

IN THE DISTRICT COURT OF THE VIRGIN ISLANDS  
DIVISION OF ST. CROIX

COMMISSIONER OF THE DEPARTMENT	:	CIVIL ACTION
OF PLANNING AND NATURAL	:	
RESOURCES, ALICIA V. BARNES,	:	
et al.	:	
	:	
	:	
v.	:	
	:	
CENTURY ALUMINUM COMPANY,	:	
et al.	:	NO. 05-62

MEMORANDUM

Bartle, J.

February 28, 2013

Plaintiffs, Commissioner of the United States Virgin Islands Department of Planning and Natural Resources, Alicia V. Barnes (the "Commissioner"), and the Government of the Virgin Islands (together with the Commissioner, the "Government"), filed this multi-count environmental lawsuit against entities who at various times owned portions of an industrial area in Kingshill, St. Croix on which both an alumina refinery and an oil refinery have operated. These defendants were Century Aluminum Company ("Century"), Virgin Islands Alumina Corporation ("VIALCO"), St. Croix Alumina, LLC ("SCA"), Lockheed Martin Corporation ("Lockheed"), Alcoa World Alumina, LLC, ("Alcoa"), St. Croix Renaissance Group, LLLP ("SCRG"), HOVENSA, LLC ("HOVENSA") and Hess Oil Virgin Islands Corporation ("HOVIC").<sup>1</sup> We have

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1. The Virgin Islands Port Authority ("VIPA") and the Virgin Islands Waste Management Authority ("VIWMA") are third-party  
(continued...)

previously approved a settlement between the Government and SCA, Alcoa, and SCRG and granted summary judgment in favor of Century. Accordingly, the remaining defendants are VIALCO, Lockheed, HOVENSA, and HOVIC.

There are a number of pending motions under Daubert v. Merrel Dow Pharmaceuticals, 509 U.S. 579 (1993). Three relate to one expert report produced by Stratus Consulting Inc. ("Stratus"). The Stratus report was written by James V. Holmes ("Holmes"), Joshua Lipton, Ph.D. ("Dr. Lipton"), and Constance Travers ("Travers"). In three separate motions, the Refinery Defendants move to preclude each expert from opining on certain matters discussed in that report. We will address all three motions in this memorandum.

I.

The court has a "gatekeeping" function in connection with expert testimony. See Gen. Elec. Co., et al. v. Joiner, 522 U.S. 136, 142 (1997); see also Daubert, 509 U.S. at 589. Rule 702 of the Federal Rules of Evidence provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and

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1. (...continued)  
defendants sued by defendants Vialco and Lockheed and former defendant Century for contribution.

methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

As our Court of Appeals has repeatedly noted, Rule 702 embodies three requirements: qualification, reliability, and fit. Pineda v. Ford Motor Co., 520 F.3d 237, 244 (3d Cir. 2008).

An expert is qualified if he "possess[es] specialized expertise." Schneider ex rel. Estate of Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003). This does not necessarily require formal credentials, as "a broad range of knowledge, skills, and training qualify an expert," and may include informal qualifications such as real-world experience. In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 741 (3d Cir. 1994). The qualification standard is a liberal one, and an expert may be sufficiently qualified under Rule 702 even if "the trial court does not deem the proposed expert to be the best qualified or because the proposed expert does not have the specialization that the court considers most appropriate." Holbrook v. Lykes Bros. S.S. Co., 80 F.3d 777, 782 (3d Cir. 1996).

To determine reliability, we focus not on the expert's conclusion but on whether that conclusion is "based on the methods and procedures of science rather than on subjective belief or unsupported speculation." Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003) (internal quotation marks omitted). Our analysis may include such factors as:

(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or

potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put.

Pineda, 520 F.3d at 247-48.

"[T]he test of reliability is flexible" and this court possesses a broad latitude in determining reliability. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141-42 (1999). To be reliable under Daubert, a party need not prove that his or her expert's opinion is "correct." Paoli, 35 F.3d at 744. Instead:

As long as an expert's scientific testimony rests upon good grounds, based on what is known, it should be tested by the adversary process—competing expert testimony and active cross-examination—rather than excluded from jurors' scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies.

United States v. Mitchell, 365 F.3d 215, 244 (3d Cir. 2004)

(quoting Ruiz-Troche v. Pepsi Cola Bottling Co., 161 F.3d 77, 85 (1st Cir. 1998)).

As for "fit," expert testimony must also "assist the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. Thus, to "fit," such evidence must bear some relation to the "particular disputed factual issues in the case." United States v. Downing, 753 F.2d 1224, 1237 (3d Cir. 1985). Accordingly, this factor has been described

as one of relevance. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 591 (1993); Paoli, 35 F.3d at 745 & n.13.

II.

The Stratus report provides a "Natural Resource Damage Assessment" ("NRDA"). The NRDA gives an estimate of damages requested by the government of the Virgin Islands "to compensate the public for past, ongoing present, or expected future harms to natural resources." These damages are "different from, and supplemental to, remedial cleanup or response costs." The report is organized based on the following six steps:

Release: Determine that a contaminant release occurred

Pathway: Determine that there is a pathway by which the released contaminants were transported from the point of release to trustee natural resources

Exposure: Evaluate whether trustee natural resources were exposed, directly or indirectly, to the contaminants

Injury Determination: Determine if exposure to the contaminant(s) resulted in one or more injuries to natural resources

Injury Quantification: Quantify the extent (spacial and temporal) and degree of natural resource injuries

Damage Determination: Determine the amount of compensation required to offset the natural resource injuries and make the public whole.

III.

We will first turn to the Refinery Defendants' motion to exclude statements and testimony made by Holmes regarding his portion of the Stratus report. Holmes was the "principal author" of the "Injuries and Damages to Terrestrial and Marine Habitats" section of the Stratus expert report. The Refinery Defendants

move to exclude Holmes' testimony regarding two specific sections of this portion of the Stratus report, §§ 2.2.3 and 3.2. Section 2.2.3 addresses natural resource exposure to contaminants and provides that groundwater resources and marine habitat have been exposed to contaminants released at the refinery. Section 3.2 addresses the potential injuries that these contaminants caused.

Holmes does not describe the terrestrial habitat's exposure to contaminants. The report concluded there was not "sufficient information at this time to quantify exposure of surface habitats to contaminants at the refinery." Similarly, in §3.2, Holmes states, "[w]e have no data at this time to determine injuries at abandoned landfarms ... or potential future habitat injuries now that the remaining landfills and landfarms are no longer in use. Therefore, we have not included terrestrial habitat injuries and damages in the Hovensa NRDA." Accordingly, any testimony by Holmes with regard to the terrestrial habitat will be excluded since this was not included in the report.

Regarding groundwater contaminants, Holmes opines that "[g]roundwater under the refinery has been exposed to both petroleum contamination and other contaminants, including heavy metals, as a result of decades of leaks and spills." He also states that "there is a petroleum plume west of the refinery," which while mainly under Alumina property is also in part contaminated by Hovensa. The Refinery Defendants do not object to Holmes' opinions on groundwater contamination, and we will not preclude him from testifying as to them. Holmes does not provide

any opinion on the quantum of injuries to the groundwater made by the contaminants or on any damages due because of any such injuries. Accordingly, he may not testify in this regard. Those opinions were left to Travers, and we will address them in the next section.

The Refinery Defendants further argue that Holmes should be precluded from testifying at trial first about whether the marine habitat was exposed to contaminants and, second, about whether any such contaminants injured the marine habitat.

Holmes may testify that the marine habitat was exposed to contaminants. Holmes relies on sediment sampling and visual observations conducted by Dr. Vance Vicente and Stratus in January 2012 to establish exposure. Holmes concludes that three sediment samples collected in January 2012 "confirm exposure of sediment to refinery contaminants." The report explains:

These three samples were compared to a sample collected west of the Port Authority dock.... The concentrations of polycyclic aromatic hydrocarbons (PAHs), lead, mercury, nickel, and zinc ... were at least one order of magnitude higher near Outfall 001 than in the sample from near the Port Authority. PAHs near the outfall were three orders of magnitude greater than at Port Authority. With the exception of lead, the contaminant concentrations were substantially lower at the site adjacent to Dock No. 7, further from the outfall. These data confirm that sediments in marine habitat near the outfall have been exposed to contaminants from the refinery, and they strongly suggest that the primary source of the contamination is the outfall.

The Refinery Defendants contend that Holmes' opinions based on the January 2012 sediment sampling should be excluded. They maintain that the data is unreliable because Stratus took samples from nine locations in the turning basins but only discuss results from three, all located in the West Turning Basin. We disagree. It is sufficient for Holmes to discuss contamination only in the three samples. It would be another matter if he were attempting to show a lack of contamination and only chose some samples, since there could be contamination in the other unchosen samples. Here, however, it is irrelevant if the other three samples showed no contamination. The sampling was intended to confirm "exposure of natural resources to contaminants," and it did so. Accordingly, Holmes may testify about the marine habitat's exposure to contaminants.

Regarding the visual observations made in January 2012, Holmes explains, "Dr. Vicente (2012) documented exposure to contaminants released from the refinery," including that in the East Turning Basin "the marine substrate was covered with small sulfur granules" and in the West Turning Basin there was "'slime' with black anoxic mud and upwelling bubbles of unknown composition, with evidence of dead barnacles on the rocks." Holmes may testify to the existence of sulphur granules and slime.

Turning to whether Holmes may testify that the contaminants injured the marine habitat, the relevant section of the Stratus report provides in full:

Natural resources in the marine environment have very likely been injured by contaminant releases.... Concentrations of contaminants near Outfall 001 are highly elevated. Vicente (2012) noted that benthic infauna and other biological metrics in the Hovensa turning basins are considerably worse than at other shipping channels that he has investigated. Unfortunately, existing data from the turning basins are highly limited, making estimates of past interim losses difficult. Outside of the sampling that Dr. Vicente and Stratus Consulting performed in January 2012, we have no other sediment sampling data besides the data provided in BioImpact (1993), which are semi-quantitative at best and do not include specific sampling locations. Given the apparent releases of contaminants at Hovensa, it is highly likely that we are underestimating habitat injuries and damages by not including an estimate of interim loss and compensatory restoration of marine habitat in our calculation of damages.

The Refinery Defendants argue that this subsection demonstrates that Holmes did not have sufficient data to quantify the injuries to the marine habitat or whether they were caused by the contaminants. Indeed, the plaintiffs contend in response that Holmes was not attempting to quantify the injuries but merely qualitatively opine that "[n]atural resources in the marine environment have very likely been injured by contaminant releases." The Stratus report does not include damages for injuries to the marine habitat since the experts determined that they could not quantify the injuries. Accordingly, Holmes may not testify about the extent of injuries to the marine habitat injuries or damages owed for injuries to the marine habitat.

Nonetheless, Holmes may testify at trial consistently with what he wrote in the report. Although our Court of Appeals has held that experts need not use the specific phrase "with a reasonable degree of scientific certainty," speculative opinions, "using such language as 'possibility'" may be excluded. Holbrook v. Lykes Bros. S.S. Co., 80 F.3d 777, 785 (3d Cir. 1996) (quoting Schulz v. Celotex Corp., 942 F.2d 204, 208 (3d Cir. 1991)). "Phrases like 'strong possibility,' or '20-80% probability,' also invite speculation." Schulz, 942 F.2d at 208.

The Federal Rules of Evidence, however, do not require any "magic words" or "particular phrase regarding the degree of certainty with which experts must form their opinions." Holbrook, 80 F.3d at 785. Indeed, other courts within our circuit have determined that an "opinion stating what is 'most likely' is admitted to be weighed by the jury." Keller v. Feasterville Family Health Care Ctr., 557 F. Supp. 2d 671, 679 n.2 (E.D. Pa. 2008) (citing Kirschner v. Broadhead, 671 F.2d 1034, 1039-40 (7th Cir. 1982)). Here, we find the "very likely" and "highly likely" language used by Holmes to be similar to the "most likely" language admitted in other cases and thus sufficient. The Refinery Defendants may, of course, cross-examine Holmes on his level of certainty. Further, as discussed above, Holmes may not go into any additional detail than what he provided in the report.

In sum, Holmes is precluded from testifying about any contaminant exposure or injuries to the terrestrial habitat. He

is not precluded from testifying about groundwater contamination, but he may not testify about the quantum of groundwater injuries or any damages due because of these injuries. He may testify about exposure of the marine habitat to contaminants and general injuries to the marine habitat caused by contaminants. However, he may not testify about the extent of the injuries to the marine habitat or damages owed for those injuries.

IV.

The Refinery Defendants also seek to exclude the opinions and testimony of Constance L. Travers ("Travers") regarding her portion of the Stratus report. Travers was the principal author of Chapter 4, which addresses groundwater injuries and damages. In addition, she contributed to other sections on groundwater contamination and damages in Chapters 2 and 5. The Refinery Defendants contend that she should be precluded from testifying at trial because she relied on the work of two other experts, Dr. Charles Andrews ("Dr. Andrews") and Dr. Kevin Boyle ("Dr. Boyle"), without an understanding of their opinions and without an ability to sufficiently articulate the reasonableness of her reliance on them. Dr. Andrews is a plaintiff's expert who delineated the extent of the groundwater contamination, and Dr. Boyle is plaintiff's expert who addressed some of the damage calculations.

An expert is permitted to rely upon facts or data that are of a type reasonably relied upon by experts in the field. See Fed. R. Evid. 702 & 703. This includes the opinions of other

experts. See In Re TMI Litigation, 193 F.3d 613, 715 (3d Cir. 1999). However, when relying on the opinions of other experts, an expert must "assess the validity of the opinions of the experts ... relied upon" rather than "unblinking[ly] rel[y] on those experts' opinions." Id. at 716. Here, the Refinery Defendants contend that Travers unblinkingly relied on the opinions of Dr. Andrews and Dr. Boyle, while the plaintiffs counter that she assessed the validity of their opinions.

Travers testified at her deposition about the opinions she included in Chapter 4 of the Stratus report:

That groundwater beneath the Hovensa and Alumina facilities has been injured by releases of contaminants from those facilities, that a way to evaluate the damage caused by the injuries to the groundwater -- one of the ways that we looked at was a restoration equivalency analysis, which is a way of looking at restoration-based way to compensate for the injuries to groundwater. And the actual damages numbers were calculated by Kevin Boyle, but the opinions that I have are that this is an appropriate method for evaluating damages to groundwater, and I present in the chapter the methods that we used, which are commonly used techniques for evaluating groundwater injuries.

Thus, Travers may testify at trial about these opinions, specifically about how she chose to evaluate the damage caused by the injuries to the groundwater and how the methodology was used. As for her reliance on Dr. Andrews' expertise, Travers stated at her deposition that although Dr. Andrews was tasked with evaluating the extent of contamination in the groundwater, she did the following:

I did look at the plumes that the -- or the affected water, as delineated by Dr. Andrews, and compared that to information that I had about the groundwater data and make sure that it was reasonable, what he was doing was reasonable and consistent with the practices of our profession.

This meets the standard laid out in TMI. Travers did not "unblinkingly" rely on Dr. Andrews' expertise but rather ensured that it was reasonable. We will not exclude her testimony on the groundwater contamination.

Travers also testified in her deposition that she relied on the opinions of Dr. Boyle for property dollar values for the restoration credit but not for the damages themselves. She was the one who, working with her colleagues, chose the methodology used to calculate damages for the groundwater injuries. This methodology was a "resource equivalence approach" ("REA"), and it was chosen from approximately four possible methodologies. She testified that she herself followed REA to calculate the damages for injured groundwater. She gave Dr. Boyle "the debit for the groundwater volume and also the credit for the restoration project," and he "then assigned property values to the restoration project." She did not independently analyze the property values. Accordingly, Travers may not testify about them at trial. See TMI, 193 F.3d at 715-16. Provided his opinions meet the standard set forth in Daubert, testimony about the property dollar values will be left to Dr. Boyle.

V.

Finally, the Refinery Defendants move to exclude statements and testimony of Dr. Lipton. The Refinery Defendants contend that Dr. Lipton's testimony at trial should be limited to the matters in the Stratus report to which he contributed, which they argue were only § 1.2, his qualifications summarized in § 1.5, and the organization of the data and tables in Chapter 5. They base this argument on Dr. Lipton's deposition, in which he testified:

As a general matter, Mr. Holmes and Mr. Travers worked on the substantive details of the report. By "substantive details," I mean data review, data collection, data analysis, data processing, review of documents, visiting the site, and other activities that went into the development of the analyses that are presented in this report. The role that I played in this effort was somewhat different from that of Mr. Holmes and Ms. Travers in that I was not actively involved in handling, reviewing data or making any calculations. Rather, my role in this report and this assessment was to serve as a reviewer and sounding board and to provide perspective and thoughts to Ms. Travers and Mr. Holmes regarding how assessments are performed, different approaches to doing damage assessments, structural aspects of the report; for example, organization of some of the information that's presented in Chapter 5, as well as review of text. And, in some cases, that review consisted solely of editorial review; in some cases, that review was more active in that that involved discussions with Mr. Holmes -- largely Mr. Holmes, probably Ms. Travers as well -- about some of the actual nature of the analyses that were being performed and the conclusions that were being derived from those analyses.

When asked if any of the opinions in the report were his alone, and not opinions of Holmes or Travers, Dr. Lipton responded:

I offer, I think, a perspective that is distinct from Mr. Holmes or Ms. Travers regarding methodological approaches, overall conceptual approaches to looking at damages, the -- some of the variety or distinctions in damage assessments that are performed by different entities, under statutory or regulatory guidance or under common law or just as a matter of administrative or agency precedent.

Accordingly, we will not preclude Dr. Lipton from testifying about the methodology and procedures for evaluating damages since this was his focus. Dr. Lipton stated that he did "some work" on Chapter 3 of the report and that while his opinions in that chapter would not differ from those of Holmes, he would have "primary opinions" related to the "focus on methodology approaches, procedures, as opposed to details." We will limit Dr. Lipton's testimony to those areas in which his opinions are the "primary" ones, and accordingly preclude him from testifying to the substance of the findings in Chapter 3. That will be left to Holmes in the fashion discussed above. Dr. Lipton may, however, testify to the methodologies and procedures that were used by Holmes in Chapter 3.

The Refinery Defendants also argue that Dr. Lipton lacks the requisite expertise to testify about Chapter 4 of the Stratus report. He testified at his deposition that he does not consider himself a hydrogeologist. As a result, he deferred to

Travers on hydrogeology questions, including "things like volume of groundwater, delineation of groundwater, pumping rates, volume of void spaces or blips, or whatever odd terminology I've heard hydrologists use over the years." However, he testified that it was his opinion that the methods used in Chapter 4 with respect to the groundwater valuation aspects were consistent with methods for NRDA's performed around the United States and elsewhere. As with Chapter 3, we will preclude Dr. Lipton from testifying to the substance of the findings in Chapter 4. Travers will do so, as discussed above. Dr. Lipton may testify to the methodologies and procedures used by Travers in Chapter 4.

Although the Refinery Defendants contend that Dr. Lipton should also be limited to testifying merely about the "organization of the data and tables in Chapter 5," we conclude that, as with the other chapters, he may also testify about the methodology and procedures. He testified at his deposition that although Holmes was responsible for populating the tables in Chapter 5 with numbers, they worked together to "organize conceptually how damages might work and how we might describe different alternatives or different options." Accordingly, Dr. Lipton may testify about the various methodologies and procedures that the experts used for Chapter 5.

#### VI.

In sum, Holmes is precluded at trial from testifying about any contaminant exposure or injuries to the terrestrial habitat. On the other hand, he may testify about contaminant

exposure to groundwater, but he may not testify about the quantum of injuries to groundwater or any damages due because of such injuries. As for the marine habitat, he may testify about whether it has been exposed to contaminants and about whether those contaminants injured it, but he may not quantify the extent of the injuries or damages owed for them. Travers will not be precluded from testifying, except as to the dollar values formulated by Dr. Boyle. Dr. Lipton may testify on the methodology and procedures performed by Stratus for all parts of the report but not on the substance of the findings.