

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF LOUISIANA**

<b>In re: Oil Spill by the Oil Rig</b>	*	<b>MDL 2179</b>
<b>“Deepwater Horizon” in the Gulf</b>	*	
<b>of Mexico, on April 20, 2010</b>	*	<b>SECTION “J”</b>
	*	
<b>Applies to:</b>	*	<b>JUDGE BARBIER</b>
	*	
<b>No. 10-2771; 10-4536</b>	*	<b>MAGISTRATE SHUSHAN</b>
	*	

**ORDER**

**[As to BP’s Motion to Amend the Phase One Findings, Etc. (Rec. Doc. 13457)]**

Before the Court is BP’s Motion to Amend the Findings, Alter or Amend the Judgment, or for a New Trial (Rec. Doc. 13457); oppositions by Halliburton and the United States (Rec. Docs. 13548, 13550); and BP’s reply (Rec. Doc. 13581). For the reasons explained below, the Court denies BP’s motion.

This Order assumes the reader’s familiarity with the Findings of Fact and Conclusions of Law for the Phase One Trial (“Phase One Findings,” Rec. Doc. 13381). BP contends in its motion that the Phase One Findings improperly relied on certain testimony by Dr. Gene Beck that either was excluded from evidence because it was outside the scope of his expert report or, alternatively, is inadmissible under *Daubert v. Merrell Dow Pharmaceuticals, Inc.* 509 U.S. 579 (1993), and Federal Rule of Evidence 702. BP asserts that this testimony is central to the finding that the production casing breached during the ninth attempted float collar conversion, which later resulted in the cement being misplaced in the well such that it could not provide a barrier to hydrocarbon influx. Based on these assertions, BP requests that the Court (1) amend the Phase One Findings to state that the flow path for hydrocarbons was not created by a breach in the production casing, but instead by the defective cement supplied by Halliburton; (2) reconsider and reject its prior determination that

BP's conduct amounted to gross negligence insofar as that determination was based on multiple negligent acts by BP;<sup>1</sup> and (3) re-apportion fault between BP and Halliburton. Alternatively, BP requests that the Court grant it a new trial so it can explore the basis of Dr. Beck's opinion and/or present rebuttal evidence.

Initially, it requires some effort to identify exactly what testimony is the target of BP's motion. In its original filing, it appeared that BP contended that the following opinions were excluded from evidence: (1) that the production casing experienced up to 140,000 pounds of compressional force when it was run down the well, (2) that this force buckled the casing, and (3) that the combination of the compressional force and buckling weakened the casing to the point that it could be and was breached during the ninth attempted conversion of the float collar.<sup>2</sup> In its reply, however, BP makes clear that it "is not challenging the admission of Dr. Beck's alleged observation that 140,000 pounds of compressive force may have been placed on the casing." (BP Reply 2) Instead, BP appears to complain only about the Phase One Findings' "reliance on the purported connection between [Dr. Beck's] observation and Dr. Beck's undisclosed opinion that such compressive force sufficiently weakened the casing such that it then breached during the float-collar conversion." (*Id.*) On a similar note, BP does not contend that Dr. Beck's over-arching opinion that

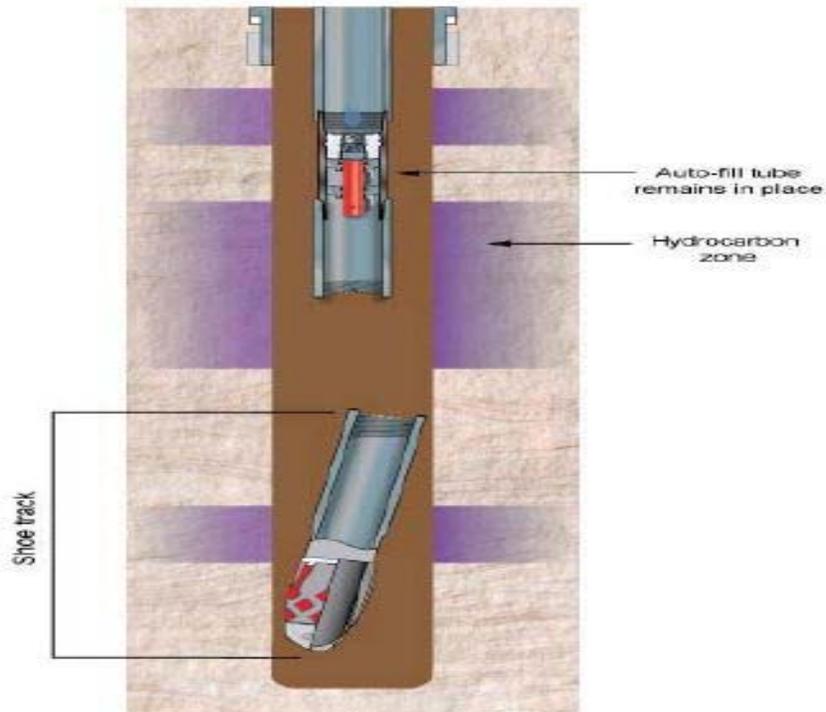
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<sup>1</sup> The Court provided two bases for concluding that BP's conduct amounted to gross negligence, recklessness, and willful misconduct. First, the Court found that BP's misinterpretation of the negative pressure constituted a single act of gross negligence, etc. (*See* Phase One Findings and Conclusions, Pt. IV.B.ii.) Second, the Court found that BP committed a series of negligent acts that, together, amounted to gross negligence, etc. (*See id.* Pt. IV.B.iii.) BP's motion implicates only the second basis, not the first.

<sup>2</sup> *See, e.g.*, BP Motion 5 ("The Order expressly predicates its adoption of the casing-breach theory on Dr. Beck's testimony, repeatedly quoting and relying on his assertions that buckling supposedly produced by an alleged 140,000 pounds of compressive force caused the casing to be weakened, such that a breach occurred below the float collar after the casing was run and during the final attempt to convert the float collar. . . . By relying on Dr. Beck's testimony on compressive force, however, the Order is premised in crucial part on testimony that the Court properly excluded from evidence at trial. There is accordingly no record evidence supporting the Order's finding that compressive force buckled the production casing and substantially weakened it, which is an essential and threshold element of the casing-breach theory.")

a breach occurred in the production casing during the ninth attempted conversion of the float collar was outside of his expert report. Indeed, Dr. Beck’s report, which is in evidence, states:

Third, BP may have damaged the shoe track<sup>3</sup> during its failed attempt to convert the float equipment by applying excessively high pressures to the well. BP personnel were aware that something “blew out” during the failed float conversion, and BP engineers were concerned that the long string production casing could buckle when it was being lowered into the well. In the days leading up to installation of the long string production casing in the well, BP’s Brian Morel requested that Halliburton personnel perform a buckling analysis on the long string production casing, and that analysis indicated that buckling from the float collar to the bottom of the shoe track was possible under the conditions in which the casing was actually run into the hole. It is possible that the entire shoe track separated from the float collar, meaning that there was, in essence, no shoe track at all. What “blew” down hole could have been the shoe track separating from the remainder of the long string production casing just below the float collar assembly. This is illustrated in Figure 16 below:



**Figure 16: Shoe Track Blowout**

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<sup>3</sup> The “shoe track” is the bottom 189 feet of the production casing below the float collar.

If the shoe track separated from the long string production casing, there would have been no shoe track cement to act as a potential barrier to hydrocarbon flow. All of the cement, including the shoe track cement, would have been pumped up the annulus, leaving the main pay zone exposed and forming a free path for hydrocarbons to flow up the long string production casing through the damaged and unconverted float collar. The shoe track including the float collar and reamer shoe could have also failed in various other ways, compromising the cement job.

(Trial Ex. 8140.84-.85) (footnotes omitted) BP's counsel even displayed and referenced the above Figure 16 while cross-examining Dr. Beck. (Transcript 7350:20-:21) Thus, BP's motion targets a narrow topic—the opinion that the production casing was sufficiently weakened by compressive forces—which it claims is crucial to the larger casing-breach theory.<sup>4</sup>

BP argues that it repeatedly objected to Dr. Beck's testimony regarding the weakened state of the production casing because it was outside “four corners” of Dr. Beck's expert report, and that the Court sustained those objections. Thus, BP claims that it was “unfair[ly] surprise[d]” and “prejudiced” when the Court “inappropriate[ly] and impermissibl[ly]” relied on this testimony in the Phase One Findings. (*See* BP Motion 17)

BP is correct that the Court sustained some of its objections while Dr. Beck was under *direct* examination by Halliburton's counsel. The Court need not discuss the contours of those rulings, however. Even assuming that the complained-of testimony was excluded during direct examination, BP's own counsel later opened the door to this testimony.

While cross-examining Dr. Beck, BP's counsel elicited the following testimony:

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<sup>4</sup> Although not entirely clear, BP also appears to concede that Dr. Beck's opinion that the production casing was buckled when it was run down the well is within the scope of his expert report and/or is not otherwise excluded from evidence. To the extent BP does not concede this point, the Court finds that (1) BP opened the door to this testimony, as explained below, (2) the quote above from Dr. Beck's expert report specifically mentions buckling, and (3) there is evidence supporting Dr. Beck's theory that the production casing buckled. (*See* Phase One Findings ¶¶ 152, 153; *see also id.* ¶ 88 n.33).

Q.[by BP's Counsel] And you have a different theory [about flow path]?

A.[by Dr. Beck] I do.

Q. So let's put up your picture from your report, page 85 of -- of your opening report. So 8140.85. [Figure 16 from Dr. Beck's report displayed]

[Q.] This is your theory; right?

A. That's one of them. I propose that this is an explanation that could have happened that would have explained some of the other facts or observations or circumstances of the blowout. So, yeah, it is a theory of flow path, for sure.

Q. I have a couple of simple questions about it, and then I'll move on. When did that happen? When did the casing part under your theory?

A. I think the casing would have parted at the conversion of the float collar.

Q. So it's your theory that the float collar had debris on the top of it; right? On the top of it; right?

A. Yes.

Q. That then a pressure of 3142 released that debris; right?

A. Yes.

Q. And then that pressure still had enough energy, after clearing that clog, to then go down further and then breach casing; correct?

A. Well, that's not my full theory. ***So in conjunction with that pressure, there's additional stresses on that casing.***

***And what's important to note about that pressure, okay, that's not just 3000 psi being placed on the bottom of the casing. It's a shock wave.*** So when that sudden drop in pressure that we saw from 3142 psi all the way down to 200--

Q. Uh-huh.

A. -- just like you had opened a valve at the surface and bled the pressure off, like all the other pressure responses before. When that happens, when you have that sudden of a pressure surge on a well, ***there's a shock wave -- not only in the fluid, but a shock wave in the casing itself -- that magnifies whatever stresses are in that casing.***

...

So to be clear, I'm not talking about just 3000 psi being applied to the shoe track. ***Okay. I'm no fool, Mr. Regan. I know 3000 psi is not going to break the shoe track. Okay. There's -- it takes a lot of stress to break a shoe track.*** And -- I mean, if you'd like to see it, I have a demonstrative that shows what my theory is in more detail than this. But this meets the needs.

***My theory is that there was extreme stress placed in the casing when you ran it. Okay. We had fill in the casing, right. We ran into something in the bottom of the well.*** The shoe track was plugged up either at the guide shoe or at the guide shoe and at the float collar. Okay.

Something gave way. It doesn't even have to be the float collar that gave way for the shock wave to occur. If the shoe track came apart or cleared or broke, right, there's still this same shock wave.

*So what's critical is that there was a shock wave that occurred. That's fairly clear from the pressure data. And we had the casing in an additional stress condition; we know that because it had fill in it. It had to shove that fill up in there. And so there were conditions where the casing had extra stress in it. And my theory is that the shock wave broke the casing at some point.*

Q. What was the grade of casing?

A. That was Q125 casing on the 7-inch.

Q. Was it HC casing?

A. I believe it was, yes.

Q. "HC" stands for "high collapse"?

A. High collapse, yes.

Q. What was the -- the burst rating of the casing.

A. I don't remember right now, but 7-inch, 32-pound Q, that's got to be up in the 12,000 to 14,000-psi range.

Q. Collapse rating?

A. Probably very similar.

Q. You agree, understanding that you have the shock wave theory --

A. Let me back up. Okay.

I'm just pulling numbers. This is -- I don't normally pull numbers out. I go to a book and look those numbers up, but I do know that that's the general range.

That's very strong casing. I'm not -- I don't propose this theory lightly.

That's very strong casing.

Q. *Yesterday you said you think about 140,000 pounds was taken when they were running the casing; is that correct?*

A. I think right at the very end, right landing out, it was -- it was a very sneaky time to start taking weight, but right when it landed out, *I see 140,000 pounds of compression being placed in the casing.*

...

Q. ... Did you see a daily drilling report where it says how much weight they actually took when they ran the casing?

A. I saw a daily drilling report that reported what they observed as their weight. But the daily drilling report is a written verbal report as opposed to the Sperry data being actual recorded data on a very high frequency, by being recorded, you know, every second or less.

Q. Okay.

A. So you're looking at two different data sets right here.

Q. But just -- I just want to show you the daily drilling report. It's in TREX-41071.

...

All right. So just for purposes of what the people who were running the casing wrote down that day, they say they saw a 10,000 weight.

You looked at other information. You just said that. But the people, who

- were doing it at the time, saw 10,000; correct?
- A. Correct.
- Q. When you run casing, you can have drill pipe stretch and casing stretch; correct?
- A. Yeah, you can -- you do. I mean, it's not that you can; you do.
- Q. So if you are looking at hook load or -- when you are looking at hook load or weight on the bit, you have to take into account some stretch issues; correct?
- A. Yes, you do.
- ...

(Transcript 7350-7356) (emphasis added). As reflected in this exchange, BP's counsel raised the issue of how it was possible for the pressure from the attempted float collar conversion to breach the production casing. Dr. Beck responded by partially conceding the point implicit in BP's questioning—that the casing was very strong and that 3,000 +/- psi of pressure typically would not be enough to breach it. However, Dr. Beck further explained that the production casing was already in a state of “extreme stress” after being pushed into debris when it was installed in the well. As BP's own counsel recounts, Dr. Beck believed the casing experienced approximately 140,000 pounds of compressional force when it was landed in debris. Dr. Beck concludes that the combination of the extremely stressed condition of the casing and the 3,000 psi “shock wave” (as opposed to pressure being gradually increased) during the attempted float collar conversion was enough to breach the casing.

Notably, BP's counsel did not object to or move to strike Dr. Beck's responses during cross-examination. Then, on redirect, Halliburton's counsel seized the opportunity to explore further the issue BP had raised:

- Q. [By Halliburton's counsel] Okay. Lastly, I just want to turn to your -- your opinion of what happened with respect to flow path. Okay? And I think in response to BP's counsel's question, he said he understood that you think that there were greater compressional forces as -- according to you, based on your analysis of the Sperry data. Do you recall that?

- A. Yes.
- Q. All right. The 10 kips [10,000 pounds of compressional force] that he referenced you to that he showed you in the daily drilling report, do you dispute that the casing experienced 10 kips of compressional load before it bottomed out? I'm sorry, and just in terms of sequence, not total compression.
- A. In sequence, I mean, there was a point in time that it saw a little -- a bobble, a 10-kip bobble, or a 10,000-pound bobble.
- Q. And do you think -- is that the only -- based on your analysis of the various Sperry data he referenced, is that the only compressional load that that casing took when they ran it into the hole?
- A. No, I don't -- I don't think so. I think that the morning report got it wrong, and maybe they just didn't notice what happened. ***But when I look at the Sperry data, I see evidence of 140,000 pounds of compression placed on that casing.***
- Q. In your opinion, when that compressional load is applied to the casing at the bottom -- when it's run into the hole, what is the effect?
- A. Okay. ***So when you place that much compression -- that is a lot of compression to place on a casing string, particularly -- on any string. But a 7-inch string, it's going to buckle the daylights out of it. That string is going to be buckled for a long way up the hole. And when you buckle the string, you're not only -- you're magnifying; right? You're increasing that 140,000 pounds of stress by factors of 1 1/2 to 2 1/2 in terms of the stresses on that casing.***
- Q. In your opinion, Dr. Beck, was the compressional loads applied to that casing sufficient to compromise, in conjunction with the shock that you talked about during the float collar conversion, sufficient to comprise the integrity of the casing below the float collar?
- A. I believe it was. ***I believe that there was enough stress that with that amount of the compression, with the buckling on the well, with the buckling on the casing, and with this pressure shock wave, I believe that that broke the shoe track when -- at the float collar conversion.***

(Transcript at 7378-7380) (emphasis added).

BP also did not object to this testimony. What BP did object to was a demonstrative that Halliburton's counsel attempted to introduce following Dr. Beck's last answer above:

[Halliburton Counsel]: Now, Your Honor, respectfully, this is exactly what the animation that you did not want to see -- or that you ruled that we wouldn't be able to play yesterday shows. In response to BP's counsel's questions, I think he opened the door. Dr. Beck has testified about the underpinning of that. If you would like to see

a graphical representation of what he believed happened, we could shorten the clips at the beginning and show Your Honor.

[BP Counsel]: I would have liked to see it at his deposition, and I'd like to see it in his report. It wasn't in either one, and that's the problem. I asked him about the picture in his report. I put it up on the screen. I asked him for his basis for how he thought the casing --

THE COURT: I'll sustain the -- maintain the objection.

[Halliburton Counsel]: With that, Your Honor, Halliburton is done.

(Transcript 7380:20-7381:12) The "objection" maintained by the Court was to the introduction of the demonstrative, the animation. Contrary to what BP represents in its current motion, the Court did not exclude any of Dr. Beck's testimony quoted above.

Thus, notwithstanding any rulings during direct examination, the Court finds that BP's counsel opened the door to this testimony on cross-examination and Halliburton properly explored the issue further on redirect. *See Canal Barge Co. v. Torco Oil Co.*, 229 F.3d 370, 376 (5th Cir. 2000); *see also C.P. Interests, Inc. v. California Pools, Inc.*, 238 F.3d 690, 699 (5th Cir. 2001) (counsel's questions on redirect no longer confined to the scope of the expert report after opposing counsel cross-examined the witness on issues beyond the scope of the report). Accordingly, BP's assertions that it was "unfairly surprised" and "prejudiced" by the Court's reliance on this testimony lack any basis in fact or law. This conclusion is further supported by the fact that BP did not object, move to strike, or otherwise complain when Halliburton stated in its post-trial proposed findings that:

BP's Buckling Of The Production Casing And Subsequent Applications Of High Pressure On The Already Weakened Casing Caused A Breach Below The Float Collar.

...

The combination of the production casing being compressionally stressed due to helical buckling and the pressure surge created by the rapid depressurization when circulation broke at 3,142 psi was sufficient to open a breach in the casing below the float collar.

...

The most significant buckling occurred below the float collar and the positive pressure test performed after the production casing cement job demonstrates that there was no breach in the production casing above the float collar, indicating that the breach had to be below the float collar.

...

BP caused the breach in the shoe track by directing that the production casing be run into a debris-filled wellbore, inducing helical buckling and compromising the integrity of the production casing.

...

BP further caused the breach in the shoe track by directing that excessive pressure be applied in an attempt to convert the float collar with static pressure, which caused a breach to open up in the structurally-compromised shoe track below the float collar.

(Halliburton's Proposed Findings 254-55, 259, Rec. Doc. 10468) (emphasis omitted) Over 14 months passed between the time Halliburton filed its proposed findings and the time the Court issued the Phase One Findings, yet BP said nothing until after the Court ruled.

Additionally, the casing-breach theory is supported and/or corroborated by multiple pieces of other evidence, which undercuts BP's argument that the challenged testimony was critical to the larger conclusions regarding casing-breach and flow path. For example, a breach in the production casing "is consistent with, and thus provides an explanation for, the data recorded after circulation was achieved—most notably the lower-than-expected circulating pressures," which the Court expressly found to be "particularly persuasive" support for the casing-breach theory over BP's competing theory. (Phase One Findings ¶ 156) The Court will not bother to list the other examples, which are adequately recounted in Halliburton's and the United States' briefs. (Halliburton Opp'n 12-19, Rec. Doc. 13548; USA Opp'n 8-12, Rec. Doc. 13550)

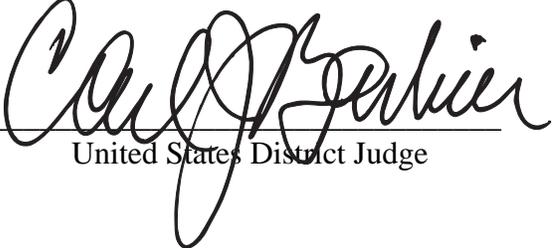
At bottom, BP's motion represents a belated attempt to exclude testimony elicited in part by its own cross-examination, as well as Dr. Beck's redirect testimony offered after BP had opened the door to that topic. BP was not, as it claims, a "victim of surprise." (BP Motion 18) Rather, it seems

BP was a “victim” of its own trial strategy. Accordingly, the Court finds that BP has waived its present objections and is not entitled to the relief it requests.

For these reasons,

IT IS ORDERED that BP’s Motion to Amend the Findings, Alter or Amend the Judgment, or for a New Trial (Rec. Doc. 13457) is DENIED.

New Orleans, Louisiana, this 13th day of November, 2014.

  
United States District Judge