Gross Negligence under the US Clean Water Act and General Maritime Law: *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010, (MDL 2179)* 'Findings of Fact and Conclusions of Law Phase One Trial', Rec Doc 13,355, --- F Supp 2d --, 2014 WL 4375933 *(*ED La, 4 September 2014*).*

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This case note discusses the recent judgment of the United States District Court of Louisiana in relation to liability for the blowout of the Macondo well and loss of the *Deepwater Horizon* in the Gulf of Mexico in 2010. This judgment, in what is called the 'Phase One Trial', in the case *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010*, was handed down by the Court on 4 September 2014.

The various legal proceedings concerning liability for the catastrophe are complex, with many claims, counter-claims and cross-claims among the companies involved. In order to understand the purpose and scope of these particular court proceedings, and thus the relevance and importance of the judgment, Part 1 of this review briefly describes the background to the incident, including the parties involved and the major statutes and sources of law giving rise to liability and claims for compensation. Part 2 sets out the Court's findings of fact in relation to the causes of the blowout and explosion and the Court's conclusions of law. Part 3 concludes the article.

1 Background to the Incident

1.1 Background Facts

The *Deepwater Horizon* incident occurred on the 20th of April 2010, when a blowout, explosions and fire occurred aboard the Mobile Offshore Drilling Unit (MODU) called the *Deepwater Horizon* (hereafter, the '*Horizon*'). At the time of the incident, the *Horizon* was in the process of temporarily abandoning the Macondo well, which was drilled on the outer continental shelf of Louisiana. The blow-out preventer (BOP) failed to prevent hydrocarbons – oil and gas – from seeping from the well onto the *Horizon*. The explosion and fire occurred when the gas found an ignition source. Eleven men died and at least seventeen others were injured. Several vessels attempted to extinguish the fire, but the *Horizon* burned continuously until mid-morning on the 22nd of April, when it capsized and sank into the Gulf of Mexico. Due to the descent of the rig, the marine riser (a pipe that connects the rig to the BOP) collapsed and broke. As a result, millions of gallons of oil discharged into the Gulf of Mexico over the following 87 days after the incident. The well was capped and the discharge halted on the 15th of July 2010. In mid-September, a relief well intercepted the Macondo well and permanently sealed it with cement.[1]

1.2 Key Players

BP Exploration and Production Inc (BPXP) was the primary leaseholder of Mississippi Canyon Block 252 (MC 252), within which the Macondo well was drilled. BPXP held a 65% interest in a joint venture arrangement to drill the Macondo well, with Anadarko Petroleum Corp holding a 25% interest and MOEX Offshore 2007 LLC (Mitsui Oil Exploration of Japan) holding a 10% interest. As joint venturers, these three companies faced liability over loss and damage resulting from the blowout and subsequent explosion.

BP America Production Company contracted with Transocean Holdings LLC to drill the Macondo well. BP America Production Company and BPXP together are often referred to as 'the BP entities', or simply 'BP'.

The 'Transocean entities', collectively referred to as 'Transocean', are also key parties. There are 4 Transocean companies, all of which are subsidiaries of Transocean Ltd. Triton Asset Leasing GmbH owned the *Deepwater Horizon*. Transocean Holdings LLC chartered the Horizon from Triton Asset Leasing GmbH and held the

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[1] See for the above facts, *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010, (MDL 2179)* 'Findings of Fact and Conclusions of Law Phase One Trial', Rec Doc 13,355, --- F Supp 2d --, 2014 WL 4375933 (ED La, 4 September 2014*).*(hereafter referred to as the 'Judgment').

drilling contract with BP America Production Company. Transocean Deepwater Inc employed the crew of the *Deepwater Horizon*. Transocean Offshore Deepwater Drilling Inc employed the Horizon's onshore supervisory and management personnel.

Halliburton Energy Services Inc (hereafter 'Halliburton') was contracted by BP to provide cementing services and mud logging services.

Two manufacturers of equipment were brought into legal proceedings by the defendant companies: Cameron International Corporation and Weatherford. Cameron manufactured the *Deepwater Horizon*'s blowout preventer (BOP), which failed to prevent the blowout of the Macondo well, while Weatherford manufactured a particular piece of equipment called a float collar, which is essential to the process of successfully cementing wells to prevent blowouts. However, the claims against Weatherford were dismissed by the Court in earlier proceedings for summary judgment, while Cameron was found to have not been negligent in a motion for partial judgment during the trial and all claims against Cameron were, consequently, dismissed.[2]

1.3 Legislation and Legal Actions

The *Deepwater Horizon* incident gave rise to thousands of claims by individuals and businesses for personal injury, damage to property and economic loss, as well as government claims, and various cross- and counter-claims by the companies involved.[3] Over 3,000 cases with over 100,000 named claimants were filed in state and federal courts against BP, its joint venturers and contractors, under general maritime law, the *Oil Pollution Act 1990*, and state tort law, in all five affected US states. On 10 August 2010, the United States Panel on Multidistrict Litigation transferred most federal cases to the United States District Court for the Eastern District of Louisiana (hereafter 'the Court') as Multidistrict Litigation No. 2179 ('MDL 2179'), titled *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010*.

The Court adopted a 3-phase trial proceeding focussing on two cases in MDL 2179: *United States v BP Exploration and Production Inc et al* and *In re Triton Asset Leasing GmbH, et al*[4] Judge Carl Barbier is presiding over the litigation.[5] This paper is concerned with the judgment in the Phase One Trial, the scope and relevance of which are best explained in relation to three major areas of law/liability that are raised in *United States v BP Exploration and Production* and *In re Triton Asset Leasing*.

1.3.1 Civil Penalties for Violation of the Federal Clean Water Act

The federal *Clean Water Act* ('CWA') establishes administrative, civil and criminal penalties for water pollution.[6] Section 33 USC §1321(b)(7) sets out civil penalty provisions for 'any person' who is the 'owner, operator, or person in charge of any vessel, onshore facility, or offshore facility from which oil is discharged' into water, in violation of the provisions of the CWA. At the time of the discharge of oil from the Macondo well, the CWA imposed a maximum penalty of USD 1,000 for the unlawful discharge of oil into water, unless the discharge was the result of 'gross negligence or wilful misconduct',[7] in which case the maximum penalty was USD 4,300 per barrel.[8]

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[2] Ibid [28], [32].

[3] BP has entered into settlements regarding payments for medical, property damage and economic loss claims. By June 2014, BP had paid approximately USD 11 billion to individuals and businesses by means of the following mechanisms: initial payments by the BP Claims programme from 5 May 2010 to 22 August 2010; claims paid by the Gulf Coast Claims Facility from 23 August 2010 to 4 June 2012; and two Court-approved settlements, namely the Economic and Property Loss Settlement Agreement (approved on 21 December 2012 and confirmed by the Fifth Circuit Court of Appeals on 10 January 2014) and the Medical Benefits Settlement Agreement (approved on 11 January 2013, with appeals dismissed by the Fifth Circuit Court of Appeals on 11 February 2014). Claimants did not have to accept payment under the GCCF or take part in the Court-approved settlements, thus there are a large number of outstanding claims yet to be resolved by litigation: Deloitte, *Civil Liability, Financial Security and Compensation Claims for Offshore Oil and Gas Activities in the European Economic Area*, Final Report Prepared for European Commission – DG Energy (2014). Mitsui & Co and Anadarko agreed to pay BP nearly USD 1.1 billion and USD 4 billion respectively, to resolve their share of liability for these private suits: G Chazan, 'U.S. Energy Firm to Contribute $4 Billion to Gulf of Mexico Disaster Costs, Drop Lawsuit Against Well Operator', *The Wall Street Journal*, 18 October 2011,
http://online.wsj.com/news/articles/SB10001424052970204346104576636264279485124.

[4] *United States v BP Exploration & Production Inc., et al* (Civ. A. No. 10-4536) and *In re Triton Asset Leasing GmbH, et al* (Civ. A No. 10-2771).

[5] As both cases are before the Court for all purposes and are proceedings in Admiralty, they may be tried without a jury.

[6] 33 USC §1321(b).

[7] The *Clean Water Act* itself uses the American spelling "willful". For the sake of uniformity within this article, the Australian spelling ('wilful') has been used in all instances.

[8] In December 2013, these amounts were adjusted for inflation, to USD 2,300 and USD 5,300 respectively.

United States v BP Exploration and Production Inc, was filed on 5 December 2010 by the Department of Justice on behalf of the Environment Protection Authority, seeking civil penalties for violation of the CWA. The US government initially sued a number of parties, including BP, Anadarko Exploration and Petroleum LP, Anadarko Petroleum Corporation, MOEX Offshore 2007 LLC, and the various Transocean entities. However, because of previous court rulings and settlements, the action is now wholly between the US government and BP as the owner of the offshore facility - the Macondo well - from which oil was discharged.[9]

BP failed to settle the case with the US government and the trial took place from February-April 2013.[10] A key issue before the Court in the Phase 1 trial was whether BP was 'merely' negligent or grossly negligent. If the violation of the CWA was the result of 'gross negligence or wilful misconduct', BP would be liable to pay the maximum amount of the civil penalty, which is nearly USD 4,300 per barrel.[11] The Court needed to determine first, as a question of law, the legal meaning of 'gross negligence or wilful misconduct'; and secondly, as a question of fact, whether BP was grossly negligent. These findings comprise much of the judgment in the Phase One trial.

1.3.2 General Maritime Law and the Shipowner's Limitation of Liability Act

General maritime law applies if a tort is committed in the navigable waters of the USA. Claims for federal maritime torts are brought under Admiralty law. Liability under general maritime law may be limited pursuant to the *Shipowner's Limitation of Liability Act*,[12] which 'allows a vessel owner and demise charterers to petition a Court to declare that the owners or not liable, or in the alternative, that liability is limited to the value of the vessel after the accident plus 'pending freight' (monies earned and accruing to the vessel)'.[13]

In the Phase One Trial, the Court considered and apportioned liability between BP, Halliburton and Transocean under general maritime tort law. These findings will be crucial to resolving the liability of the many legal claims made against the companies. In *In re: The Complaint and Petition of Triton Asset Leasing GmbH, et al* Transocean filed a petition to limit its liability under general maritime law pursuant to the *Shipowners Limitation of Liability Act*, requesting the Court to declare a limitation value of USD 26.7 million.[14] Thousands of claims have been filed against the Transocean entities in that action, and in this trial the Court determined whether Transocean is entitled to limit its liability.

1.3.3 Federal Oil Pollution Act of 1990

The key federal Act regulating liability and compensation for oil pollution damage arising from offshore exploitation is the *Oil Pollution Act 1990* (OPA90).[15] Although it is the major federal Act setting out liability for

[9] This is consistent with an earlier ruling relating that BP, Anadarko and Transocean may be held liable for civil penalties under the CWA: *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179), Order and Reasons [As to the Cross-Motions for Partial Summary Judgment Regarding Liability under the CWA and OPA], Rec Doc 5809, 844 F Supp 2d 746, 761 (ED La, 22 February, 2012), 23-24. A panel of the Court of Appeals recently affirmed this ruling: *In re Deepwater Horizon*, 753 F 3d 570, (5th Cir, 4 June 2014). The Anadarko entities are not parties to the Phase One trial because of an earlier Court ruling that the Anadarko entities could not be held negligent in relation to the drilling operations at the well: *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179), Order and Reasons [As to Motions to Dismiss the B1 Master Complaint], Rec Doc 3830 (ED La, 26 August 2011), 27-29. MOEX is not a party to *United States v. BP* or the Phase One trial having settled the case against it regarding its liability for civil penalties under the CWA: *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179), [Consent Decree Between the United States and MOEX Offshore 2007 LLC]; US Environment Protection Authority, *MOEX Offshore 2007 LLC Settlement* (17 February 2012) <http://www2.epa.gov/enforcement/moex-offshore-2007-llc-settlement>. Transocean is no longer party to that part of the action concerning civil penalties for breaching the CWA, having agreed to plead guilty and pay a USD 400 million criminal fine, and a USD 1 billion civil penalty, to settle the case against it: *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179), [Partial Consent Decree Between the Plaintiff United States of America and Defendants Triton Asset Leasing Gmbh, Transocean Holdings LLC, Transocean Offshore Deepwater Drilling Inc., and Transocean Deepwater Inc] Rec Doc 8608 (ED La, 19 February 2013).

[10] On 14 November 2013, BP agreed to plead guilty to criminal liability and entered into a settlement with the Department of Justice to pay some USD 4 billion in criminal fines and penalties. BP also pleaded guilty and settled a case with the Securities and Exchange Commission, agreeing to pay USD 525 million in penalties: US Department of Justice, 'BP Exploration and Production Inc Agrees to Plead Guilty to Felony Manslaughter, Environmental Crimes and Obstruction of Congress Surrounding Deepwater Horizon Incident', *Justice News*, 15 November 2012, http://www.justice.gov/opa/pr/2012/November/12-ag-1369.html.

[11] The statutory maximum in the case of gross negligence or wilful misconduct is USD 3,000: 33 U.S.C. § 1321(b)(7)(D). One federal regulation increased this amount to USD 4,000. A different regulation increased it to USD 4,300: 40 C.F.R. § 19.4; 33 C.F.R. § 27.3.

[12] 46 USC § 30501 *et seq*.

[13] T Schoenbaum, 'Liability for Damages in Oil Spill Accidents: Evaluating the USA and International Law Regimes in the Light of Deepwater Horizon' (2012) 24 *Journal of Environmental Law* 395, 406.

[14] F. B. Goldsmith, 'The Vessel Owners' Limitation of Liability Act. An Anachronism that Persists, For Now' *Marine News,* 11 November, 2011, 43, 42-45.

[15] *Oil Pollution Act 1990*, codified at 33 USC §§ 2701-2761 (2006). The OPA90 does not pre-empt state laws that impose additional liability so victims are able to bring additional claims under general maritime law (as well as under state legislation and common law actions, including actions in tort law: *Oil Pollution Act* 1990, 33 USC § 2718(a) (2006).

oil pollution damage, the findings of the Court in the Phase One Trial in relation to the OPA90 form a relatively minor part of the judgment, and so will be described briefly in only this part of the paper.

Under OPA90, each 'responsible party' for a vessel or a facility from which oil is discharged is liable for 'removal costs and damages' that result from such incident.[16] The OPA90 sets out a range of damages which may be claimed by private persons and/or government entities.[17] The 'responsible party' for an offshore facility is the lessee or permittee of the area in which the facility is located.[18] A 'facility' is 'any structure, group of structures, equipment, or device (other than a vessel)' used for exploring for, drilling for, producing, storing, handling, transferring, processing, or transporting oil.[19] As the remains of the drilling apparatus at the subsea Macondo well satisfied the definition of a 'facility' while oil and gas were flowing into the ocean from the subsea well, the lessee BPXP was designated as a 'responsible party' for the subsurface discharge of oil.[20]

The OPA90 imposes strict but limited liability.[21] For offshore installations, liability is limited to USD 75 million plus all removal costs.[22] However, these limits on liability do not apply if the incident was 'proximately caused by' the 'gross negligence or wilful misconduct' of – or the violation of an applicable Federal safety, construction, or operating regulation by – the responsible party, an agent or employee of the responsible party, or a person acting pursuant to a contractual relationship with the responsible party.[23]

The *Deepwater Horizon* is the first oil spill from a MODU/offshore facility that resulted in removal costs and damages exceeding the liability limits under the OPA90. In June 2010, BP agreed to waive the USD 75 million cap.[24] Thus the issue of whether the cap on liability in the OPA90 in relation to BP is somewhat moot. Nonetheless, a request by the US government that the Court make a formal legal finding that the OPA90 limitations on liability did not apply to BP because there had been a 'violation of an applicable safety, construction or operating regulation' by BP as a responsible party was denied by the Court in a previous ruling.[25] In the Phase One trial, the Court reversed this earlier ruling, holding it erred in denying the request, and that the alleged violation of two federal regulations in fact constituted 'the violation of an applicable safety, construction or operating regulation' by the responsible party, BP, for the purpose of removing the limitation on liability.[26]

Transocean's potential liability under the OPA90 was less clear-cut. The responsible party for oil discharged from a vessel is 'any person owning, operating, or demise chartering the vessel'.[27] The liability for a discharge of oil from a MODU, which falls within the definition of a 'vessel', is somewhat complicated. A MODU can be used as an offshore facility, for example, when it is used to drill for oil; or it may not be operated as a facility, for example, if it simply moving from one sea location to another. The general liability scheme for MODUs for 'removal costs and damages' in 33 USC § 2702 depends on how the MODU is being used at the time of the discharge.[28] Suffice to say here that the Court, in an earlier ruling, held that Transocean, as owner/operator of the *Horizon*, a MODU operating as a facility, was not a 'responsible party' with respect to the subsurface discharge of oil from the Macondo well, and therefore not liable for damages and removal costs under 33 USC § 2702.[29]

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[16] Ibid § 2702(a)(1) (2006).
[17] Ibid § 2702(b)(2)(B)-(F) (2006).
[18] Ibid § 2701(32)(C) (2006). It may also be the holder of a right of use and easement granted under applicable state law or the *Outer Continental Shelf Lands Act* (43 USC §1301-1356) for the area in which the facility is located (if the holder is a different person than the lessee or permittee).
[19] *Oil Pollution Act* 1990, 33 USC § 2701(9) (2006).
[20] *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179), Order and Reasons [As to the Cross-Motions for Partial Summary Judgment Regarding Liability under the CWA and OPA], Rec Doc 5809, 844 F Supp 2d 746, 755 (ED La , 22 February 2012), 14.
[21] *Oil Pollution Act* 1990, 33 USC §§ 2702(d) and 2703(a) (2006). The OPA90 allows exceptions from liability in only very limited situations.
[22] Ibid 33 USC § 2704(a)(3) (2006).
[23] Ibid, 33 USC § 2704(c)(1).
[24] H Wang and M Faure, 'Civil Liability and Compensation for Marine Pollution – Lessons to be Learned for Offshore Oil Spills' (2010) 8(3) *Oil, Gas & Energy Law Journal*; Colin McDonell, 'The Gulf Coast Claims Facility and the Deepwater Horizon Litigation: Judicial Regulation of Private Compensation Schemes' (2012) 64 *Stanford Law Review* 765.
[25] Order and Reasons [As to the Cross-Motions for Partial Summary Judgment Regarding Liability under the CWA and OPA] Rec Doc 5809, 844 F Supp 2d 746, 755 (ED La 22 Feb, 2012), 12-14.
[26] Judgment [602].
[27] *Oil Pollution Act* 1990, 33 USC § 2701(32)(A) (2006).
[28] *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179), Order and Reasons [As to the Cross-Motions for Partial Summary Judgment Regarding Liability under the CWA and OPA],Rec Doc 5809, 844 F.Supp 2d 746, 755 (ED La Feb 22, 2012), 5-11.
[29] Ibid 14.

However, the OPA also places liability on an owner/operator of a MODU for removal costs incurred by the federal or state governments (but not damages) under a completely separate section, 33 USC § 2704(c)(3), which provides that:

> all removal costs incurred by the United States Government or any State or local official or agency in connection with a discharge ... of oil from any Outer Continental Shelf facility or a vessel carrying oil as cargo from such a facility shall be borne by the owner or operator of such facility or vessel.

In *United States v BP Exploration and Production Inc* the US government sought a declaratory judgment regarding Transocean's liability for government removal costs under 33 USC § 2704(c)(3). In the Phase One Trial, the Court found that Transocean (excluding the entities Transocean Ltd and Triton Asset Leasing GmbH) was an 'operator' under this section and therefore liable for government removal costs. However, the Court found that Transocean's liability for these removal costs ultimately shifted to BP by virtue of a contractual indemnity in the drilling contract.[30]

2 Findings of Fact and Conclusions of Law: Phase One Trial

There have been numerous enquiries, reports and articles about the causes of the *Deepwater Horizon* incident.[31] All the reports demonstrate that a number of failures of equipment and safety procedures contributed to the blowout. Conflicting evidence about the causes of the blowout led to a number of claims and counter-claims between BP, Transocean and Halliburton.

In the Phase One trial, in order to determine and apportion liability in negligence, the Court addressed fault determinations relating to the loss of well control, the ensuing explosion and fire, the loss of the *Deepwater Horizon*, and the initiation of the release of oil from the well.[32] It is the Court's 'Findings of fact and conclusions of law' that are reviewed in this paper. The Phase Two trial, which took place in September-October 2013, addressed issues relating to the conduct or omissions relevant to stopping the flow of hydrocarbons from the well, and will give judgment on the amount of oil released into the Gulf of Mexico. The Court is yet to hand down its judgment in regards to the Phase Two trial. The Phase Three trial, which will begin on 20 February 2015, will contain an assessment of the amount BP and Anadarko must pay in civil penalties under the CWA.[33]

2.1 Causes of the Incident – Substantive Findings of Fact

It is beyond the scope of this paper to examine in detail all the technical fact findings made by the Court. These take up some two-thirds of the judgment. Nonetheless, as an understanding of the key findings of fact in relation to the causes of the blowout and explosion is necessary to understand the decisions regarding negligence and the apportionment of liability, some of these findings are set out in this section. The technical descriptions are simplified for the purposes of this review.

2.1.2 Production Casing

'Casing is a large diameter pipe placed inside a drilled-out section of a well to isolate the adjacent geological formation from the well. After a well has been drilled to total depth, additional pipes are installed to allow oil and gas to be moved to the surface. These lengths are called 'production casing' or 'production liners'. One of the issues to be decided by the Court was whether BP was reasonable in using a certain type of production casing called a 'long string production casing' instead of a 'production liner with tieback'. The Court found the

[30] Judgment [609].

[31] See, for example, National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Report to the President, Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* (January 2011) <http://www.oilspillcommission.gov/sites/default/files/documents/DEEPWATER_ReporttothePresident_FINAL.pdf>; The Bureau of Ocean Energy Management, Regulation and Enforcement, *Report Regarding the Causes of the April 20, 2010 Macondo Well Blowout* (14 September 2011) <http://www.boemre.gov/pdfs/maps/DWHFINAL.pdf>; US Chemical Safety and Hazard Investigation Board, *Macondo Blowout and Explosion Investigation Report,* No. 2010-10-I-OS (6 May 2014) <http://www.csb.gov/macondo-blowout-and-explosion/>; A Hopkins, *Disastrous Decisions: The Human and Organisational Causes of the Gulf of Mexico Blowout* (CCH Australia Ltd, 2012).

[32] Judgment [13].

[33] Anadarko remains potentially liable for civil penalties under CWA 33 USC §1321(b)(7) on the basis of strict liability, although in the absence of negligence, the amount of the penalty, to be determined in the Phase 3 trial, will be at the lower end of the spectrum (i.e. up to USD 1,000 per barrel).

decision was not unreasonable, given the advantages and disadvantages of each type, and that the use of long string production casing did not cause or contribute to the blowout.[34]

2.1.3 Cement Issues

When a well is to be abandoned, the bottom of the well is plugged with cement grout ('cement') to provide a physical barrier that prevents hydrocarbons escaping from the well after abandonment. Cement placed in the bottom of the well is called 'production casing cement'. A production casing cement job may fail for a number of reasons. The cement may seep out of the well into the surrounding geological formations; it may be placed incorrectly in the well; it may become contaminated with drilling fluids, allowing hydrocarbons to escape; and/or the composition of the cement may be inadequate. It was accepted that the cement job performed in relation to the Macondo well failed; however, determining why it failed was a major and extremely contentious issue.

Cement on the *Horizo*n had to be pumped down the production casing and out of the 'reamer shoe' located at the very bottom of the production casing, which contains three small holes through which fluid could pass. On arrival at the bottom of the casing, the cement does a 'U-turn' and passes up the annulus, the space between the steel production casing and the wall of the well, to provide a barrier between the hydrocarbon-bearing zones and the well. Prior to pumping the cement, a mechanical device called a float collar must be converted from a two-way valve to a one-way valve. The purpose of the float collar is to prevent unused cement pumped into the annulus from flowing back into the casing. In unconverted mode, fluids can move up or down the casing through the float collar; after conversion to a one-way valve, fluids cannot flow back up the casing through the float collar to the rig. At the Macondo well, the float collar was located at the top of the 'shoe track', this being the bottom 189 feet of the production casing.

The Court found that (contrary to submissions by BP): the float collar failed to convert to a one-way valve;[35] BP never verified the float collar converted; and that BP should have but did not attempt to verify that the float collar converted by attempting to 'reverse circulate', that is, pump drilling fluid down the annulus and up into the casing. If the float collar had converted, reverse circulation would not have been possible because the closed valves would have prevented drilling fluid moving up through the float collar.[36] Further, the Court found that during attempts to convert the float collar, the shoe track breached,[37] and that most of the cement pumped into the well therefore exited the casing through the breach in the shoe track rather than through the reamer shoe. Consequently, no cement was placed in the annulus below the breach point, and little or no cement was placed in the shoe track below the breach point. Hydrocarbons later entered the well casing through the breach in the shoe track.[38]

The Court found that the failure to place the cement correctly in the well was the reason the production casing cement job failed to achieve zonal isolation, and led to the blowout of the Macondo well.[39] In other words, improper placement of cement was a 'direct cause' of the blowout.

Given the critical importance of the cement as a barrier to blowouts, tests have been developed to detect any problems with cement jobs and to ensure the integrity of the entire system. Thus, the question as to why parties failed to detect the cement job was not a success, was also a crucial issue.

The Cement Bond Log

The Court found that BP's failure to run a test called a cement bond log (CBL) was negligent. When the Macondo cement job was performed, a team from Schlumberger was standing on the *Horizon* and could have performed a CBL. BP, who was responsible for deciding whether or not to run a CBL – and whose internal best practices stated a CBL should be performed – decided not to run a CBL and sent the Schlumberger team back to shore.[40]

[34] Judgment [83].
[35] Ibid [134]-[144].
[36] Ibid [129], [131].
[37] Ibid [145]-[157].
[38] Ibid [158]-[169], [178].
[39] Ibid [232].
[40] Ibid [182]-[185].

The Court found BP had 'multiple reasons' to suspect the cement job would fail to achieve zonal isolation – including the fact that concern had been expressed that the float collar had not converted and the casing had been breached – and performing a CBL would have resolved some of these suspicions.[41] The Court identified risks BP had knowingly assumed in relation to the cement job, and held that BP's knowledge of these risks should have motivated it to run the CBL.[42] The Court went on to state that:[43]

> a prudent well operator in BP's position, knowing what BP knew at the time, would have run a CBL ... The fact that BP did not opt for the CBL when the necessary people and equipment were already on location leads the Court to believe BP's decision was primarily driven by a desire to save time and money, rather than ensuring the well was secure.

If BP had performed the CBL, it would have shown the top of the sealing was not where it should have been, and therefore that the cement was improperly placed, at which point BP could have attempted to remediate the cement job before proceeding with abandonment. Accordingly, the Court found BP's decision not to run a CBL was 'a substantial cause of the blowout, explosion and spill'.[44]

The Negative Pressure Test

The purpose of a negative pressure test is to confirm the integrity of the entire well, including the casing, cement outside the casing, and cement in the shoe track. It was agreed by all parties that the negative pressure test is a safety-critical test.

During the test, some of the drilling mud circulating through the well is displaced with a lighter fluid, such as seawater. This reduces the pressure on the hydrocarbon-bearing geological formations around the well, and the well becomes underbalanced; that is, pressure coming from the hydrocarbon-bearing formations is greater than pressure exerted on the formation from fluid inside the casing. Once the appropriate amount of drilling mud has been displaced, any built-up pressure is bled out of the well casing. The pressure test is then performed by monitoring either the pressure on the drill pipe, or by monitoring for flow from the well to the rig. If pressure remains at zero, the well is secure. If pressure increases, it indicates hydrocarbons are flowing into what should be a closed system. The test is 'pass/fail' – if there is any pressure, the test has failed, and the well is not secure.[45]

In the case of the Macondo well, the test was performed by measuring pressure on the drill pipe. Some 45 minutes after it started, the test results indicated there were 'significant anomalies that should have indicated that the well potentially was in communication with the reservoir, or at least that the test had failed'.[46] Instead of declaring the test a failure, the BP Well Site Leaders concluded the test should be run on another pipe, called a 'kill line'. When shifting the test to the kill line, pressure on the drill pipe was again bled to zero. Subsequent monitoring revealed that although pressure on the kill line remained at zero level, pressure on the drill pipe steadily rose to 1,400 psi, where it remained until the test was concluded around 7:55pm. The test was declared a success by the BP Well Site Leaders, with whom the Transocean drill crew agreed.[47] A BP Well Site Leader instructed the Transocean crew to proceed with displacing the remaining mud in the riser with seawater. At this point, as pressure from the drilling mud provided the only barrier to the flow of hydrocarbons, given the cement job had failed, the well became underbalanced, leading to a 'kick', then the blowout and eventual ignition of gas and explosion on the rig.

The Court found that the 1,400 psi reading 'absolutely' precluded a determination the well was secure, and the test should have been declared a failure. If the negative pressure test had been correctly interpreted, the blowout, explosion, fire and oil spill would have been averted. The Court thus found the misinterpretation of the negative pressure test was a 'substantial cause' of the blowout, explosion, fire and oil spill.[48]

The Court also found that BP was responsible for designing the procedures for the test, supervising the test and ultimately determining whether the test was a success.[49] However, the Transocean crew were responsible for

[41] Ibid [190].
[42] Ibid [192].
[43] Ibid [195].
[44] Ibid [196].
[45] Ibid [236]-[238].
[46] Ibid [243].
[47] Ibid [243]-[245].
[48] Ibid [252].
[49] Ibid [65].

carrying out and monitoring the test, and could not be forced to proceed if they saw something was incorrect. Both BP and Transocean were aware of, and discussed the anomalies, and on the basis of the results from the kill line, agreed the well was secure. Both incorrectly attributed to pressure on the drill pipe to a phenomenon not known to exist in the context of negative pressure tests, called the 'bladder effect'. Accordingly both were responsible for misinterpretation of the negative pressure test; and indeed admitted as much when they pleaded guilty to certain crimes arising from the incident.[50]

However, the Court found that BP was more culpable than Transocean. BP was ultimately responsible for declaring the test a success or failure. BP had multiple onshore technical personnel to assist in interpreting the results and resolving issues with the test, and in fact one of the BP Well Site Leaders discussed the test with an onshore engineer by telephone.[51] Despite evidence that the onshore engineer understood the test could not be considered a success and informed the BP Well Site Leader of this and how to troubleshoot the problem, BP did not instruct the Transocean crew to re-run the test. Had they done so immediately after the call concluded, or even half an hour afterwards, Transocean would have stopped the mud pumps and closed the annular preventer in the BOP. This alone would have secured the well and prevented the blowout. The drill crew would have been in a position to circulate the well back to drilling mud and return it to a state of balance, and the blowout would have been avoided.[52]

The Court also found the decision to use lost circulation material (LCM) as a spacer between the mud and seawater during the test likely clogged the kill line and led to the zero pressure reading from the kill line. The Court found that as the decision to use LCM as a spacer was made only to save time and money, and could not be justified on any technical or 'operational' ground, the decision was unreasonable, and another reason why BP was more culpable in relation to the negative pressure test than Transocean.[53]

2.1.4 Failure of the Blowout Preventer (BOP)

A third contentious issue concerned the reasons for failure of the blow out preventer (BOP). The drill pipe passes through the BOP, which is located on the seabed at the top of the well. The BOP can prevent the escape of hydrocarbons from the well by sealing the area between the drill pipe and the marine riser. The BOP also contains blind shear rams (BSRs), which are designed to cut through the drill pipe, thereby preventing oil and gas from reaching the rig. It was agreed that the BSRs activated at some time after the explosions and before the *Horizon* sank. It was also undisputed that they failed to cut through the drill pipe because the drill pipe had moved off-centre, and was partially outside the range of the BSR blades, preventing the BSRs from fully closing and sealing the well. However, the time of activation and reason for failure of the BSRs were disputed by the parties.

The BOP could be operated manually from the *Horizon*, or function automatically in one of two ways. The 'Automatic Mode Function' (AMF) would automatically close the BSRs in certain emergency conditions, such of loss of power and communication with the *Horizon*. When this occurred the control pods on the BOP, running on battery power, would activate the BSRs. The parties agreed these conditions were met shortly after the explosions at 9:49pm on 20 April 2012. Alternatively, the 'Autoshear function' would close the BSRs if a part of the BOP called the Lower Marine Riser Preventer (LMRP) detached from the rest of the BOP. Two hours before the *Horizon* sank at 10:10pm on 22 April 2012, a remotely operated vehicle simulated detachment of the LMRP, which should have activated the Autoshear function and closed the BSRs, unless they had already.[54]

After considering the evidence, the Court found that the BSRs did not activate when AMF conditions were met on 20 April 2010, due to improper maintenance on the BOP. The batteries in one of two control pods – the blue pod – were depleted and, thus, it failed to activate the BSRs on 20 April because its battery was too weak. The yellow pod failed to activate the BDRs because one of the coils in its solenoid valve was reverse-wired.[55] There was also conflicting evidence about whether the BSRs would have cut the drill pipe if they had activated on 20 April 2010. Although there was 'much conflicting testimony on this issue, after weighing all the evidence', the Court found it 'more likely than not' that the drill pipe would have been centred at the time AMF conditions

[50] Ibid [256]-[261].
[51] Ibid [262]-[264].
[52] Ibid [266]-[272].
[53] Ibid [292]-[299].
[54] Ibid [381]-[385].
[55] Ibid [386]-[389]

were met on 20 April 2010, and that therefore the BSRs would have fully sheared the drill pipe and sealed the well, had they been activated by AMF.[56]

Both BP and Transocean were required to maintain the BOP system to ensure the equipment functions properly; however under the contract between BP and Transocean, Transocean was responsible for maintaining the *Horizon*'s BOP. Despite Transocean's own policy of changing pod batteries every year, and the manufacturer Cameron's recommendation that the batteries be replaced every year, Transocean had not replaced the blue pod's batteries since November 2007. This omission occurred despite the Horizon's Senior Subsea Supervisor informing Transocean's Rig Manager-Asset for the *Horizon* the batteries had not been changed since November 2007, and despite Transocean's knowledge that the batteries on the pods were depleted. Furthermore, there was alternative technology available with rechargeable batteries and battery monitoring that could have incorporated into the *Horizon*'s BOP, but was not. Accordingly, the Court found Transocean responsible for failing to maintain the BOP and breaching the relevant Federal safety standard. The Court declined to find BP responsible.[57]

It had been argued that BP should have used Cameron's double 'V' Shear Rams (DVs) instead of the single-V Shearing Blind Ram. However, the Court found the decision to use the BSRs instead of DVs did not prevent the BOP from sealing the well. It was also argued that BP should have configured the BSRs differently. The Court rejected this argument, finding the configuration was not causal, nor was it shown that the selected configuration was 'below industry standard, below regulatory standards, or otherwise unreasonable'.[58]

2.1.5 Other Acts and Omissions

The judgment discusses various other failures by BP and Transocean in relation to well control activities after displacement of the mud with seawater, which were held to be contributing causes.[59] BP was found responsible for various failures in well control and monitoring, including BPs decision to allow certain operations to be permitted simultaneously during displacement, thus, for example, impeding the ability of the Transocean crew, and Halliburton mudloggers responsible for monitoring flows of muds from the well, from doing their jobs properly.[60] Another contributing cause concerned Transocean's failure to divert the flow of hydrocarbons overboard. When oil and gas began to seep onto the deck of the *Horizon* from the well, these could have been diverted overboard to minimize the risk of explosion. However, Transocean pre-set certain equipment to send the hydrocarbon flows to the mud-gas separator. As the mud-gas separator was not designed for such large volumes of hydrocarbons, it was quickly overwhelmed, and hydrocarbons continued amassing on the *Horizon*, with the gas finding an ignition point and exploding.[61]

Evidence was also presented in relation to other failures of performance on the part of Transocean and BP which, however, were found not to have been causative in law.[62] One important issue that was dealt with extremely briefly by the Court (in 3 paragraphs) was its finding that BP had in place a process safety management system for the *Horizon*. A process safety management system is a 'disciplined, highly organized set of approaches and strategies designed to prevent catastrophic failures involving complex engineered, human based systems [which] includes components dedicated to hazard identification, risk analysis, and risk management'.[63] At the time of the *Deepwater Horizon* incident, US law did not require companies to have safety and environmental management systems (SEMS) in place, and one of the developments stemming from the incident has been the introduction of a legal requirement to have in place SEMS, precisely because of BP's perceived failings in this area.[64]

In the context of other reports and publications which have been highly critical of BP's lack of a proper process safety system, which are seen as essential to the management of catastrophic risk in hazardous industries, the sparseness of the judgment on this point is disappointing.[65] The Court simply stated that BP has in place a

[56] Ibid [405].
[57] Ibid [406]-[420].
[58] Ibid [421], [425].
[59] Not all of these will be examined in this review.
[60] Ibid [361]-[367].
[61] Ibid [349]-[360].
[62] For example, the configuration of detection and alarm systems on the *Horizon*, and general rig maintenance issues: see ibid [461]-[466].
[63] Ibid [468].
[64] Jacqueline L Weaver, 'Offshore Safety in the Wake of the Macondo Disaster: Business as Usual or Sea Change?' (2014) *36 Houston Journal of International Law* 148; Jacqueline L Weaver, 'Offshore Safety in the Wake of the Macondo Disaster: The Role of the Regulator' (2014) *36 Houston Journal of International Law* 379.
[65] See for example, Hopkins above n 31, who argues BP had failed to translate process safety into its drilling operations in the Gulf of Mexico.

process safety management system for the *Horizon* which '"applied" to the *Horizon* by virtue of adopting and "bridging" the contractor's safety management system' and which although 'not perfect', was not shown by the evidence to be defective or a cause of the blowout, explosion and fire. This is extremely unclear, giving no guidance as to how Transocean's management system applied to BP, nor its failings. Given that the existence of a proper SEMS is a crucial system within companies for preventing precisely the types of series of failure and omissions that occurred in relation to the Macondo well blowout, the finding it was not defective or a causative factor without giving any legal reasoning is scarcely satisfying. It also avoids an extremely interesting legal issue, which would have been whether in law BP's failure to have in place a SEMS could have led to a finding of gross negligence, as although SEMS were viewed internationally by the industry as part of good practice, they were not legally required under US law at the time.

2.2 Conclusions of Fact and Law

2.2.1 Liability of BPXP and BP under the Clean Water Act

The Legal Meaning of 'Gross Negligence'

The CWA does not provide for a definition of 'gross negligence or wilful misconduct'. Although BP and the United States 'more or less agreed' on the meaning of 'wilful misconduct', they did not agree on the meaning of 'gross negligence'.[66]

The US Government argued that gross negligence differs from ordinary negligence only in degree, not in kind. While 'ordinary negligence' is a 'failure to exercise the degree of care that someone of ordinary prudence would have exercised in the same circumstances', 'gross negligence' is 'an extreme departure from the care required under the circumstance or a failure to exercise even slight care'.[67] In contrast, BP argued that gross negligence requires not only an extreme departure from the care required, but also a 'culpable mental state', which, BP submitted, requires the actor to have 'actual, subjective awareness of the risk involved, but nevertheless proceed with conscious indifference to the rights, safety or welfare of others'.[68]

The US Government and BP agreed that 'wilful misconduct' requires a mental or subjective element. BP argued that *both* 'gross negligence' and 'wilful misconduct' require a 'culpable mental state', but that 'wilful misconduct' requires a more culpable state of mind than gross negligence. 'Wilful misconduct', according to BP, requires actual intent to cause injury, and/or knowledge that conduct will 'naturally or probably cause injury' i.e. constructive intent or recklessness.[69] According to the Court, BP's submission places 'reckless conduct' in both 'wilful misconduct' and 'gross negligence'; whereas the US Government's submission avoids this overlap by confining 'reckless conduct' to 'wilful misconduct'.[70]

The Court agreed with the submission of the US Government, holding that the phrase 'gross negligence or wilful misconduct' is disjunctive under the CWA, which suggests the terms have different meanings. Referring to a particular provision of the OPA90, which allows wilful misconduct on the part of a third party, but not gross negligence, to provide a financial guarantor with a defence against liability, the Court finds the OPA90 treats wilful misconduct as 'distinct from, and more egregious than, gross negligence'.[71] Stating that 'gross negligence' and 'wilful misconduct' have the same meanings under the CWA and OPA90, the Court concludes the CWA also treats 'wilful misconduct' as conduct 'distinct from, and more egregious than, gross negligence'.[72] The Court goes on to conclude that because the CWA distinguishes gross negligence or wilful misconduct, 'reckless conduct' cannot be included in both terms. As both parties agreed 'reckless conduct' is included in 'wilful misconduct', 'reckless conduct' cannot also be included in 'gross negligence'.[73]

Both BP and the US presented cases supporting their respective definitions of 'gross negligence'. The Court, by looking at the *travaux preparatoires* for the CWA, found that a pre-OPA90 version of the CWA used 'wilful negligence or wilful misconduct' as the standard for enhanced civil penalties. The Fourth Circuit interpreted the term 'wilful negligence' to mean 'reckless disregard for the probable consequences of a voluntary act of

[66] Judgment [482].
[67] Ibid [483].
[68] Ibid [484].
[69] Ibid [486].
[70] Ibid [487]- [488]
[71] Ibid [490].
[72] Ibid [491].
[73] Ibid [492].

omissions'.[74] However, the fact the OPA90 replaced 'wilful negligence' with 'gross negligence' in the CWA must suggest that Congress intended a different and lower standard to apply, particular as a purpose of the OPA90 is to increase the deterrent effect civil penalties have on oil pollution.[75]

The Court therefore held that the US Government's definition of 'gross negligence' is correct. Thus, gross negligence is defined as 'an extreme departure from the care required under the circumstance or a failure to exercise even slight care', and does not require a culpable mental state.

Despite approving the definition submitted by the US Government, the Court does not proceed to use only that definition. Perhaps somewhat unfortunately for the clarity of the law in this case, after the trial briefings were complete, the Fifth Circuit issued an opinion on the meaning of the phrase 'gross negligence' in the CWA in *United States v Citgo Petroleum Corp*.[76] The Court refers to the opinion in *Citgo* as 'vague', and states it is unclear as to the standard the Fifth Circuit applied in that case.[77] Although the Court was of the view that the US provided the correct definition of 'gross negligence', because of *Citgo*, the Court chose to proceed on the assumption that 'gross negligence' is equivalent to 'recklessness', and to analyze the facts under that standard too.[78]

The Court refers to the *Restatement (Second) of Torts* for a definition of 'recklessness': [79]

> The actor's conduct is in reckless disregard of the safety of another if he does an act or intentionally fails to do an act which it is his duty to the other to do, knowing or having reason to know of facts which would lead a reasonable man to realize, not only that his conduct creates an unreasonable risk of physical harm to another, but also that such risk is substantially greater than that which is necessary to make his conduct negligent.

While the definitions of gross negligence or recklessness may often be vague, it is clear that both refer to acts that are clearly inappropriate, that is, to acts that all reasonable observers consider to be inappropriate.[80]

The Finding of Fact: BP was Grossly Negligent

The Court found that as a matter of fact, BPXP acted 'recklessly', thereby meeting the standard of both 'wilful misconduct' and 'gross negligence', whether the latter is defined to include recklessness or not.[81] BP's behaviour was grossly negligent in relation to a 'single act' of gross negligence and wilful misconduct, this being its conduct in relation to the negative pressure test, undertaken to determine well integrity; and in relation to a series of negligent acts, which taken together constituted gross negligence.

Negative pressure test

The Court accepted the opinion of a credible expert witness that the negative pressure test is the 'most critical test that is run prior to removing the blowout preventer'.[82] BP's failures in relation to the negative pressure test were thus identified by the Court as a 'single act' of gross negligence.

As regards the standard of care expected, the Court held first, that the offshore oil industry in general faces a raised standard of care for offshore drilling because the magnitude of the potential harm associated with a blowout, explosion, and oil spill is great in terms of severity.

Secondly, the Court held that the negative pressure test at the Macondo well 'demanded a level of care exceeding the high care typically required during such a test'.[83] In this particular case, the complexity surrounding the drilling of the Macondo well (deep water, high pressure and high temperature) raised the standard of care required.[84] BP's knowledge of the complexity should, according to the Court, have heightened

[74] Ibid [495], citing *Steuart Transp Co v. Allied Towing Corp*, 596 F 2d 609, 614 (4th Cir, 1979); *accord* 57A Am. Jur. 2d *Negligence* §§ 270, 271.
[75] Judgment [495].
[76] 723 F 3d 547 (5th Cir. 2013) ('*Citgo*').
[77] The conflicting discussion in *Citgo* is cited in fn 190 of the Judgment [121].
[78] Judgment [498].
[79] American Law Institute, *Restatement (Second) of Torts* (1977) § 500; *Exxon Shipping v Baker*, 554 US 471, 493-4 (*'Baker'*).
[80] G De Geest, 'Who Should be Immune from Tort Liability?' (2012) 41 *The Journal of Legal Studies* 291, 293.
[81] Judgment [499].
[82] Ibid [236].
[83] Ibid [511].
[84] Ibid [502]..

their vigilance during the negative pressure test, because the test would determine whether the cement and casing are providing a barrier to flow.[85] The negative pressure test is a 'particularly critical' part of the temporary abandonment program, and the risk of foreseeable harm associated with interpreting a negative pressure test is great 'both in terms of severity and probability'.[86] In addition, there were other decisions being made by BP that added risk that the cement job or the negative pressure test would fail,[87] of which BPXP personnel were also aware. According to the Court, all those circumstances should have led to a higher caution surrounding the negative pressure test, beyond the 'high alert' status it already demanded.[88]

According to the Court, it was BP's responsibility as the operator, to interpret a negative pressure test and declare it a pass or fail. However, BP's Well Site Leader on the rig erroneously declared the test successful, even though BP's onshore senior drilling engineer in Houston expressed doubts about the test. The Court found that a 'reasonable company man' in the Well Site Leader's position would have concluded the test was a failure, and that it needed to be conducted again. Neither the Well Site Leader nor the onshore senior drilling engineer ordered a new negative test, even though they, as well as other BPXP personnel, were well aware of the complexity of the operation, and some of the personnel felt there was little chance the cementing job would succeed.

The Court also stated that BP's Well Site Leader should have understood the negative pressure test could not have been considered a success even before he spoke with the senior onshore engineer, and his conversation with the engineer should have confirmed what he already understood. Conducting a new negative pressure test is a precaution that imposed 'an extremely light burden compared to the foreseeable consequences that could and did, result from the misinterpretation'.[89] Consequently, the Court found that the Well Site Leader's misinterpretation of the test and subsequent failure to order a new one constituted 'an extreme departure from the care required under the circumstances', as did the senior onshore engineer's failure to order a new test, or pursue the matter further with the Well Site Leader, or at the very least investigate the situation from his computer (which he did not do). BP was thus found vicariously liable for gross negligence.

The Court also found that the Well Site Leader and senior onshore engineer acted 'recklessly' with respect to the negative pressure test, because they, and other BPXP personnel in this case, likely knew of facts that would have led a reasonable company man in the industry to realize that deeming the negative pressure test successful and displacing the mud from the well would probably result in injuries, death and severe property damage.[90] Thus, the oil discharged into the sea was a result of the 'wilful misconduct' of BP for the purposes of the CWA under the definition submitted by both the US government and BP, as well as satisfying the definition of 'gross negligence' submitted by BP.[91]

Series of negligent acts

The Court also found there were a number of negligent acts and omissions committed by BPXP that resulted in the discharge of oil, which taken together, resulted in gross negligence and wilful misconduct under the CWA.[92] The technical nature, role and importance of these acts and omissions are described and explained in the Judge's findings of fact. BPXP's series of negligent acts and omissions that 'caused the blowout, explosion and oil spill', and which taken together, evinced 'an extreme deviation from the standard of care and conscious disregard of known risks', included:[93]

- drilling the final 100 feet of the well with little or no drilling margin, a decision which an expert witness whom the Court found to be credible, viewed as "one of the most dangerous things [he] had ever seen in [his] 20 years' experience" and "totally unsafe";[94]
- running the production casing with the float collar in unconverted mode and without a shoe filter;
- failing to verify whether the float collar converted by reverse circulating the well;

[85] Ibid [509].
[86] Ibid [503].
[87] See ibid [510] for a list of these factors and decisions.
[88] Ibid [510].
[89] Ibid [511].
[90] Ibid [513].
[91] Ibid [513]-[515].
[92] Ibid [518]-[519].
[93] Ibid [519]-[520].
[94] Ibid [19].

- not conducting a CBL to test the success of the cement job;
- using LCM as a spacer for the displacement and negative pressure test;
- misinterpreting the negative pressure test;
- allowing simultaneous operations to occur during displacement; and
- failing to provide a displacement schedule to the Transocean drill crew.

The Court states that 'notably', the decisions relating to drilling the final 100 feet, the CBL and LCM-Spacer were 'profit-driven decisions'.[95] Furthermore, BP was also negligent in pumping foamed cement without a stability test. While cement instability did not cause the actual mode of failure, this is 'another instance of BP proceeding in the face of a known risk and therefore lends further support to the conclusion that BP's conduct was reckless'.[96]

BPXP is Vicariously Liable for the Actions of its Employees

BP argued that BPXP could not be held liable for the enhanced penalties under the CWA when the gross negligence or wilful misconduct was conducted by its employees and not authorized by BPXP. The Court rejected this argument. After examining the relevant provisions of the CWA, the Court held that a corporation is vicariously liable under the CWA's enhanced penalty provisions for the gross negligence and/or wilful misconduct of its employees.[97] The Court therefore did not find it necessary to determine on the facts of the case whether BPXP authorized or ratified the misconduct, or whether the BP personnel were managerial agents.[98]

2.2.2 Liability of BP, Halliburton and Transocean under Maritime Law

As regards BP, the Court found that based on its discussion of BPXP's behaviour in relation to determining penalties under the CWA, and the reasons stated there, BP's conduct was also reckless under general maritime law, and a substantial cause of the blowout, explosion and oil spill.[99]

The Court also found that in many instances, Transocean's conduct fell below the standard of care.[100] These instances include:

- the drill crew's misinterpretation of the negative pressure test;
- the drill crew's failure to detect the pressure anomaly between 9:08 pm and 9:14pm;
- the drill crew's failure to perform a flow check followed by immediately shutting in the well at 9:31pm;
- the drill crew's failure to divert flow overboard;
- the master's failure to timely activate the Emergency Disconnect Sequence (EDS); and
- Transocean's failure to properly maintain the BOP.

However, the Court goes on to state that BP had a hand in most of these failures. For example, BP was ultimately responsible for the erroneous interpretation of the negative pressure test and problems stemming from this misinterpretation, and not Transocean.[101] Furthermore, Transocean's failures occurred 'in a relatively short time frame and in the context of a situation that escalated rapidly', and the company had 'limited time to react

[95] Ibid [521].
[96] Ibid [521].
[97] Ibid [522]-[531].
[98] Ibid [530]-[531].
[99] *Baker* 554 US 471, 493-94, citing American Law Institute, *Restatement (Second) of Torts* (1977) § 500.
[100] Judgment [549].
[101] Ibid [551].

properly'.[102] In contrast, BP's failures occurred over a longer time frame, and it could 'consider its choices'.[103] Thus, the Court found that while Transocean's conduct was negligent, its share was considerably less than that of BP, because Transocean's failures largely concerned its inability to stop the catastrophe that was set in motion by BP.[104] Also, the Court took into account the 'proper actions' of Transocean's crew after the explosion, stating that BP's conduct lacked 'similar balance'.[105]

The Court further ruled that Transocean cannot limit its liability under the *Shipowners Limitation of Liability Act*. The limit on a vessel owner's liability limit under the Act is removed if the negligence that caused the damage was within the 'privity or knowledge' of the owner. In this case, the Court held the negligence that caused the damage was within the privity or knowledge of the owner, Transocean, and therefore refused to limit Transocean's liability under general maritime law.[106]

As to Halliburton, the Court found the particular type of foamed cement provided by Halliburton was not stable, but that this was not a direct cause of the blowout.[107] Although the company's failure in relation to the unstable foamed cement was 'egregious', including not only failures before the incident, but also the company's 'post incident' behaviour involving 'off the side' cement tests and destroyed computer simulations,[108] to the extent that claims against Halliburton were based on a strict products liability theory under maritime law, the claims failed in the light of the finding that the composition of the cement was not a cause of the blowout.[109] As regards Halliburton's failure concerning well monitoring, this was relatively small when compared to others' failures, and the failure was shared by Transocean.[110] The Court thus concluded that while Halliburton was negligent – a finding relevant to claims in tort, if not under a strict products liability theory under maritime law – it was considerably less so than BP and Transocean.[111]

BP (BPXP and BP America Production Co, but not BP plc), Transocean (Transocean Holdings LLC, Transocean Deepwater Inc and Transocean Offshore Deepwater Drilling, but not Transocean Ltd and Triton Asset Leasing GmbH) and Halliburton were all at fault for the blowout, explosion and oil spills. While BP's conduct was found to be reckless, Transocean and Halliburton were both found to be negligent. The Court apportioned liability as follows: 67% for BP; 30% for Transocean; and 3% for Halliburton.[112]

The Court found that the behaviour of BP's employees was egregious enough for exemplary or punitive damages to be appropriate, although the Court decided, based on a Fifth Circuit precedent,[113] that BP cannot be held liable for punitive damages under general maritime law.[114] However, it is possible BP may be liable for punitive damages under other tort laws, for example, state tort law or the law of other Circuits.[115] After considering the evidence, the Court found BP plc, Transocean Ltd and Triton not liable for punitive damages under general maritime law.[116]

3 Conclusion

A number of conclusions can be drawn from this judgment, of both general application, and in particular to the offshore oil and gas industry. For the purposes of the both the US *Clean Water Act* and general maritime law in the US, 'gross negligence' can be defined as 'an extreme departure from the care required under the circumstances or a failure to exercise even a slight care', and does not require a 'culpable mental state', namely recklessness. However, given that the Court found BP to be reckless on the facts and therefore guilty of both

[102] Ibid [554].
[103] Ibid.
[104] Ibid [555].
[105] Ibid [556].
[106] 46 U.S.C. § 30505; ibid [587].
[107] Judgment [201]-[232].
[108] Ibid [558].
[109] Ibid [559].
[110] Ibid [558].
[111] Ibid [560].
[112] Ibid [543].
[113] *In the matter of P&E Boat Rentals*, 872 F 2d 642, 652-53 (5th Cir, 1989), discussed in ibid [563]-[567].
[114] Judgment [545]
[115] The State of Alabama had asked the Court to make separate findings as to the liability for punitive damages under the law of other Circuits, as not all Circuits follow the same rules as that of the Fifth. To that end, the Court discusses the Ninth Circuit maritime rule and the First Circuit maritime rule and determines punitive liability would attach to BPXP: ibid [567]-[571].
[116] The Court makes no finding in relation to punitive damages against Halliburton. Halliburton had previously entered into a settlement regarding the payment of punitive damages: *In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 20, 2010* (MDL 2179) [Notice of Filing of HESI Punitive Damages and Assigned Claims Settlement Agreement] Rec Doc 13,346 (ED La, 9 February, 2014).

gross negligence and wilful misconduct, it is difficult on the basis of this case alone to discern the type of behaviour that is more than 'merely negligent', and yet satisfies the definition of 'gross negligence' without also being reckless.

In general, the standard of care expected of the offshore oil and gas industry in the US is a raised standard of care because the magnitude of the potential harm associated with a blowout, explosion, and oil spill is great in terms of severity and probability. In addition, the particular conditions faced in drilling a particular well may also raise the standard of care expected. For example, circumstances such as deepwater, high temperatures and pressure, and the type of geological formations may elevate the standard of care that is required. Thus, for example, in the Arctic and other harsh environments, operators are likely to face a higher standard of care regarding offshore drilling than in less complex environments. A company's knowledge of the complexity involved in drilling a particular well should further heighten their vigilance.

A series of negligent acts and omissions may lead to a finding of gross negligence, as may a single act or omission. In particular, undertaking and correctly interpreting a negative pressure test, which has only a pass/fail result, plays a crucial role in discharging the duty of care. This is because the negative pressure test is a 'particularly critical' part of the temporary abandonment program, with the risk of foreseeable harm to persons and property (and the environment) associated with misinterpreting a negative pressure test being great both in terms of severity and probability. A company's knowledge of any complexities involved in drilling a particular well should heighten their vigilance during a negative pressure test.

Where company personnel do not order a new test on a failed negative pressure test, this will likely on its own be grounds for a finding of gross negligence as 'an extreme departure from the care required under the circumstances', given that financial cost involved in undertaking such a test is slight, 'compared to the risk of foreseeable harm associated with interpreting a negative pressure test incorrectly'. Furthermore, where there are a number of reasons that cumulatively give reason to suspect a cement job may have failed, the knowledge of these factors, as well as the misinterpretation of and failure to order a new negative pressure test, may lead to a finding of recklessness.

The authors therefore recommends that to meet the standard of care required for offshore drilling, a company should, as a matter of course, require and conduct a CBL (despite the cost) and train staff to ensure always that a negative pressure test is repeated if pressure or flow is found, and to cease work as a matter of course upon a 'fail', until a positive test has been issued. As regards other practices, companies should also be aware that where a decision is made to depart from an 'accepted practice' *only* to save time and money, and cannot be justified on any technical or 'operational' ground in the circumstances of drilling the particular well, the decision may well be found to be unreasonable and a breach of the standard of care required.