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RE: Deepwater Horizon Explosion on April 20, 2010.
FRCP Rule 26 Report of Geoff Webster

I, the undersigned, Geoff Webster of Vener Marine Ltd., have been retained by the Plaintiffs' Steering Committee (PSC) to review and analyze certain facts and issues concerning the general operation of the mobile offshore drilling unit (MODU) Deepwater Horizon (DWH) and the facts and circumstances surrounding the April 20, 2010 explosions, fire and ultimate sinking of the dynamically positioned (DP) drilling rig. I have neither been asked to make any assumptions, nor have I presumed any facts beyond those that are evidenced by and from the reliance materials identified herein.

I have been asked to provide a report based on my experience and expertise in marine engineering, naval architecture, marine surveying, and marine safety.[1] My formal education includes an ordinary national diploma in Marine Engineering & Naval Architecture from Highbury Tech in the United Kingdom (1966) and a Bachelor's of Science in Marine Engineering and Naval Architecture from King's College Newcastle upon Tyne (1972). Although I am not a registered professional engineer, I have been appointed a chartered professional engineer in the United Kingdom (1973) and a Lead Auditor for the ISM / ISO (1997). I am a fellow at the Royal Institution of Naval Architects, a fellow at the Institute of Marine Engineering, Science and Technology, and a non-exclusive surveyor to the Panama Bureau of Shipping. In the field, I have worked as a marine superintendent (1978-82), technical superintendent, chief engineer and watch engineer. Based on my education and work experience, my technical qualifications include, but are not limited to: surveying; ship design; ship management; classification of ships under international societies code, rules and regulations; assessment of ships under international code and flag state regulations; diesel engine operation; operation of mobile offshore drilling units; jack up drilling rigs and inland posted drilling rigs; and shipyard repairs, including drydock maintenance. Finally, in the last four years, I have testified in the Eastern District of Louisiana, among other courts, as an expert on at least fourteen (14) occasions.

I. SUMMARY OF MAJOR OPINIONS

As a marine surveyor and naval architect, I am qualified and called upon by various vessel interests to determine a vessel's seaworthiness. Based on my education, training and experience and my review of documents and testimony in this matter, I have concluded that the vessel DWH was unseaworthy, had been for quite some time, and Transocean had actual knowledge of the same. In reaching such conclusions, I have formed the following major opinions:

> (1) Transocean failed to manage and operate its deepwater drilling vessel in accordance with applicable industry regulations, or even minimal standards;
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> (2) Transocean failed to maintain its vessel and equipment, particularly its safety critical well blowout control vessel equipment in a staunch and ship shape condition; and
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> (3) Transocean failed to train its vessel crew in their assigned rig duties and responsibilities, as is required of a minimally prudent vessel owner.

II. INTRODUCTION

The DWH was a fifth generation dynamically positioned MODU that was built at Hyundai Shipyard in South Korea for Sedco Forex in 2000.[2] She began operating in the Gulf of Mexico (GOM) in April 2001, under the ownership, management and control of Transocean.[3] The MODU operated under charter to BP for most of its operating life.[4]

Transocean's MODU Marianas begin drilling the Macondo well for BP in October, 2009.[5] The vessel was replaced by the DWH following hurricane damage to the Marianas in November 2009.[6] The DWH arrived on site on January 31, 2010, and drilling commenced on February 6, 2010.[7] The vessel was dynamically positioned at 28°44" north, 88°21" west in Mississippi Cannon Block 252 at all material times.[8]

On April 9, 2010, the Macondo well was drilled to a final total depth of 18,360 feet.[9] At this point, the well was months behind schedule and millions of dollars over budget.[10]

On April 20, 2010, the DWH crew was in the process of executing BP's temporary well abandonment procedure.[11] Following the well cement job and a positive pressure test, the drilling crew commenced negative pressure testing by displacing the synthetic oil based mud in the riser and well with saltwater.[12] Drilling mud was simultaneously being transferred to the supply boat M/V Damon Bankston positioned alongside the DWH.[13] Although members of the Transocean drilling crew and BP's company men observed abnormal pressure on the drillpipe, indicating a potential well control situation, the decision was made to continue temporary well abandonment and displacement of drilling mud with seawater.[14] When the drilling crew finally reacted to the well control event that

was in progress, they attempted to utilize the blowout preventer (BOP), a vital piece of vessel equipment, designed to shut in the well.[15] The effort failed, and gas and hydrocarbons reached the vessel.[16] The drilling crew then mistakenly diverted the gas and hydrocarbons into the vessel's Mud Gas Separator (MGS) system instead of sending it to the vessel's gas diverter system.[17] The MGS system was quickly overwhelmed by the high volume of gas and hydrocarbons, which then caused the entire vessel to be engulfed in flammable gas.[18]

The DWH was equipped with a sophisticated Kongsberg-Simrad (IACS) system designed to alert the crew to the presence of hazardous gas and shut in certain vessel equipment to eliminate potential gas ignition sources.[19] However, Transocean had overridden the system for years and converted it to one requiring human intervention.[20] It did so despite its failure to train the crewmembers responsible for monitoring and responding to the alarm system in a worst-case scenario.[21] The manual override action, combined with an incompetent crew, allowed flammable gas to reach ignition sources on the vessel. Thereafter, a complete loss of vessel power occurred,[22] followed by at least two explosions and an uncontrollable fire at sea. From the naval architecture and marine engineering and surveying standpoints, disabling the vessel's gas and fire suppression systems was reckless conduct by Transocean. A marine surveyor would find the overridden system rendered the vessel unseaworthy.

The resulting damage from the explosions, disabled the vessel's emergency disconnect system (EDS) and vessel-BOP MUX communication cables.[23] At this time, the Automatic Mode Function Sequence (AMF) built into the BOP subsea should have activated the BSR and released the Lower Marine Riser Package (LMRP) from the BOP stack allowing the rig and riser to drift off.[24] It failed and as a result of the failure of the rig to drift off the BOP stack, the DWH remained anchored to the burning well.[25] Again, it was reckless of Transocean to create a vessel condition that allowed destruction of the only communication between the vessel and the mechanical means of severing its anchor to a burning well. From the naval architectural standpoint, the mux cable design and configuration rendered the vessel unseaworthy.

III. EXECUTIVE SUMMARY

- Transocean violated the ISM Code. The DWH was not ISM-compliant in the time leading up to and including the casualty. Because Transocean adopted its Safety Management System (SMS) pursuant to the ISM Code, it acquiesced to statutory obedience of 33 CFR §96.230, which outlines the mandatory objectives of a Safety Management System (SMS) subject to ISM Code regulations.

- Pursuant to the ISM guidelines, Transocean was required to (a) provide for safe practices in vessel operation and a safe work environment aboard the type of vessel the system is developed for; (b) establish and implement safeguards against all identified risks; and (c) establish and implement actions to continuously improve safety management skills of personnel ashore and aboard vessels. Transocean failed to properly implement the system in many respects.

Further, to the extent that Transocean created such ISM-compliant policies, persons unfamiliar with ISM requirements managed the system.

- The Kongsberg-Simrad Integrated Alarm and Control System (IACS) controlled most major functions aboard the vessel. Located on the bridge, the IACS is designed to perform several automatic functions simultaneously as originally installed on the DWH, including activating and controlling the vessel's general alarm. It also controlled the vessel's gas detection alarm system and vessel shut down systems to prevent explosion and fire at sea. The system was designed to automatically and immediately signal audible and visual alarms when high levels of combustible gas were detected. Transocean overrode the several automatic mode functions, thereby requiring human intervention to activate the shut down system. Transocean also placed gas detectors in the inhibited mode to prevent sounding alarms. By doing so, Transocean defeated the purpose of the IACS and created an unreasonably dangerous work place on its vessel, by greatly increasing the already significant risk of an explosion and fire at sea during deepwater drilling operations.

- The DWH's crew was incompetent and, therefore, the vessel was undermanned for many vessel tasks. The dynamic positioning officers (DPOs) charged with monitoring and operating the Kongsberg-Simrad IACS were not trained in worst case scenario and did not understand how to react to the cascading gas alarms on April 20, 2010. They failed to properly respond and immediately alert the vessel crew of the presence of flammable gas throughout the rig, as a minimally competent DPO would under the circumstances. The Transocean drill crew failed to timely activate the BOP, despite Transocean's vessel policies and procedures requiring them to monitor the well for flow and to immediately shut in the well by activating the BOP at the first indication of an influx of hydrocarbons and gas. The Transocean drill crew mistakenly diverted the mud and gas to the vessel's MGS, a low pressure system not designed to handle the volume and high pressure of hydrocarbons and gas produced in a well control situation. The crew failed to utilize the starboard and port side 14-inch diverter lines designed to divert high volume well flow over the side of the rig – away from the main deck – in a well control situation. The record is clear that the crew did not have proper training in all of these safety critical vessel duties and responsibilities. A minimally competent crew would have at least sounded the general alarm and diverted the hydrocarbons overboard rather than back onto the vessel. These failures represent a gross lack of training and incompetence in handling critical vessel safety situations that could and did result in loss of vessel crew, pollution, and damage or destruction of the vessel.

- The nine-year-old BOP, a vital piece of vessel equipment that traveled with the DWH from deepwater well to deepwater well, was incapable of shutting in the Macondo well and may have been unfit for its intended purpose by design. Regardless, the BOP was not in compliance with federal regulations and was in a state of disrepair that affected its performance. Indeed, the BOP had not been recertified for nine (9) years and was in desperate need of inspection and

servicing. It was clearly not reasonably fit for its intended purpose, had been in this condition for some time and, along with gross lack of crew training, rendered the DWH unfit for its intended service, a condition that apparently existed for years prior to the casualty.

IV. ISM CODE

The United States is a party to the ISM Code,[26] which is found in Chapter IX of the Annex to the International Convention for the Safety of Life at Sea, 1974 (SOLAS). The purpose of the ISM Code is to provide an international standard for the safe management and operation of ships and to prevent pollution.[27] The Code required Transocean, as operator of the DWH, to author and implement a Safety Management System (SMS).[28] The US Coast Guard required that all vessels be certified under the ISM, including the DWH.[29]

The ISM Code provides various manuals, procedures and audits which Transocean should use for vessel safety, including rules for the safe operation of vessels and the SMS requirements.[30] The Code has been adopted by and made a part of federal law through statutes and regulations.[31] The Coast Guard has detailed the rules for safe operation of vessels and Safety Management Systems.[32] Among many rules, the Coast Guard requires the following:

> 33 CFR 96.200—This subpart establishes the minimum standards that the SMS of a company and its vessels must meet for certification to comply with the requirements of 46 U.S.C. 3201-3205 and Chapter 9 of SOLAS, 1974.
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> 33 CFR 96.220—This subpart requires that SMS must document the following: the responsible person's safety and pollution prevention policy, the functional safety and operational requirements, and the record keeping and reporting responsibilities.
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> 33 CFR 96.230—This subpart requires the Transocean-created SMS to comply with the ISM Code and provides that it **must** (a) establish and implement actions to continuously improve safety management skills of personnel ashore and aboard the vessel, including preparation for emergencies related to both safety and environmental protection; (b) insure compliance with mandatory rules and regulations, taking into account relevant national and international regulations, standards, codes and maritime industry guidelines when developing procedures and policies for the safety management system; (c) continuously improve safety management skills of personnel ashore and aboard vessels, including preparation for emergencies related to both safety and environmental protection; and (d) ensure compliance with mandatory rules and regulations, taking into account relevant regulations, codes and guidelines when developing the SMS.

> 33 CFR 96.240—This subpart dictates that the functional requirements of a SMS must include: (a) a written statement from the responsible person stating the company's safety and environmental protection policy; (b) instructions and procedures to provide direction for the safe operation of the vessel and protection of the environment in regulatory compliance; (c) documentation showing the levels of authority and lines of communication between shoreside and shipboard personnel; (d) procedures for reporting accidents, near accidents and non-conformities; (e) procedures to prepare for and respond to emergency situations by shoreside and shipboard personnel; (f) procedures for internal audits on the operation of the company and vessel SMS; and (g) procedures and processes for management review of company internal audit reports and correction of non-conformities.
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> 33 CFR 96.250—This subpart contains a table of SMS documents and reports and the requirements of the same.

The critical connection between vessel operation and company management in SMS implementation is the vessel owner's designated person ashore (DPA). Section 4 of the ISM establishes the duties and obligations of the DPA as follows:

> **Designated Person(s)**—To ensure the safe operation of each ship and to provide a link between the company and those on board, every company, as appropriate, should designate a person or persons ashore and in direct access to the highest level of management. The responsibility and authority of the designated person or persons should include monitoring the safety and pollution-prevention aspects of all the operations of each ship and insuring that adequate resources and shore-based support are applied, as required.[33]

Transocean's DPA, Mr. Gerald Canducci, had woefully inadequate knowledge of the ISM Code.[34] His training consisted of a three-day course.[35] He never participated in an internal ISM audit and participated in only one external ISM audit.[36] He never worked with the flag state of the Republic of Marshall Islands (RMI) or the United States Coast Guard (USCG) on any ISM-related matters.[37] Amazingly, Mr. Canducci had never been on board the DWH.[38] Given that the DPA is the shoreside management person with a direct line of communication to the upper levels of management whose influence and responsibilities should significantly affect the development and implementation of a safety culture within the company generally,[39] Mr. Canducci was not minimally competent for this job. His failure to implement the type of SMS required by the ISM Code resulted in a vessel fraught with equipment problems and manned by an incompetent crew. Mr. Canducci's total lack of knowledge of ISM Code requirements made it impossible for him to satisfy the duties of both a "designated person" and a "responsible person" required in 33 CFR §120(b).

In addition to the above overarching failure, Transocean violated the ISM Code in a number of specific areas, including the absence of a clear command and control structure

on the vessel, which led to confusion about who was the person in command in an emergency situation.[40] Section 5.2 of the ISM Code mandates that the vessel captain or master be the responsible person at all times for the safety of the rig and the protection of the environment as follows:

> 5.2 The Company should ensure that the SMS operating onboard the ship contains a clear statement emphasizing the master's authority. The company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the company's assistance as necessary.

However, Transocean designated the offshore installation manager (OIM) as the responsible person in charge (PIC) of the rig during drilling operations, and the master as the PIC during emergency and sailing conditions.[41] This caused a number of problems, the most crucial of which was confusion about who was in control during the blowout and gas explosions.[42] Further, this caused a delay in activating the vessel's emergency shutdown system (ESD), which was designed to shut down the generators and close the ventilation dampers and also caused a delay in activating the emergency disconnect system (EDS) to allow the vessel to float off the BOP stack and burning well.[43]

> Section 5.1 of the ISM Code states:
>
> 5.1 The Company should clearly define and document the master's responsibility with regard to:
>
> 1. Implementing the safety and environmental-protection policy of the company:
> 2. Motivating the crew in the observation of that policy;
> 3. Issuing appropriate orders and instructions in a clear and simple matter;
> 4. Verifying that specified requirements are observed; and
> 5. Review the SMS and reporting its deficiencies to the shore-based management.

Therefore, the SMS should have established unequivocally that the master had the overriding authority and the responsibility to make all decisions with respect to safety and pollution prevention. Further, the record is clear that the DWH's Master, Captain Curt Kuchta, was woefully undertrained in the SMS.[44] His training consisted of a PowerPoint presentation sent from shore, which he viewed on the vessel shortly before the April 20, 2010 blowout.[45] In post-accident investigation statements, Captain Kuchta could not recall the details of the PowerPoint, where the SMS was located on the DWH, or even whether it was stored on a computer or in a binder.[46] A minimally competent vessel master must have knowledge of the basis of the SMS and know where it was located on his vessel. Captain Kutcha clearly did not and could not carry out the requirements of Section 5.1. His failure to act decisively in the face of an emergency at sea contributed to the disaster.

In sum, neither the shoreside manager charged with the overriding responsibility to create and implement Transocean's SMS for the DWH, nor the vessel master charged with the overriding responsibility to ensure personnel and environmental safety aboard the vessel through operational implementation of the SMS, knew the SMS requirements or even where the SMS was located aboard the vessel. This represents gross mismanagement by Transocean of its vessel safety and environmental protection responsibilities.

Transocean's vessel management also breached Section 10 of the ISM Code by failing to carry out adequate and timely maintenance procedures.[47] The following are relevant portions of the ISM:

> 10.1 The Company should establish procedures to ensure that the ship is maintained in conformity with the provisions of the relevant rules and regulations and with any additional requirements which may be established by the company.
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> 10.2 In meeting these requirements the Company should ensure that:
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> 1. inspections are held at appropriate intervals;
> 2. any non-conformity is reported, and with its possible cause, if known;
> 3. appropriate corrective action is taken; and
> 4. records of these activities are maintained.

Procedures should be developed to ensure that maintenance, surveys, repairs and dry-docking are carried out in a planned and structured manner with safety as a priority.[48] Further, Transocean personnel responsible for maintenance should have been suitably qualified and familiar with national and international legislation as well as classification society requirements.[49] The shore-side management team shall provide technical support and advice to the seagoing staff.[50]

Transocean maintenance procedures should have included:

- hull and superstructure;
- lifesaving, firefighting and anti-pollution equipment;
- navigational equipment;
- main engine and auxiliary machinery, including pressurized systems;
- fire detecting systems; and
- emergency lighting.

> Maintenance procedures must also include work instructions to ensure that machinery or systems undergoing maintenance have been rendered safe prior to staring work, i.e. that systems under pressure such as engine cooling water, oil fuel and steam systems have been securely isolated and de-pressurized.

The Company should arrange for inspections of its vessels to be carried out at regular intervals.[51] These inspections should be executed in compliance with the appropriate procedures by competent and qualified personnel. Records of maintenance, inspections, inspection certificates, and reports may be maintained both onboard ship and ashore if considered appropriate by the company.[52]

There should be procedures for reporting non-conformities and deficiencies that should include a time scale for completion of corrective action.[53] It is the Company's responsibility to ensure that reports are investigated and feedback provided to the reporting officer.[54] The Company should provide support to enable the SMS to function effectively.[55]

> 10.3 The Company should establish procedures in its SMS to identify equipment and technical systems the sudden operational failure of which may result in hazardous situations. The SMS should provide for specific measure aimed at promoting the reliability of such equipment or systems. These measures should include the regular testing of stand-by arrangements and equipment or technical systems that are not in continuous use.

This equipment is commonly referred to as 'critical equipment'.

> 10.4 The inspections mentioned in 10.2 as well as the measures referred to in 10.3 should be integrated into the ship's operational maintenance routine.
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> Accordingly, it is the Company's responsibility to identify critical systems and equipment. Once the critical systems have been identified, procedures should be developed to ensure reliability of these systems or the provision of alternative arrangements in the event of sudden failure. The procedures implemented should include the regular testing of stand-by systems in order to ensure that one failure does not result in the total loss of that critical function. Maintenance routines should include the regular and systematic testing of the all such critical and stand-by systems.
>
> Critical equipment listings may include:
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> - fire pumps including emergency fire pump(s);
> - generators including emergency generator;
> - emergency stops and remote closing devices;
> - communications systems; and
> - main engine propulsion systems.

> The auditor(s) should examine the measures which have been developed to promote reliability including records, frequency of inspection/testing and maintenance procedures.[56]

Transocean did not carry out adequate and timely maintenance procedures as described in the foregoing section of the ISM Code. First, the DWH operated for nine (9) years and drilled at least thirty (30) wells in the Gulf of Mexico[57] without a single dry docking and shipyard overhaul.[58] This is reckless and inexcusable. There was no dry docking carried out via a planned or structured manner where safety was a priority, as required by Section 10.2. Transocean, as vessel owner and operator, could not possibly have properly maintained the equipment and safety systems both aboard the vessel and subsea without a required dry docking and shipyard overhaul period.

The poor condition of the DWH was revealed in a number of audits conducted prior to the disaster, including by several independent bodies such as DET Norske Veritas (DNV), ABS, BP and Moduspec.[59] In August / September 2009, BP audited the vessel and found hundreds of mechanical, electrical and vessel systems non-conformities, several of which were serious and included problems with the fire and gas detection system and the failure to maintain and recertify the nine-year-old BOP.[60] BP recognized the seriousness of the non-conformities and recommended that the DWH be taken out of service.[61] Despite the fact that many of the deviations posed a serious threat to personnel, ship safety, and serious risks to the environment, they were not resolved.[62] The DWH remained operational without interruption.

Moduspec USA surveyed the DWH in 2005 and 2010.[63] The 2005 survey was conducted with the BOP stack on deck, and the April 2010 survey was conducted while the BOP was on the seafloor.[64] Transocean requested that the results of the Moduspec April 2010 survey not be sent to BP.[65] The Moduspec survey identified a number of critical maintenance and safety issues, including problems with the vessel alarm system, a non-certified BOP, and a RTS CTRU Riser Recoil System (RRS) that would not function in automatic mode.[66] The RRS is a safety critical system designed to slow the ascent of the Riser and Lower Marine Riser Package (LMRP) in the event of an emergency disconnect.[67] The failure of the RRS automatic function may have compromised the automatic disconnect sequence. Moduspec recommended that the RRS be restored to operate as designed.[68] There is no record of this being attempted before April 20, 2010.

Further, there was no documentation that equipment was taken off the vessel every three (3) to five (5) years to be fully inspected and rebuilt back to new tolerance, as is required by industry regulations and practice.[69] Moduspec noted the last certification of the BOP upper and lower annulars was December 13, 2000, which was well beyond the five (5) year certification requirement.[70] Function tests indicated that at least the lower annular was leaking.[71] Moduspec recommended replacement of the upper and lower annulars with new or recertified equipment, while the current components were sent ashore for inspection, overhaul, and recertification.[72] Again, there is no indication that this was even contemplated, much less accomplished prior to April 20, 2010.

Moduspec found that the BOP remote control panel located on the bridge and the panel located in the driller's house was not functioning properly.[73] Specifically, the toolpusher's control panel located on the bridge had a malfunctioning surface flow meter that was intended to indicate flow when the standpipe fill valve was closed.[74] The driller's control panel, intended to monitor the purge air system designed to decrease the chances of fire and explosion inside the driller's shack in the event of a blowout, was not working properly.[75] The door seal on the shack was leaking and the purge pump was malfunctioning.[76] All of these deficiencies are obviously safety critical. Moduspec recommended purge pump diaphragm and door seal replacement on the driller's control panel and investigation of the malfunction of the toolpusher's control panel.[77] No steps were taken in furtherance of these recommendations.

Transocean's chronic failure to address vital vessel non-conformities can be traced back to its failure to implement the appropriate SMS. Transocean's deepwater drilling management was audited by DNV in April 2009.[78] Several non-conformities were discovered in the company's ISM management protocol.[79] A short-term Document of Compliance (DOC) was issued that called for a corrective action plan to be verified in a subsequent audit.[80] There is no evidence that the non-conformities pertaining to training and career development plans for onshore staff positions, a specific job description for the vessel asset operations manager, and the failure to clearly and completely state the vessel master's authority in the SMS were corrected. Indeed, Transocean had only partially completed its SMS with respect to the IACS alarm inhibitions and bypass activities as of April 20, 2010.[81]

In sum, Transocean failed to author and implement the legally required SMS for the DWH, as is required of a minimally competent vessel operator. This resulted in a vessel fraught with equipment and safety system problems that was manned by an incompetent master and crew and was incapable of protecting the environment. Together, these vessel operator failures caused and / or contributed to the explosion, fire, and sinking of the DWH on April 20, 2010.

V. KONGSBERG-SIMRAD INTERGRATED ALARM AND CONTROL SYSTEM (IACS)

The computerized IACS, located on and operated from the vessel bridge, controlled most major functions aboard the vessel.[82] It was designed to perform several different automatic functions simultaneously, including activation of the general alarm, closing of vital fire dampers, and shutting down the vessel's main diesel generators.[83] Many of the fire dampers, particularly those controlling the vessel's engine rooms, were designed to automatically close when gas sensors, located throughout the vessel as part of the IACS system, detected gas.[84]

However, Transocean modified the control logic and compromised the IACS from its original design criteria by overriding the automatic function and requiring manual activation of the system.[85] Further, it was standard practice aboard the DWH to set a number of the combustible gas detectors (CGD) in "inhibited" mode such that gas detection would be reported to the control panel in the bridge but no alarm would

sound.[86] Transocean also bypassed an automatic shutdown system designed to cut off electrical power when ventilation shut down system safety features failed as a redundancy.[87]

Amazingly, the facts indicate that the alarms controlling the automatic shutdown system in the driller's shack, the area aboard the vessel most vulnerable to explosion and fire from a well control incident, had been bypassed for five (5) years prior to this casualty.[88] Alteration of the IACS, in combination with the crew incompetency described below, caused the following:

1. The general alarm intended to alert all vessel crewmembers of an emergency, particularly those working in areas away from the drill floor, such as the central control room, engine rooms and pump rooms, never sounded.[89] Therefore, crewmembers that were killed while working in these areas were never warned and were denied the opportunity to escape. This constitutes reckless disregard for crew safety at sea.

2. The fire dampers designed to prevent intrusion of combustible gas into the engine rooms did not close.[90] Gas entered one or more engine rooms as a result.[91] The combustible gas was sucked into the diesel engines' air intake system, and the air intake shut down valves, and the overspeed trips mounted on the engines failed to activate, allowing the engines to overspeed causing one or more explosions.[92] This represents reckless conduct from a naval architecture standpoint.

3. The vessel's electrical power stayed on, even after these ventilation system safety features failed, which also allowed combustible gas to enter enclosed areas containing an ignition source like the driller's shack.

Transocean's alteration of the IACS system also breached certain regulatory requirements of 30 CFR 250.400, Subpart D, which applies to oil and gas drilling lessees, such as BP and their contractors, such as Transocean. The modified IACS vessel safety system violated the following vessel operation requirements:

> 30 CFR 250.405—Each diesel engine must be equipped with an air take device to shut down the diesel engine in the event of a runaway.
>
> > (a) for a diesel engine that is not continuously manned, you must equip the engine with an automatic shutdown device.
>
> 30 CFR 250.510—No later than May 31, 1989, diesel engine air intakes shall be equipped with a device to shutdown the diesel engine in the event of a runaway . . . . diesel engines which are not continuously attended shall be equipped with automatic-shutdown devices.

The testimony confirms that the two main Wartsila diesel generator engines aboard the DWH ingested combustible gas and ran away as a result.[93] However, the intake valves

and fire dampers in the ventilation duct system, and the air intake valves on the diesel engines on the DWH had to be manually closed from the bridge because the automatic response system was intentionally disabled.[94] These regulatory violations directly resulted in the explosion and fire aboard the DWH.

VI. INCOMPETENT VESSEL CREW

In addition to the incompetence of the ISM Code shoreside DPA and the vessel master previously described, the vessel's dynamic positioning officers (DPOs) were incapable of carrying out their assigned duty to monitor and appropriately respond to activation of the control systems of the IACS. Although they had been trained by Kongsberg to operate the DP system, neither of the duty DPOs had been trained regarding the fire and gas system or in how to respond to a worst-case scenario of cascading gas alarms.[95] Instead of sounding the general alarm, advising the crew members in the engine control room to shut down the engines, and ensuring that the IACS automatic shutdown systems described herein went online, DPO Andreas Fleytas simply acknowledged the alarms from the bridge.[96] The more senior DPO, Yancey Kepplinger, allowed this to occur.[97] At a minimum, minimally competent DPOs in this situation would have allowed the cascading alarms to progress to a general alarm. This gross incompetence of the vessel crew specifically charged with critical safety and environmental responsibility represents total disregard by Transocean for its responsibilities as a vessel owner and operator to prevent and appropriately respond to an emergency at sea.

The record is also clear that the Transocean drilling crew violated Transocean policies and procedures requiring them to monitor the well for flow and to immediately shut in the well by activating the BOP at the first indication of the influx of hydrocarbons and gas.[98] Although the undersigned will not express opinions on the manner in which the well integrity negative test procedure was performed or interpreted, it is self-evident that the crew failed to activate the BOP in time to prevent hydrocarbons and gas from reaching the vessel. The crew was either inadequately trained on recognition of well control issues or failed to carry out their duties and responsibilities in recognizing and responding to the most dangerous aspect of this vessel's operations. Further, while Transocean policy required the drillers to respond to combustible and toxic gas alarms, they were not trained on the IACS system.[99]

The DWH was designed and built with a mud gas separator (MGS).[100] It is a low-pressure system designed to separate small amounts of gas from drilling mud during the drilling process.[101] The separated gas is then vented through a line located at the tip of the derrick and released into the atmosphere.[102] This is acceptable when releasing low gas volume. However, the system is neither designed nor intended to handle large volumes of gas or gas under high pressure.[103] Although diversion to the MGS is appropriate in certain circumstances, a rapid expansion of gas in the riser requires closing the diverter (if not already closed) and diverting the flow overboard.[104] The vessel is equipped with a 14-inch diverter line that is designed and intended to divert high volumes of high pressure gas and hydrocarbons over the port and starboard side of the vessel rather than back down onto the vessel.[105] Under Transocean's policy, this diverter line is

supposed to be utilized in the event of a well control problem requiring diversion of large amounts of high pressure gas.[106]

The Transocean crew allowed the high volume, high pressure mud and gas flowing from the well to enter the MGS.[107] This was an egregious error. Not only did the hydrocarbons and gas quickly overwhelm the MGS, they resulted in combustible gas being vented from the derrick back down onto the drill floor and ultimately the rest of the vessel.[108] The MGS should never have been used in this situation. The vessel crew's decision to do so represents either gross incompetence in reacting to an emergency well control situation or panicked decision-making errors by the vessel crew. Either way, the decision resulted in the vessel becoming engulfed in combustible gas. When combined with the gross incompetence of the DPOs and the failure of the IACS system to activate as originally designed and configured, this series of reckless decisions and actions made the explosion and uncontrollable fire aboard the vessel inevitable rather than preventable.

VII. BLOWOUT PREVENTER

The nine-year-old BOP, designed and built by Cameron, was an indispensible piece of vessel equipment without which the vessel could not accomplish its intended purpose of drilling deepwater wells.[109] Documents indicate that the BOP may have been incapable by design of shutting in the Macondo well in an emergency situation.[110] It is unclear whether the BOP could withstand the dynamic pressure and high velocity produced by the flowing mud and gas, even if the Transocean drill crew had timely activated the BOP upon the detection of the well kick. In any event, it is clear that once these high-pressure, high temperature, high velocity gas and hydrocarbons got into the BOP, the BOP was incapable of stopping the flow or preventing a blowout.

An internal BP e-mail indicates that at least BP knew, prior to April 20, 2010, that this vital piece of vessel safety equipment might not have been fit for its intended purpose.[111] On November 14, 2001, BP posed a hypothetical "Drive Off" situation on the DWH.[112] Specifically, it was assumed that the DWH left location at a time when a fictional deepwater well was flowing between 100,000 and 300,000 barrels per day.[113] The BOP was opened, no rams were closed, and it was unknown whether the "dead man" function had actuated.[114] The question posed was whether it would be possible to close the blind shear rams and seal the well with remote operated vehicles (ROV).[115] The conclusion was that an ROV closure of the blind shear ram would not seal the well because closing the shear rams at these flow rates would cause them to wash out.[116] Further, the sand transported through the well that would accelerate the BOP erosion process.[117] The BP representatives discussed the situation with Cameron and concluded the following:

1. Best case scenario—activation of the dead man function and closing of the blind shear ram
2. 60 gallons of hydraulic fluid would be required to close the super shears which would take approximately eight (8) hours
3. 30 gallons of hydraulic fluid would be required to close the blind shear ram which would take approximately four (4) hours.
4. Wash out would occur during closure.[118]

As vessel owner and operator, Transocean should have known of these conclusions and any other potential problems with such a vital piece of vessel safety equipment. Transocean, as vessel owner, either knew or should have known that this vital piece of vessel safety equipment may not have prevented a blowout and fire at sea on the Macondo well under expected use.

Proper function of the BSR required the operation of at least one of the two control pods located on the subsurface BOP.[119] Facts and testimony indicate that neither of the pods was fully operational at the time of the casualty.[120] Further, the BOP's upper annular, the first component closed, and which in fact was closed by the Transocean drilling crew in response to a well control event, failed to stop the hydrocarbon and gas flow.[121] The records indicate that the rubber sealing gaskets on the annular had been previously damaged and not repaired.[122] The upper annular was not inspected between the time of the damage and the casualty. Further, as the hypothetical scenario predicted, it appears that the high pressure and high velocity of hydrocarbons and gas mixed with sand escaping the Macondo well eroded and overwhelmed the upper annular.[123] The drilling crew next activated the variable bore rams (VBR).[124] Even with the upper annular and VBRs closed, hydrocarbons and gas continued to flow at a rapid rate from the well up through the drill pipe, the riser, and to the vessel.[125]

This BOP had not been recertified for nine (9) years.[126] It was in significant need of inspection and servicing.[127] Amazingly, DWH Chief Engineer Steven Bertone recalled that the BOP was lowered to the seabed at Macondo in January 2010, despite the fact that two (2) or three (3) solenoids on the yellow pod – vital for proper BOP operation – were not functioning.[128] Transocean planned to replace them when the BOP was brought to the surface after the completion of the Macondo well.[129] The Transocean performance manager, OIM, senior toolpusher and technical field support representative all signed off on lowering the BOP in this condition.[130] This check list was sent to Transocean's shore side rig manager and shore side subsea equipment manager, both of whom seemed to allow the BOP to exist in this inoperable condition.[131]

The above represents clear regulatory violations. 30 CFR 250.446 requires maintenance of the BOP system to ensure that the equipment functions properly. Transocean failed in this duty.

Transocean also violated 30 CFR 250.188, which required it to report all incidents that damage or disable safety systems or equipment to the MMS district manager immediately via oral communication and provide a written follow up report within fifteen (15) calendar days. Transocean vessel personnel's deployment and reliance on a subsea BOP with a damaged annular and malfunctioning pods and solenoids demonstrate shoreside management's breach of this regulation.

In addition, BOP manufacturer Cameron called for preventive maintenance, including a complete overhaul of the BOP, at least once per year, which would include complete disassembly and inspection of all parts and replacement of all rubber seals and packings.[132] The annual inspection did not apply to rams and ram packers, bonnet seals

or annular packers and donuts, which were supposed to be inspected at each ram or packer change out or between wells while the BOP was on the vessel's deck.[133]

Cameron also required recertification of the BOP ever three (3) to five (5) years.[134] The failure to inspect and recertify the BOP for nine (9) years violated Cameron's preventative maintenance program and breached both MMS requirements[135] and the American Petroleum Institute recommended procedure,[136] which called for inspection and certification of the BOP stack after every three (3) to five (5) years of service.[137] Transocean simply did not properly inspect or maintain this vital piece of vessel safety equipment.[138] Indeed, Transocean switched from a preventative inspection and maintenance program to a condition-based maintenance program.[139] That is, Transocean waited for a piece of vessel equipment to break rather than prevent the malfunction from occurring.[140] As a result, the BOP failed to control the well and prevent the April 20, 2010 blowout. This is a gross failure by Transocean to protect its vessel, her crew, and the environment from a catastrophe at sea like the April 20, 2010 casualty.

VIII. CONCLUSIONS

My review of the facts and evidence in the case reveals that numerous deficiencies, acts and omissions by the management of Transocean and the DWH's crew, caused or contributed to the explosions and fire aboard the DWH. These deficiencies included: (1) a poor vessel management system; (2) poor maintenance of vessel equipment; (3) bypassing of gas alarms and automatic shutdown systems; and (4) a gross lack of training of personnel on when and how to shutdown engines and disconnect the MODU from the well to mitigate the potential catastrophic damage from a loss of well control and resulting explosions and uncontrollable fires.

When the vessel was initially built it was put under the Panamanian flag state. In 2005 it was reflagged with the RMI, a less stringent flag of convenience. ABS was approved by the RMI to carry out statutory surveys on behalf of the Flag State, and DNV was assigned to audit the MODU to comply with the ISM. The certificate was valid from July 11, 2007 to May 16, 2012.[141]

By April 2010, the DWH had been drilling for nine years without ever being scheduled for a shipyard repair period and dry docking. The maintenance records clearly show that the MODU was in urgent need of critical maintenance issues, including work on the BOP and riser package. It appears, based on the ABS records, that several underwater inspections had been carried out in lieu of drydocking and the next scheduled drydocking was due in June 2011.[142]

The vessel was built to comply with the rules and regulations of ABS and the IMO code for the construction and equipment of MODUs.[143] The MODU Code, under Section 1.6 Surveys and Certification, requires that each MODU be surveyed by an approved classification society for the flag state on an annual basis and have a minimum of two dry dock surveys during a five year period.[144] Transocean operated the MODU beyond the required drydock period, allowing it to become run down and dangerous. It is not known why the DWH had not been in a shipyard for the entirety of its nine-year life.

As a marine surveyor for the Panamanian Flag State for over thirty years, a classification society surveyor for Bureau Veritas and as an ISM Auditor, the undersigned opines that Transocean's actions in allowing the DWH to operate for over nine years, without a more stringent maintenance and shipyard repair program, was reckless and a breach of the ISM Code Section 10.

The DWH should have been dry docked and extensive maintenance carried out prior to commencing vessel operations on the Macondo well on February 6, 2010. Vessel systems and drilling equipment should have been upgraded to the latest technology available, especially with items such as the BOP stack, its controls, and riser equipment.

Transocean's failure to have an effective safety management system and to instill a culture that emphasized safety and followed the requirement of the ISM Code contributed to this disaster. It is my opinion that the failures of Transocean's management, combined with the incompetent crew onboard the DWH, contributed significantly to this casualty. Further, the rig was not reasonably fit for its intended purpose on April 20, 2010.

MY OPINIONS ARE BASED UPON THE FOLLOWING CRITERIA AND METHODOLOGY

- My knowledge as a marine engineer, naval architect, marine surveyor, and as a marine safety expert.
- Having carried out safety inspections on tankers, cargo ships, drill rigs, pipelay barges, offshore supply boats etc., for the Panama Bureau of Shipping, Bureau Veritas and the Polish Register.
- My knowledge of the International regulations governing the operations of MODU's in the Gulf of Mexico and Internationally.

I have based my opinions on reference material, reports, materials provided from defendants' discovery answers, statements produced by defendants, and various depositions. The opinions expressed in this report are professional opinions relating to this accident and contain factual circumstances, which may be found by the "Trier of Fact" to constitute fault; they are not intended to be legal conclusions, as this is a matter for the court to determine. The undersigned reserves the right to amend this report should further information become available.

E. G. Webster
B.Sc. C. Eng. F.R.I.N.A.,

Appendix A – Reference List

[1] *See* Appendix B, Curriculum Vitae of Geoff Webster.
[2] Exhibit 4248, Transocean Investigative Report, Volume 1, p. 19, June 2011; *see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, p. 2 (August 2011).
[3] Exhibit 4248, Transocean Investigative Report, Volume 1, p. 19, June 2011.
[4] *Id.*
[5] *Id.* at 16.
[6] *Id.*
[7] *Id.* at 20.
[8] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. iii (April 22, 2011); *see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, pp. 2, 25 (August 2011).
[9] Exhibit 4248, Transocean Investigative Report, Volume 1, p. 20, June 2011; *see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, p. 26 (August 2011).
[10] Deepwater: The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President, p. 2 (January 2011).
[11] Exhibit 4248, Transocean Investigative Report, Volume 1, p. 28, June 2011; *see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, p. 23 (August 2011).
[12] Exhibit 4248, Transocean Investigative Report, Volume 1, p. 29, June 2011.
[13] *Id.*; *see also* Deposition of Randy Ezell, pp. 220-21, lines 22-1 (April 27, 2011).
[14] Exhibit 4248, Transocean Investigative Report, Volume 1, p. 29-30, June 2011.
[15] *Id.* at 31.
[16] *Id.*
[17] *Id.*
[18] *Id.*
[19] *See* Maintenance Manual-- Kongsberg Integrated Automation System--Deepwater Horizon-- Volume 1, TRN-MDL-00100650-00101340; *see also* Maintenance Manual – Kongsberg Integrated Automated System – Deepwater Horizon, TRN-MDL-0039674-0040292; Exhibit 3293, Rig Condition Assessment DEEPWATER HORIZON, ModuSpecUSA, Inc., p. 86 April 1, 2010 through April 14, 2010, TRN-MDL-00038591-677.
[20] Deposition of Michael Williams, pp 150-51 (July 20, 2011).
[21] Exhibit 1, Bly Report, DWH Accident Investigation Report, Section 6.3, Response to the Well Control Event, p. 108 (September 8, 2010).
[22] Deposition of Daun Winslow, pp. 194-95 (April 20, 2011).
[23] Exhibit 986, Chief Counsel's Report, National Commission on the BP DWH Oil Spill and Offshore Drilling, p. 198 (2011).
[24] Deposition of Daun Winslow, pp. 584-85 (April 20, 2011).
[25] Exhibit 986, Chief Counsel's Report, National Commission on the BP DWH Oil Spill and Offshore Drilling, p. 198 (2011).

[26] *See* 46 U.S.C. §3203(b).
[27] ISM Code, Preamble 1 (2002).
[28] *See* 33 CFR 96.200; *see also* Transocean ISM/ISPS MODU Handbook, TRN-MDL-00270927-00270992, Section 1 (December 19, 2008); *see also* Deposition of Gerald Canducci, p. 28 (March 23, 2011).
[29] *See* 33 CFR 96.200 (citing 46 U.S.C. 3201-3205).
[30] ISM Code, Section 11 (2002).
[31] *See* 33 CFR 96.200 (citing 46 U.S.C. 3201-3205).
[32] *See* 33 CFR 96.
[33] ISM Code, Section 4 (2002).
[34] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. 100 (April 22, 2011).
[35] *Id.*
[36] *Id.*
[37] *Id.* at 101.
[38] Deposition of Gerald Canducci, pp. 509-10 (March 24, 2011).
[39] ISM Code, Section 4 (2002); *see also* Deposition of Gerald Canducci, p. 35 (March 24, 2011).
[40] *See* 33 CFR 96.250(e).
[41] Deposition of Daun Winslow, pp 483-94 (April 20, 2011); *see also* Deposition of Gerald Canducci, pp. 451-482 (March 23, 2011).
[42] *See e.g.,* Deposition of Christopher Pleasant, pp. 335-36, 465-66, 518-23 (March 14, 2011); *See also* Deposition of Michael Williams, p. 203 (July 20, 2011); Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, p. ii (August 2011).
[43]Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. xi (April 22, 2011).
[44] *Id.* at xix.
[45] *Id.*
[46] *Id.*
[47] *See* ISM Code, Section 10.1 -10.4 (2002).
[48] *Id.* at 10.3.
[49] *Id.* at Section 1.2.3.
[50] *Id.* at Section 1.4.
[51] *Id.* at 10.1.
[52] *Id.* at 11.2.
[53] *Id.* at 10.2
[54] *Id.*
[55] *Id.* at 10.1
[56] *Id.* at Section 12.
[57] Exhibit 4248, Transocean Investigative Report, p. 19, June 2011.

[58] Lloyd's Register EMEA, North America Division Summary Report: Safety Management and Safety Culture / Climate Reviews, Appendix C – Deepwater Horizon Summary Report, p. 12, TRN-MDL-00119531-00119723 (March 12-16, 2010),
[59] DNV Survey Report (April 2009), TRN-MDL-0039124-126; ABS Class Survey Audit Report, TRN-MDL-00396357-58; BP Safety Audit August 2009, TRN-MDL-00351151-222; Exhibit 75, Moduspec Supplemental Audit, (2005); Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677
[60] BP Safety Audit August 2009, TRN-MDL-00351151-222
[61] Exhibit 6141, Email chain between BP executives and engineers re: Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[62] Deposition of Gerald Canducci, pp 146-52, 664-65 (March 23, 2011); *see also* Deposition of Daun Winslow, pp 324-28 (April 20, 2011).
[63] Exhibit 75, Moduspec Supplemental Rig Audit (2005); Exhibit 3293, MODU Condition Assessment DEEPWATER HORIZON, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[64] *Id.*
[65] Deposition of Peter Sierdsma, p. 244 (February 2, 2011).
[66]Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[67] Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, p. 45, TRN-MDL-00038591-677.
[68] *Id.*
[69] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. xviii (April 22, 2011); *see also* Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, p. 48, TRN-MDL-00038591-677.
[70] Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677; *see also* Deposition of Kristofer Millsap, pp 235, 269, 347 (May 12, 2011).
[71] Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[72] *Id.*
[73] *Id.*; *see also* Deposition of Kristofer Millsap, pp 76, 134-35, 257-58 (May 12, 2011).
[74] Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[75] *Id.*
[76] *Id.*
[77] *Id.*
[78] DNV Survey Report (April 2009), TRN-MDL-0039124-126.
[79] *Id.*
[80] DNV Document of Compliance, TRN-MDL-0039027-28.

[81] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. 89 (April 22, 2011).
[82] DWH Operations Manual, Section 8.106, TRN-MDL-00101874-00102463 (October 2000); *see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, pp. 10-11 (August 2011).
[83] DWH Operations Manual, Section 8.106, TRN-MDL-00101874-00102463 (October 2000).
[84] *Id.* at 8.126.
[85] Testimony of Michael Williams to Joint Investigative Team, pp 30-33 (July 23, 2010).
[86] *Id.*
[87] Deposition of Michael Williams, pp 150-51 (July 20, 2011); *see also* Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. xi-xii (April 22, 2011).
[88] *Id.*
[89] Deposition of Daun Winslow, p 180 (April 20, 2011).
[90] Exhibit 4248, Transocean Investigative Report, p. 190, June 2011.
[91] *Id.*
[92] *Id.*
[93] Wartsila submission letter to Joint Investigative Team, pp. 6-7 (October 14, 2010); *see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, p. 6 (August 2011).
[94] Testimony of Michael Williams to Joint Investigative Team, pp 30-33 (July 23, 2010).
[95] Testimony of Andrea Fleytas to Joint Investigative Team, pp. 51-53 (October 5, 2010).
[96] *Id.* at 62.
[97] *Id.* at 18-19.
[98] DWH Failure Modes, Effects and Criticality Analysis of the DP System, p. 309, TRN-MDL-0052407 (June 2009); *see also* Deposition of Christopher Pleasant, pp. 373-74, 390-92, 450-53 (March 14, 2011); Deposition of Gerald Canducci, pp. 101-109520-21. (March 23, 2011).
[99] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. ix (April 22, 2011).
[100] Exhibit 4248, Transocean Investigative Report, p. 174-82 (June 2011).
[101] *Id.*
[102] *Id.*
[103] Exhibit 596, Transocean Well Control Handbook, Section 9.2; *see also* Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. 24 (April 22, 2011).
[104] *Id.; see also* Deepwater Horizon Marine Casualty Investigation Report, Republic of Marshall Islands, Office of the Maritime Administrator, p. 13 (August 2011).
[105] Exhibit 4248, Transocean Investigative Report, p. 174-82 (June 2011).

[106] Exhibit 596, Transocean Well Control Handbook, 9.2; *see also* United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. 24 (April 22, 2011).
[107] Exhibit 1, Bly Report, DWH Accident Investigation Report, Section 4 Overview of DWH Accident Analysis, pp. 44-45 (September 8, 2010).
[108] *Id.*
[109] Deposition of Christopher Pleasant, p 158 (March 14, 2011).
[110] *See e.g.,* Exhibit 4423, Email from Michael Byrd, BP-HZN-2179MDL03106206.
[111] *Id.*
[112] *Id.*
[113] *Id.*
[114] *Id.*
[115] *Id.*
[116] *Id.*
[117] *Id.*
[118] *Id.*
[119] *See* Exhibit 1164, DNV Final Report for United States Department of the Interior, p. 4 (March 20, 2011).
[120] Deposition of Christopher Pleasant, pp 280-84, 337-38 (March 14, 2011); *see also* Deepwater: The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President, p. 115 (January 2011).
[121] Deepwater: The Gulf Oil Disaster and the Future of Offshore Drilling, Report to the President, p. 114-15 (January 2011).
[122] Deposition of Kristofer Millsap, pp 115-17 (May 12, 2011).
[123] Exhibit 4423, Email from Michael Byrd, BP-HZN-2179MDL03106206.
[124] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, Appendix H, p. 15 (April 22, 2011).
[125] Exhibit 4248, Transocean Investigation Report, pp 215-16 (June 2011).
[126] Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[127] Deposition of Daun Winslow, pp 143-44 (April 20, 2011); *see* Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[128] Exhibit 3339, Witness Statement of Stephen Bertone to Transocean, p. 10 (June 24, 2010), TRN-INV-00000296-306.
[129] *Id.*
[130] *Id.* at 11.
[131] *Id.*
[132] Exhibit 1352, Cameron Preventative Maintenance, BOP, CAM-DOI000000249-250; *see also* Deposition of Daun Winslow, pp 120-24 (April 20, 2011).
[133] Exhibit 1352, Cameron Preventative Maintenance, BOP, CAM-DOI000000249-250; *see also* Deposition of Kristofer Millsap, pp 170-73 (May 12, 2011).

[134] Cameron Preventative Maintenance, BOP, CAM-DOI000000250 (citing API RP 53); *see also* Deposition of Daun Winslow, pp 120-24 (April 20, 2011); Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. 96 (April 22, 2011).
[135] 30 CFR 250.446.
[136] API Recommended Practice 53, Third Edition, March 1997, TRN-MDL-00365900.
[137] Deposition of Daun Winslow, p 571 (April 20, 2011); *see also* Kristofer Millsap, pp 113, 179, 226, 269-70 (May 12, 2011).
[138] *See e.g.,* Exhibit 3293, MODU Condition Assessment *DEEPWATER HORIZON*, ModuSpec USA, Inc., 4/1-14/2010, TRN-MDL-00038591-677.
[139] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, p. 96 (April 22, 2011).
[140] *See e.g.,* Lloyd's Register EMEA, North America Division Summary Report: Safety Management and Safety Culture / Climate Reviews, Appendix C – Deepwater Horizon Summary Report TRN-MDL-00119531-9723 (March 12-16, 2010).
[141] Exhibit 1461, United States Coast Guard Report of Investigation into the Circumstances Surrounding the Explosion, Fire, Sinking and Loss of Eleven Crew Members Aboard the MOBILE OFFSHORE DRILLING UNIT DEEPWATER HORIZON, Appendix E, p. 2 (April 22, 2011).
[142] ABS Survey Manager for DWH, TRN-MDL-00448974-93 (January 5, 2010).
[143] *See* ABS Guide for Building and Classing Mobile Offshore Units, June 2011; *see also* IMO Code for the Construction and Equipment of MODUs (2009).
[144] *Id.*

Appendix B – Curriculum Vitae

EDWARD GEOFFREY WEBSTER
B.Sc. C.Eng. F.I.Mar.EST. F.R.I.N.A.

170 Deerwood Crossing
Canton, Mississippi 39046
U.S.A.

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PROFESSIONAL EXPERIENCE :

1982 – 2011 President of Vener Marine Inc.

Marine and Safety Consultant, Surveyor, Naval Architect, involved in numerous aspects of marine engineering, naval architecture, shipping, dredging and maritime construction projects.

Specializing in condition and evaluation surveys, site investigations, insurance claims, forensic engineering, fire and explosion investigations, and litigation support, involving but not limited to cargo ships, tankers, passenger ships, offshore drilling rigs, barges, cranes, tugboats, dredges etc.

Experienced with the operation of Drill Rigs, Offshore Construction equipment, Supply Boats, Crew Boats, Tugboats, Ships, Dredgers, Dry Docks, Graving Docks, Dock Lift vessels, Fishing / Tuna boats, Barges, Pipelaying Barges, Offshore and land cranes, Diesel engines, Steam turbines, Derricks, Pumps and Hydraulic systems.

Consultant to the Marine, Offshore and Dredging Industry Worldwide, providing technical assistance in dredging techniques, soils conditions, wind, weather and sea conditions. Supplying dredge designs, rebuilding, upgrading and technical supervision during construction.

Certified ISM Marine auditor, carrying out safety audits of vessels and operators, and writing safety manuals.

1977 – 2010 Non Exclusive Surveyor to the Panama Bureau of Shipping.

Surveying and issuing Panamanian / Belize Statutory Certificates including Loadlines, Safety Construction, Safety Equipment, and Accommodation Certificates, on barges, ships, tankers, tugs, passenger vessels, drill rigs and supply boats.

1986 – 2006 Non Exclusive Surveyor to the Bureau Veritas Classification Society.

Responsible to the senior surveyor in Houston. Carried out statutory, class, detention and dry docking surveys.

1996 – 2008 Dredge Consultant to Palm Beach Aggregates.

Designed and constructed a 30 inch, 6,000 HP cutter suction dredge and attendant plant for a $ 500 million water storage project for the Florida Water Management Authority. Designed and built three 4,000 HP Booster stations, tug and crane barge units. Commissioned and provided the safety manual, trained the crew and started up the project.

2005 - 2008 Dredge Consultant to Kent Sand and Gravel and the H & K Group.

Designed and constructed a 12 inch, 3000 HP cutter suction dredge and attendant plant for their gravel mining operation, in Massey Maryland.

1988 – 1990 President of Caribbean Offshore Marine and Dredging Company.

Carried out diving operations in the Caribbean and salvaged an oil barge off the rocks in Nisibon, Dominican Republic.

1996 – 2008 Technical Consultant to Equity Shipping and Manucom Industries (Nigeria).

Responsible for purchasing two tankers, modifying them and sailing them to West Africa from the USA. Involved in the technical management, safety and the running and maintenance.

Responsible for building supervision of six shrimp boats built in Bayou Le Batre and sailed to Nigeria.

1982 – 2008 Technical Consultant to Philips and Jordan.

Redesigned a 24 inch dredge, adding a 1,000 HP electrical cutter drive and swing winch system. Consultant on all dredging related matters, including a claim against the USCOE, and work on the 9/11 ground zero site in New York.

1982 – 2000 Technical Consultant to Avondale Shipyards.

Advised on the APL Ship construction program relating to the Sulzer engine installation. The Esso multi product carriers and relating deep well pump problems, and the Vidalia Low Head Power Station.

1988 – 1991 Technical Consultant to Astilleros Unidos Shipyard, Ensenada, Mexico.

Salvaged a stranded Tuna Boat on a Syncrolift dock, consulted on refitting the vessel. Rebuilt the Syncrolift and consulted on several Tuna Boat and dredge new construction projects.

1999 – 2008 Technical Consultant to Jackson Kearney and Coastal Cargo.

Report to the General Counsel and General Manager on technical issues involving the stevedore cranes, barges, ships cargo gear and fleeting and stevedore operations.

2000 – 2006 Technical Consultant to Stolt Offshore.

Provide services to the operational and technical manager in the design and modifications of the fleet. Carry out third party ISM audits for the fleet.

1989 – 2003 Technical Consultant to Colonial Marine Industries.

Supervised the dry docking of a bulk carrier. and supervised the recommissioning of two Le Torneau Jack Up rigs, the Montreal IV and V, in Itaparice Brazil. Supervised the load out to the far East. Consulted on a SHIPMAN dispute which went to arbitration.

1989 – 1996 Technical Consultant to Phibro Energy / Scanports.

Reported to the Managing Director, for the daily operation, safety, pollution control and maintenance of five Afrimax VLCC's, also supervised dry dockings and major repairs.

1990 – 1998 Technical Consultant to Linear Peninsular.

Reported to the President, involved with the daily operation of three container ships, including safety, drydockings and major repairs.

1993 – 1997 Technical Consultant to TGM Shipping.

Reported to the President, involved with the daily operation of two bulk carriers ships, including drydockings, major repairs, reclassing and reflagging.

1995 - 1996 technical Consultant to the City of Dallas
Advised on a $ 2million dredging project to pump 2 miles, from the White Rock Lake. Oversaw the project with the City's engineers and wrote the dredge specifications.
Employment History :

1978 - 1982 Superintendent for C.F. Bean / Volker Stevin Dredging Company

Marine Superintendent supervising the operations, drydocking and maintenance of the U.S. marine / dredging fleet. Managed the construction of a self propelled Hopper Dredge at Avondale Shipyards, Louisiana.

1973 – 1978 Technical Superintendent, Royal Adriaan Volker Group

Supervised the operation, construction and maintenance of their fleet of vessels worldwide Also supervised, maintained and managed pipe laying operations,

drydockings, ship lifts, loadouts, harbor construction, land reclamation projects and shore equipment including, welding shops, ship yards, drydocks, cranes, bulldozers, backhoes, forklifts, manlifts and payloaders.

1972 -1973 Superintendent / Chief engineer for J.J. Riley / Dredging and Construction Co Ltd.

Supervised the operation, and maintenance of their dredging and gravel hopper dredge operations.

1965 - 1972 Sailed as a Chief engineer, and watch engineer.

Watchkeeping engineer on, tankers and general cargo ships (both motor and steam). Sailed as a Chief Engineer on ocean going hopper dredgers.

EDUCATION AND QUALIFICATIONS:

1997 ISM / ISO 9000 : 2000 Lead Auditor

1991 M.Sc. course at Tulane University, in Toxic Waste management

1973 Appointed a Chartered Professional Engineer (UK)

1973 Certified marine welder, Aberdeen Technical College. (UK)

1972 B.Sc. in Marine Engineering and Naval Architecture (King's College Newcastle upon Tyne)

1966 Ordinary National Diploma in Marine Engineering & Naval Architecture, (Highbury Tech U.K.)

AFFILIATIONS:

- Fellow of the Royal Institution of Naval Architects
- Fellow of the Institute of Marine Engineering, Science and Technology
- Non Exclusive surveyor to the Panama Bureau of Shipping.

TECHNICAL QUALIFICATIONS 1982 – 2011

- Marine Engineering, Surveying, Naval Architecture, and ship design.

- Ship management, requirements and procedures and SHIPMAN contracts.
- International Association of Classification Societies, rules and regulations.
- Flag State, Panama, Belize rules and SOLAS regulations,
- CFR rules and regulations and Marine Safety.
- SOLAS, STCW and ISM code concerning Marine Safety and ship operations.
- OSHA, ANSI, MSHA and ASTM, rules and regulations concerning marine construction standards, cranes and dredging regulations.
- Operation of diesel engines, turbo chargers, fuel contamination problems, alignment, vibration, general engine room and ship operations including fires and explosions.
- Operation of MODU's, Jack Up drilling rigs, Inland Posted Drilling Rigs, Pipe Lay barges, construction of pipelines, tugboats, dredgers, supply boats, ships and crew boats.
- Stevedore operations, shoreside and marine cranes, operation, maintenance and cargo handling operations.
- Supply boat operations, dry bulk and P-tank systems.
- U.S. Navigation rules of the road, marine accident reconstruction,
- Dredging, dredge design, surveying, construction, hydrographical surveying, mapping, dredge claims, soils analysis, sloughing, and silting effects from a river/ reservoir. Dredge pump design, diesel engines and gearboxes.
- Cargo Ships, Passenger Ships, Tankers, VLCC tankers, RoRo's, Container ships.
- Shipyard repairs, welding, construction, drydocks, Syncrolifts, Welding, fabrication, offshore construction and piling.
- Barges, spud systems, winches, five point mooring, and DP systems.
- Pleasure boat, motor yachts and sailboat design and operation.
- Diving and salvage operations.
- Hydraulic and lubricating systems, cleaning and flushing techniques.

Appendix C – Reliance Documents' List

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3. ABS Certificate, TRN-MDL-00527076-80
4. ABS Guidance Notes on Certification of Existing Blowout Preventers and Associated Systems, December 2010 (Updated February 2011).
5. ABS Guide for the Classification of Drilling Systems March 2011.
6. ABS Guide for Building and Classing Mobile Offshore Units July 2008.
7. ABS Initial Survey for Compliance, TRN-MDL-00511954 - 00511961
8. ABS Letter 3.3.2010, TRN-MDL-00487392 - 00487393
9. U.S. Supplement to ABS Rules for Building and Classing MODUs and the 1989 IMO MODU Code, November 1, 1998.
10. ABS Rules for Building and Classing MODUs, Part 6: Surveys, 2008.
11. ABS Rules for Building and Classing MODUs, Part 5: Fire and Safety – Measures and Features, 2008.
12. ABS Rules for Building and Classing MODUs, Part 4: Machinery and Systems, 2008.
13. ABS Rules for Building and Classing MODUs, Part 3: Hull Construction and Equipment, 2008.
14. ABS Rules for Building and Classing MODUs, Part 1: Conditions of Classification, 2008 (Supplement to the ABS Rules for Condition of Classification – Offshore Units and Structures).
15. ABS Rules for Conditions of Classification - Offshore Units and Structures 2008 Part 1.
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20. ABS Summary Report of Statutory Surveys, TRN-MDL-00511965 - 00511967
21. ABS Guide for The Environmental Protection Notation for Offshore Units, Floating Installations, and Liftboats March 2010 (Updated April 2011).
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23. Addendum to DNV Final Report for United States Department of the Interior, April 30, 2011. (Ex. 3124)
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26. Andrea Fleytas' Certifications, TRN-MDL-00034793 - 00034820
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35. Certificate of annual thorough examination of gear TRN-MDL-00402214 – 00272515
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39. Construction Specifications – TRN-MDL-00134981 – 00135034.
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41. Deepwater Horizon Operation Manual Volume 1 of 2. December 2004, BP-HZN-MBI00011533-MBI00012145.
42. Deepwater Horizon Operation Manual Volume 2 , TRN-MDL-00102464-00102879.
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254. Transocean TOI Field Support, August 26, 2006. BP-HZN-2179MDL01933219.
255. Email from Norman Wong to Arthur Jongejan, Subject: RE: 21 ¼" BOP acceptance testing, March 25, 2010. BP-HZN-2179MDL02147291-02147293.
256. Email from Steven Haden to Norman Wong, Subject: RE: Transocean, September 22, 2009. BP-HZN-2179MDL02172400-02172401.
257. Untitled Spreadsheet. BP-HZN-CEC020333.
258. Email from Mark Diehl to Neil Cramond and David Sims, Subject: Horizon FMEA, February 19, 2007. BP-HZN-MBI 00033127.
259. Email from Norman Wong to James Meyer, Subject: RE: Deepwater Horizon Audit Report, June 14, 2007. BP-HZN-MBI 00036845-00036846.
260. Email from David Sims to Norman Wong, Subject: Rig Audits, October 19, 2007. BP-HZN-MBI 00039402.
261. Deepwater Horizon Terms of Reference: Rig Condition and Maintenance Health Check. BP-HZN-MBI 00042672-00042673.
262. Top Level Timeline with BOPs, May 23, 2010. BP-HZN-CEC020333.
263. Deposition of Alaric Durkan, April 5, 2011.

264. Testimony of Yancy Keplinger to Joint Investigative Team, October 5, 2010.
265. United States Coast Guard Navigation and Vessel Inspection Circular No. 2-89, August 14, 1989.
266. Deposition of Jan Simonson, April 4, 2011.
267. West Engineering Services, Well Control System Assessment Testing Procedure Format for the Deepwater Horizon, October 12, 2005. TRN-MDL-00038678-00038744.
268. West Engineering Services, Deepwater Horizon: Subsea Equipment Condition Audit, October 2005. TRN-MDL-00207970-00208099.
269. Article, "BP rig inspections were fewer than advertised," May 16, 2010.
270. Current Deepwater Activity, June 14, 2010.
271. Article, "BP's Deepwater Oil Spill – Capping the Riser – Part 1 (Cap on, but leaks) – and Open Thread 3, June 5, 2010.
272. Article, "BP Asks if Blowout Devices Have Been Modified," May 8, 2010.
273. Article, "Lessons Left Unlearnt From 2003 Gulf of Mexico Near-Spill," June 4, 2010.
274. Blowout Prevention in California: Equipment selection and Testing, California Department of Conservation.
275. An integrated Model for Prediction of Oil Transport from a Deep Water Blowout, M.L. Spaulding, P.R. Bishnoi, E. Anderson, and T. Isaji.
276. A Discussion of Underground Blowouts. Noble, Denton & Associates Inc. May 7, 1984.
277. Firefighting Appliances List, TRN-MDL-00314099-00314109.
278. RMS II Version 3.6.0 Summary of Changes, Transocean Preventative Maintenance Department, TRN-MDL-00663191-00663195.
279. James's Rig Info: Deepwater Horizon, TRN-MDL-00066389-00066572.
280. Subsea Systems, Cameron DC.

Appendix D – Rule 26 Disclosure Statement

Geoff Webster Rule 26 Disclosure

Rule 26(a)(1)(A)(i):

Name:	Geoff Webster
Address:	170 Deerwood Crossing, Canton, Mississippi 39046 Phone: 504-415-2974

Rule 26(a)(2)(B):

Rule 26(a)(2)(B)(i): A complete statement of all opinions the witness will express and the basis and reasons for them:

See: Report, attached hereto.

Rule 26(a)(2)(B)(ii): the facts or data considered by the witness in forming them:

Reliance Documents:
See Reference List-Appendix A, attached hereto.

Rule 26(a)(2)(B)(iii): any exhibits that will be used to summarize or support them:

See Report-FINAL, See Reference list, Appendix A.
Note: Further production will indicate exhibits to be used.

Rule 26(a)(2)(B)(iv): the witness's qualifications, including a list of all publications authored in the previous 10 years:

Summary of Witness' Qualifications:
See C.V. of Geoff Webster, Appendix B

List of All Publications Authored: None

Rule 26(a)(2)(B)(v): a list of all other cases in which, during the previous 4 years, the witness testified as an expert at trial or by deposition:

Trial, Arbitration, and Deposition Testimony (2006 –present):

2011 Easter District of Louisiana, MDL 2179
2011 Galveston County Court, No. 3 – Wilson v. West End Marine
2011 Western District of Louisiana – Bertrand v. Talens
2011 Easter District of Louisiana -- McGraw v. Axxis
2011 Easter District of Louisiana -- Black Stallion v. Bay and Ocean
2011 Easter District of Louisiana -- Abshire v. Boh Bros
2011 Easter District of Louisiana -- Great Lakes Reinsurance v. Red Jacket
2011 Maritime Arbitration, London UK Latvian Shipping v. Rosno (A)
2011 Easter District of Louisiana – Aguillar v. Bollinger (T) (Qualified in marine engineering, marine safety and OSHA regulations in a shipyard).
2011 Western District of Louisiana – Manual v. McDermott Gulf (R)
2011 State Court, Norfolk, Virginia – Coaxum v. W3 Marine (R)
2011 State Court, Mobile, Alabama – Harris v. Vinland Saga (T) (Qualified in marine engineering, naval architecture, marine surveying, Safety, OSHA, and ISM regulations).
2010 Western District of Wisconsin – Bub v. Marine Tech (D)
2010 229th District Court, Star County, Texas – Garcia v. King Mike Hooks (D)
2010 295th District Court, Harris County, Texas – Verduzco v. King Fisher (D)
2010 55th District Court, Harris County, Texas – Lorne Jackson Marquitte (T) (Qualified in marine surveying, marine safety and line / barge / tug handling operations).
2010 Supreme Court of New York – Schreiber v. K-Sea (T)
2010 District Court of Harrison, Texas Lorne Jackson v. Marquette (D)
2010 District Court McLennan County, Texas – Morgan v. Essex Insurance (T) (Qualified in marine engineering, marine surveying and naval architecture).
2010 District Court of Galveston, Texas – Dupre v. Todco (T) (Qualified in marine engineering, marine safety, naval architecture, and operation of offshore cranes).
2009 Easter District of Louisiana – CCC v. Teppco (T) (Qualified in marine engineering, marine surveying and marine safety).
2009 34th Judicial District St. Bernard – Parker Drilling v. Crosby (D)
2009 Eastern District of Louisiana – Magee v. Rowan Drilling (T) (Qualified in marine engineering, marine Safety, ILO And CFR Regs And Operation Of Offshore Cranes).
2009 Lloyds Arbitration, London – The Gard v. Van Oord (A).
2009 Queens Bench, Admiralty, London – Lloyds v. Bos Kalis (T) (Testified On Hopper Dredge Valuations And World Dredge Market Conditions).
2009 District Court, Jefferson Cy, Texas – Cano v. King Fisher Marine (D)
2008 District Court, Parish of Orleans – PSS v. TECO (D)
2008 Eastern District of Louisiana – Dann Marine v. MSI (D)
2008 Central District Court, New Orleans, Louisiana – Rozey v. DLB 269, et al (T) (Qualified In Marine Engineering, Naval Architecture, Marine Safety And Pipelaying).
2008 Eastern District of Louisiana – Joseph v. Omega Protein (T) (Qualified In Marine Engineering, Naval Architecture, Marine Safety And OSHA Regulations).
2008 District Court, St. Bernard, Louisiana – Hasik v. Entergy (D).
2008 11th Judicial Circuit Court, Dade County, Florida – Martinez v. Pioneer Shipping (D).
2008 Eastern District of Louisiana – Bragg v. International Petroleum Musuem (D)
2008 Western District of Louisiana – Jonathan Lovett v. Axxis Drilling (D).
2008 Western District Louisiana – Suthrlen v. Diamond Offshore (T) (Qualified In

Marine Engineering, Naval Architecture, Marine Safety, OSHA, ANSI And ISM Regulations).
2008 U.S. Court of Claims, Washington D.C. – Tommaseo v. USA (D)
2008 U.S. District Court for the Eastern District of New York – Hamilton v. Great Lakes (D).
2008 District Court of 117th Texas – George Gray v. Cheryl K. (T) (Qualified In Marine Engineering, Naval Architecture, Marine Safety, And OSHA Regulations).
2008 District Court of Maine – Cashman v. PPLC (D)
2008 Eastern District of Louisiana – PSS v. Memco (D)
2007 District Court, Hidalgo, Texas – Juan Salinas v. Great Lakes (T) (Qualified In Marine Engineering, Naval Architecture, Dredging, Marine Safety, OSHA And USACE Regulations).
2007 District Court of Texas – Carpenter v. Tucker Energy (D).
2007 Western District of Louisiana – Kidder v. Tidewater (D).
2007 Eastern District of Louisiana – Bachemin v. Oldendorff (T) (Qualified In Marine Engineering, Naval Architecture, Marine Safety, Cranes, Stevedore Operations And ISM Regs).
2007 Southern District of Florida – Conigliaro v. NCL (T) (Qualified In Marine Engineering, Naval Architecture, Marine Safety, USCG And ISM Regulations).
2007 332nd District Court, Hidalgo County, Texas – Jaimie Gonzalez v. Kingfisher (D).
2007 Eastern District of Louisiana – Dann Marine v. MSI (D)
2007 Eastern District of Louisiana – Cooper v. R.J. Bouchard (D).
2007 The Metal Exchange London – Ocean Partners v. Doe Run (A) (Qualified In Marine Engineering, Naval Architecture, Marine Safety, And ISM regulations).

Rule 26(a)(2)(B)(vi): a statement of the compensation to be paid for the study and testimony in the case.

$275 per hour + expenses