos showed that X-L paved over a large part of its property in the area where concentrated solvents had been dumped on its property about the time the other tests (degradation and groundwater migration) had indicated that concentrated solvent dumping began on NutraSweet's property. To Ball, the photographic analysis confirmed his hypothesis because in his experience people do not dump solvents on asphalt or concrete (e.g., on parking lots) because they eat away at the material.

Furthermore, the district court did not abuse its discretion in concluding that photographic

analysis is a well-accepted technique in this area so as to bear a sufficient indicia of reliability. Nor did it abuse its discretion in concluding that Ball could interpret the aerial photos based on his own experiences and expertise. As noted, "the test of reliability is 'flexible'" when examining an expert's technical knowledge and the techniques he employs. Id. at 1171. The district court enjoys "the same broad latitude when it decides how to determine reliability as it enjoys in respect to its ultimate reliability determination." Id. (emphasis in original). Ball testified that historical analysis of aerial photographs is an accepted tool in his field and that in fact the EPA requires the historical analysis of such photos and has its own team for doing this. The district court did not abuse its discretion in concluding that the common and official acceptance of photographic analysis made it sufficiently reliable. Id. ("'acceptability' in the relevant scientific community" is a factor "which might prove helpful in determining the reliability of a particular scientific 'theory or technique'"). Dr. Ball also testified that he had been interpreting aerial photos for about twenty years and that he had developed an expertise in that area. His work experience made his interpretation of the photos in this case sufficiently reliable. See *Brumley*, 217 F.3d at 911-12 (witness's seven years of experience working in the area gave his opinion sufficient indicia of reliability even though it was not based upon an underlying methodology).

X-L's second criticism of Dr. Ball's opinion is that he did not have essentially "direct" evidence that X-L was the source of the concentrated dumping on its and on NutraSweet's property. Nor, X-L argues, did he have "specialized knowledge" that X-L was the source of this dumping. True, unlike with the mop-bucket dumping, Dr. Ball could not point to videotape directly connecting the contamination to X-L's activities. But as an expert witness, Dr. Ball was not required to have direct evidence or a personal observation that X-L was illegally dumping VOCs. Contrast *Fed. R. Evid. 701* (discussed in *United States v. Santos*, 201 F.3d 953, 963 (7th Cir. 2000) (rule governing testimony by lay witnesses does not interdict all inference drawing by such witnesses, but the inferences must be tethered to perception, to what the witness saw or heard)). As an expert witness, Dr. Ball could use his "specialized knowledge" of reliable techniques and methods (as opposed to "specialized knowledge" of the incident in question) to form an opinion. Specifically, he could use the chromatography results to determine that the solvents on

NutraSweet's property were of the same type (were from the same source) as those on X-L's property. Through groundwater migration test results, he could trace some of the concentrated solvents on NutraSweet's property as migrating from X-L's property. Through soil degradation, he could determine the relative ages of the solvents on the two sites. He could then combine this information, the aerial photographs, and the fact that X-L used solvents that would produce the VOCs found on both properties (and NutraSweet did not) and come up with a theory (or opinion) as to where the solvents came from and how they got there: X-L's activities. See *Huddleston v. United States*, 485 U.S. 681, 691 (1988) ("Individual pieces of evidence, insufficient in themselves to prove a point, may in cumulation prove it. The sum of an evidentiary presentation may well be greater than its constituent parts."). By using the test results and his experience, Ball could infer that X-L was the source of the VOCs, even though he did not have "specialized knowledge" that it was. Fed. R. Evid. 704(a) (expert opinion can be based on an inference and can embrace an ultimate issue); *Walker*, 208 F.3d at 587 n.2 (noting that subject to an exception in criminal matters, experts can testify to ultimate issue); cf. *Brumley*, 217 F.3d at 912 (expert's opinion was proper because it was based on his experience, not on representing to jury that he possessed any "special knowledge"). This did not render his opinion speculative. See *Brumley*, 217 F.3d at 911.

X-L's other arguments concern the weight to be given Ball's testimony, rather than its admissibility. For example, X-L complains that in calculating soil degradation, Ball used the data that G & M's hydrologists obtained from their testing of the X-L site, rather than using data that he himself generated. X-L does not, however, challenge the reliability of the underlying data, and Ball's use of G & M's data is perfectly permissible. Fed. R. Evid. 703 ("The facts or data in a particular case upon which an expert bases his opinion or inference may be those perceived by or made known to the expert at or before the hearing.") (emphasis added); see also *Walker*, 208 F.3d at 588 (expert testimony may rely on the opinions or data of others unless the testifying expert's opinion is too speculative or the underlying basis is faulty). X-L also complains that Ball only visited the site once. In some circumstances a brief or solitary examination might indicate a lack of reliability, see *Kuhmo Tire Co.*, 119 S. Ct. at 1177 (expert inspected the tire for the first time on the morning of this deposition), but an expert is not always required to personally perceive the subject of his analysis. See Fed. R. Evid. 703;

Walker, 208 F.3d at 591 (physician was allowed to render expert opinion even though he did not personally examine the subject). The reliability of Ball's opinion was largely dependent upon the data gathered by others, rather than his personal observation of the site. This data was verifiable, and Dr. Ball used reliable methodologies in reaching his opinion. While "shoddy preparation by an expert might evidence a lack of professional qualifications," in this case we are not prepared to say "that the district court's decision to admit [Ball's] testimony was an abuse of discretion." Walker, 208 F.3d at 590-91.

X-L next disputes the district court's finding that it was 100% responsible for the wastes on NutraSweet's property. It first complains that the district court should have granted its motion for a directed verdict under Fed. R. Civ. P. 50. X-L does not, however, develop this argument, and therefore it is waived. See Fed. R. App. P. 28(a)(9)(A); John v. Barron, 897 F.2d 1387, 1393 (7th Cir. 1990) ("An appellant must not only raise issues in his brief, he must present them in a professional fashion. This court is not obligated to research and construct legal arguments open to parties, especially when they are represented by counsel as in this case.").

We also disagree with X-L that the district court's findings were clearly erroneous and that it should have entered judgment in its favor after the trial. See Fed. R. Civ. P. 52(a). Under the "clearly erroneous" standard, a district court's findings of fact should be affirmed unless we are "left with the definite and firm conviction that a mistake has been committed." R. L. Coolsaet Const. Co. v. Local 150, Int'l Union of Operating Eng'rs, 177 F.3d 648, 654 (7th Cir. 1999). We have no such conviction here. In addition to Dr. Ball's opinion and multiple analyses, the evidence showed that NutraSweet did not use chlorinated solvents (except for those in a self-contained parts cleaner that never leaked), while X-L admitted that it did use solvents that contained the same VOCs (TCA, PCE, and their degradation products) that had contaminated NutraSweet's property. A G & M investigating engineer testified that there was no evidence of any other source of the VOCs besides X-L. Moreover, NutraSweet rebutted X-L's "alibi" that it had been properly disposing of hazardous wastes: shipping manifests showed that X-L did not off-site its spent solvents until December 1990, and X-L did not even proffer a theory as to who else could have been responsible for the VOCs on its and NutraSweet's property./4

X-L also argues that post-remediation (or clean-up) test results indicated that NutraSweet did not effectively clean up its property, and therefore it violated the EPA's "national contingency plan" (NCP). See 42 U.S.C. sec. 9607(a)(4)(B); 40 C.F.R. sec. 300.700(c); PMC, 151 F.3d at 616. NutraSweet's compliance with the NCP is required for X-L to be liable. See *County Line Inv. Co. v. Tinney*, 933 F.2d 1508, 1512 (10th Cir. 1991) ("Section 107 provides that a person is only liable for private party response costs to the extent that these costs were incurred 'consistent with the national contingency plan.' Proof of response costs incurred 'consistent with' the NCP is, therefore, an element of the prima facie private cost recovery action under CERCLA.") (quoting 42 U.S.C. sec. 9607(a)(4)(B)). At the summary judgment stage, the district court determined that X-L was liable to NutraSweet. *NutraSweet*, 933 F. Supp. at 1423 ("The court rules as to the liability prong, but finds a genuine issue of material fact as to the attributable damages."). X-L therefore should have contested the effectiveness of NutraSweet's clean-up at summary judgment, for if NutraSweet did not comply with the NCP, then X-L would not have been liable for any of NutraSweet's clean-up costs. 42 U.S.C. sec. 9607(a)(4)(B); *County Line*, 933 F.2d at 1512 ("Evaluation for conformity with the NCP at [summary judgment] is proper, in order to determine whether Plaintiffs are entitled to recover any of their response costs and to avoid useless trial of the case at a later juncture, should Plaintiffs fail to show the requisite consistency.") (emphasis added). Because X-L did not raise the NCP issue at summary judgment, it has waived it. See *Bruner Corp. v. R. A. Bruner Co.*, 133 F.3d 491, 497 (7th Cir. 1998) (defendant waived right to dispute damage amount because it failed to raise argument during summary judgment when issues of liability and damages were being considered).

But even if X-L had preserved that issue, the district court did not clearly err in concluding that NutraSweet had satisfied the NCP. The Illinois EPA approved NutraSweet's clean-up plan, and the agency monitored the progress of the remediation. NutraSweet remediated its property until the Illinois EPA advised it that it could stop because NutraSweet's efforts had succeeded to the maximum extent possible. In light of this evidence, we are satisfied that NutraSweet met this requirement for a CERCLA recovery.

Lastly, X-L contests the amount of damages that the district court awarded NutraSweet, claiming that there is insufficient documentation to support the costs NutraSweet incurred in investigating and remediating its property. The

amount of NutraSweet's clean-up costs was also litigated at summary judgment. See NutraSweet, 933 F. Supp. at 1415. There, X-L did not contest these costs (indeed, X-L did not do so until after trial when the parties were litigating the question of pre-judgment interest). As a result, NutraSweet was entitled to partial summary judgment on the issue of its costs. X-L cannot now dispute the accuracy of the amount of remediation costs; it can only dispute the percentage of them for which it is responsible. See *id.* at 1423 ("X-L is liable for the amount of response costs attributable to the VOCs originating from the X-L facility. The extent of liability, and the resulting amount of recoverable costs, must be left for trial."). And as stated, the district court did not clearly err in finding X-L to be 100% responsible for them. Therefore, X-L loses on this issue as well./5

IV. Conclusion

Because there is no genuine issue that X-L was responsible (and hence liable) for some of the hazardous wastes on NutraSweet's property, the district court did not err in granting partial summary judgment to NutraSweet on the issue of liability. The district court did not abuse its discretion in excluding X-L's expert from testifying on the results of the October 1997 site work due to X-L's failure to timely file its supplemental expert report. The district court also did not abuse its discretion in determining that the techniques and methods upon which NutraSweet's expert based his opinion were sufficiently reliable. Furthermore, the district court did not clearly err in finding after trial that X-L was in fact 100% responsible for the VOCs on NutraSweet's property and in finding that NutraSweet complied with the NCP in remediating (or cleaning up) its property. Lastly, because X-L did not oppose at summary judgment NutraSweet's evidence of its clean-up costs, it waived this issue, and the consequent issue of the amount of damages.

For the foregoing reasons, the judgment of the district court in favor of the plaintiff is AFFIRMED in all respects.

/1 CERCLA defines a "facility" as, among other things, "any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise came to be located." See sec. 101(9)(B), 42 U.S.C. sec. 9601(9)(B). At the summary judgment stage, the district court noted that this case was unusual in that the contamination of the NutraSweet site was allegedly due to hazardous wastes being improperly disposed of on the X-L site and then

migrating over to NutraSweet's property (at trial, NutraSweet theorized that the wastes were also due to X-L directly dumping them onto NutraSweet's property, *infra*). Because hazardous wastes had been "deposited," or "otherwise came to be located" on both NutraSweet and X-L's property, the district court held that both sites were "facilities." NutraSweet, 933 F. Supp. at 1417-18 & n.3. Whether or not the district court was correct to consider both sites as "facilities," it is indisputable that X-L owned a facility, because it was its land or business "from which there [was] a release, or a threatened release which cause[d] the incurrence of response costs." See CERCLA Section 107(a). We therefore consider it irrelevant whether Nutrasweet also had a "facility," because the hazardous substances eventually came to rest on its land.

/2 See Defendants' Motion to Revise Scheduling Order at 2, para. 4 ("Plaintiffs' initiation of substantial field investigating work after their first expert opinion reports were filed strongly suggests an effort to change and/or add to the prior-stated opinions. . . . [Plaintiffs] should first produce any amended or supplementary expert opinion reports. Defendants will then be in a position to understand plaintiffs' opinion evidence (if it has changed in any way as a result of the later field investigation) and be able to respond to it with any needed supplementary expert reports of their own.") (emphasis in original).

/3 According to X-L, the "bait" was the expert opinions of the G & E engineers used at summary judgment and the "switch" was the expert opinion of Dr. Ball used at trial.

/4 X-L cites various district court decisions that say that, by itself, evidence that a defendant generated or used hazardous substances that contained the same chemical constituents that were found at a contaminated site does not meet a plaintiff's burden of proving that the defendant caused the contamination, nor does the proximity of the defendant's site to the contaminated site, nor does the defendant's failure to account for all of its hazardous waste disposal during the relevant time frame. But here of course the district court did not have just a category of such evidence; it had all these types of evidence, plus considerably more, to support its findings. And while, as X-L points out, there was no "smoking gun" connecting all the VOCs directly to X-L's activities, there was sufficient evidence to support the district court inferring that X-L's activities were the cause of the contamination.

/5 Because the district court found that X-L was 100% liable for the VOCs on NutraSweet's property, it awarded NutraSweet its costs under sec. 107. X-L argues that because Dr. Ball indicated that some of the VOCs migrated off NutraSweet's site, NutraSweet is not an innocent landowner and therefore must recover under sec. 113(f), and that under the evidence, X-L's share of responsibility would be zero. We reject as disingenuous this attempt by X-L to exonerate itself of any responsibility. This one brief comment in Ball's testimony does not show that the district court clearly erred in finding X-L to be 100% responsible for the VOCs on NutraSweet's property and that NutraSweet was innocent of the release of any hazardous wastes. Even if there were a release of VOCs off NutraSweet's property, we cannot tell on this record if it was de minimis, in which case NutraSweet would still be able to recover under sec. 107 as an innocent landowner. See PMC, 151 F.3d at 616 (sec. 113(f) action) ("PMC's spills may have been too inconsequential to affect the cost of cleaning up significantly, and in that event a zero allocation to PMC would be appropriate."), and Rumpke, 107 F.3d at 1241 (possible to view a sec. 107 action as an innocent landowner proceeding under sec. 113(f) with an "implied claim for contribution, where the landowner is alleging that its share should be zero."). Furthermore, if a release of hazardous materials occurred off of NutraSweet's property, NutraSweet still might be "innocent" as to the hazardous wastes that X-L released onto its property (which is the subject of NutraSweet's sec. 107 action), and such a release would not relieve X-L of its liability to NutraSweet, although it might give another party a right to recover from either NutraSweet or X-L or both.