

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

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| COMPLAINT OF: |) | |
| BORGHESE LANE, LLC |) | |
| |) | |
| For Exoneration or Limitation of Liability |) | Civil No. 2:18-cv-00533-MJH (Lead Case) |
| |) | |
| |) | Member and Related Cases: Civil Action Nos. |
| |) | 18-510; 18-178; 18-913; 18-902; 18-1647; and |
| |) | 18-317 |

OPINION and ORDER

This action arises out of a January 13, 2018 multiple-barge breakaway, that originated at Jack’s Run Fleet at approximately Mile 4 on the Ohio River and continued downriver to the Emsworth Lock and Dam. Presently before the Court is Borghese, ORS, and MRHS’s Motion in Limine, to exclude results of experiments performed by Bartley J. Eckhardt, citing to Fed. R. Evid. 702 and 703 and *Daubert v. Merrell Dow Pharmaceuticals*. (ECF No. 572). The matter is now ripe for decision.

Upon consideration of Borghese, ORS, and MRHS’s Motion (ECF No. 572), Response from ITS (ECF No. 595) and joined by Alcosan (ECF No. 599), the respective briefs (ECF Nos. 573, 596, and 629), the arguments of counsel, and for the following reasons, Borghese, ORS, and MRHS’s Motion will be granted.

I. Background

In the aftermath of the barge breakaway, several barge owners filed lawsuits against Borghese, McKees Rocks Harbor Services, LLC (MRHS), and Industry Terminal & Salvage Company (ITS), seeking recovery for damages resulting from breakaway barges that had been moored at Jack’s Run Fleet.

Industry Terminal & Salvage Company (ITS) engaged Bartley J. Eckhardt, a forensic engineer to determine whether a broken U-bolt, found at Cell # 8 at the Jack's River Fleet after the breakaway, contributed to the incident. As part of his August 26, 2021 report, Mr. Eckhardt included results from an experiment he performed, wherein he attempted to determine if rings, fabricated by his company's laboratory, would, when placed under tension, warp or "potato chip" and appear similar to the condition of the mooring ring at Cell #8 at the Jack's Run Fleeting Area.

In their *Daubert* motion, Borghese, ORS, and MRHS argue that Mr. Eckhardt's experiment does not provide a fair comparison to the conditions of the breakaway, and was an "admittedly crude," "informal" and inherently unreliable experiment.

II. Relevant Standard

Under Federal Rule of Evidence 702, the District Court is to act as a gatekeeper to, "ensure that any and all expert testimony or evidence is not only relevant, but also reliable." *United States v. Schiff*, 602 F.3d 152, 172 (3d Cir. 2010). Federal Rule of Evidence 702 provides in part that: "A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if,

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

Fed. R. Evid. 702.

The Supreme Court in *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993) changed the criteria for the admissibility of expert testimony and charged trial courts to act as

“gate-keepers” to ensure that the proffered testimony is both relevant and reliable. *Id.* at 592-93.

In *Daubert*, the Supreme Court articulated the following two-prong test for determining the admissibility of expert testimony:

Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.

Id. at 593-94. Both prongs of the *Daubert* test must be satisfied before the proffered expert testimony may be admitted. *Id.* at 595. The Third Circuit has explained that Rule 702 “embodies a trilogy of restrictions” that expert testimony must meet for admissibility: qualification, reliability and fit. *Schneider ex rel. Estate of Schneider v. Fried*, 320 F.3d 396, 404 (3d Cir. 2003). The Third Circuit has explained:

Rule 702 requires that the expert testimony must fit the issues in the case. In other words, the expert’s testimony must be relevant for the purposes of the case and must assist the trier of fact.

Id. at 404. When expert testimony is challenged under *Daubert*, “the proponents of the expert must establish admissibility by a preponderance of the evidence.” *Bruno v. Bozzuto’s, Inc.*, 311 F.R.D. 124, 135 (M.D. Pa. 2015).

III. Discussion

Borghese, ORS, and MRHS contend that Mr. Eckhardt’s experiment does not provide a fair comparison to the conditions of the breakaway, and is therefore unreliable. In particular, they maintain, in relevant part, that Mr. Eckhardt did not replicate the following conditions:

1. The type of steel used by Eckhardt was not manufactured before 1943 and therefore did not have metallurgical properties consistent with the type of steel that was used to construct the actual mooring rings affixed to the Jack’s Run cells.

2. The dimensions of the mooring ring fabricated by Eckhardt are inconsistent with the dimensions of the actual mooring rings at the Jack's Run fleeting area cells.
3. There is no indication that Eckhardt attempted to account for the weather conditions existing at the time of the January 13, 2018 breakaway.
4. Eckhardt's fabricated mooring rings were created by bending a straight rod of metal into an oval and welding it together. There is no indication that the Jack's Run mooring rings were constructed in a similar manner.
5. Eckhardt's experiment fails to account for multiple and various directional forces acting on the mooring ring simultaneously; Eckhardt conducted his experiment by "pulling" at the ring from two end points.
6. Eckhardt's experiment does not account for more than 75 years of use, wear, and tear to which the actual mooring rings were subjected.
7. Eckhardt's experiment was not conducted pursuant to any recognized peer review standards or protocols.
8. Eckhardt failed to secure photographs of the experiment. Eckhardt chose not to investigate the circumstances concerning the lack of photos.
9. Eckhardt failed to apprise counsel and experts for opposing parties of his intended experiment, his supposed testing protocols, or provide an opportunity for opposing experts to attend the experiment.

ITS maintains that Mr. Eckhardt's experiment was not to recreate the break-away, but to help explain and understand one discrete scientific principle, i.e., how an oval ring to which pulling force is applied beyond its yield strength physically reacts.

In response, Borghese, ORS, and MRHS contend that Mr. Eckhardt's experiment was not conducted to demonstrate a "basic scientific principle" already known to Mr. Eckhardt such that his experiment may be admitted without satisfying the "substantial similarity" requirement.

While *Daubert* does not require that an experiment's conditions be "precisely identical to the actual event," the conditions must be "so nearly the same as to provide a fair comparison." *U.S. v. Norris*, 217 F.3d 262, 270 (5th Cir. 2000). When assessing an expert's experiment

conducted to “simulate actual events,” *Daubert* only requires that the conditions of the experiment “be so nearly the same as to provide a fair comparison.” *U.S. v. Norris*, 217 F.3d 262, 270 (5th Cir. 2000). Where an expert’s experiment “stray[s] too far from the real-world conditions” at issue, the experiment cannot be said to “fit” the facts of the case. *Varner v. Dometic Corp.*, 2022 U.S. Dist. Lexis 118730, *15 (S.D. Fla. March 25, 2022).

On the other hand, if the proponent offers the test not as a re-creation but as a demonstration of general scientific principles, “it need not pass the substantial similarity test.” *Muth v. Ford Motor Co.*, 461 F.3d 557, 566 (5th Cir. 2006). However, even when used for demonstrative purposes, the evidence must not be misleading. *Id.* Experimental evidence falls on a spectrum and the foundational standard for its admissibility is determined by whether the evidence is closer to simulating the accident or to demonstrating abstract scientific principles. *McKnight By & Through Ludwig v. Johnson Controls, Inc.*, 36 F.3d 1396, 1402 (8th Cir. 1994). The closer the experiment gets to simulating the accident, the more similar the conditions of the experiment must be to the accident conditions. *Id.*

Here, the record belies that Mr. Eckhardt performed the experiment intending to demonstrate a “basic scientific principle” because his pre-experiment research did not reveal forces that would cause the type of deformation found on the mooring ring. In addition, Mr. Eckhardt even described the experiment in unscientific verbiage as “informal” and “admittedly crude.” Both Mr. Eckhardt and metallurgist, Ms. DeMarco, found the “potato-chipped” appearance of the mooring ring “odd.” Their attempt to determine the cause of a “phenomenon” unknown to Mr. Eckhardt and metallurgist Ms. DeMarco would not demonstrate “basic scientific principles.” Further, the experiment, by attempting to fabricate the mooring ring, approaches an imitation of the circumstances surrounding the U-bolt failure. As such, the experiment would

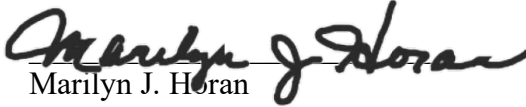
have been needed to have similar to the conditions of the breakway; and as enumerated above, the experiment misses the mark of a fair comparison in several regards. Furthermore, beyond the lack of condition similarity, the testimony would not assist and likely confuse the trier of fact. Further, Mr. Eckhardt's experiment, when taken in its totality, does not fit the facts of this case. Therefore, the experiment and its results lack the requisite reliability as required under *Daubert*.

Accordingly, ITS's Motion in Limine, to exclude results of experiments performed by Bartley J. Eckhardt will be granted.

ORDER

Following consideration of Borghese, ORS, and MRHS's Motion (ECF No. 572), the respective briefs (ECF Nos. 573, 596, and 629), the arguments of counsel, and for the foregoing reasons, Borghese, ORS, and MRHS's Motion is granted. Bartley J. Eckhardt will be precluded from testifying to his experiments and attendant results.

Dated: March 2, 2023


Marilyn J. Horan
United States District Judge