

# 1

## The Explosion of the *Deepwater Horizon*

*This event was set in motion years ago by these companies needlessly rushing to make money faster, while cutting corners to save money. When these companies put their savings over our safety, they gambled with our lives. They gambled with my life. They gambled with the lives of 11 of my crew members who will never see their families or loved ones again.*

—Stephen Lane Stone, Transocean roustabout,  
*Deepwater Horizon* survivor, May 27, 2010.<sup>1</sup>

At 9:49 p.m. on April 20, 2010, as a gas bubble raced up 18,360 feet of steel pipe on a deadly collision course with the *Deepwater Horizon*, a group of BP executives were at its helm, playing captain. The rig had arrived earlier that day with two Transocean executives for what was supposed to be a twenty-four-hour visit. BP would later tell reporters that the trip was arranged to celebrate a major achievement, that the “*Deepwater Horizon* was the first rig to go seven years without

a lost-time accident.”<sup>2</sup> Testimony would later reveal not only that the rig had not gone seven years without a lost-time incident but also that the trip had the far less celebratory purpose of applying senior-level pressure on the crew to finally complete the well.<sup>3</sup>

BP, the fourth-largest corporation in the world, was spending \$2 million a day for a job that was more than fifty days behind schedule and nearly \$100 million over budget and counting. At a rate of approximately \$500,000 a day, BP leased the *Deepwater Horizon* from Transocean, the rig owner and operator. BP then paid an additional \$500,000 a day in operating costs. BP’s internal costs were another \$1 million a day.<sup>4</sup>

Transocean is the largest deepwater driller in the world. In the Gulf of Mexico, it operates nearly half of all the rigs that work in more than 3,000 feet of water. All the major oil companies use its services: contracting out rigs, related equipment, and work crews at a day rate to drill oil and gas wells. According to the company, “We specialize in technically demanding segments of the offshore drilling business with a particular focus on deepwater and harsh environment drilling services.”<sup>5</sup>

Of the 126 people on board the *Deepwater Horizon* on April 20, 79 worked for Transocean, and only 8 were BP employees.

The visiting executives were BP’s vice president for drilling and completions for the entire Gulf of Mexico, Patrick O’Bryan, who had never been on an offshore rig before, and managers for performance and operations from BP and Transocean. They spent the afternoon and evening of April 20 in sometimes heated meetings and on tours of the rig. Around 9 p.m. they were ready to call it a night but instead decided to head up to the bridge, where they were greeted by Transocean captain Curt Kuchta, master of the *Deepwater Horizon*.

Master Captain Kuchta is not quite as imposing as his title. It may be the slight stutter when he speaks or his small and somewhat pudgy frame. But when the executives arrived, Captain Kuchta became more tour guide than master and “showed us around a lot of stuff up there,” recalled O’Bryan.<sup>6</sup> Captain Kuchta asked if they wanted to use the bridge simulator. A joystick at a computer station allows the user to imitate steering the entire rig. The executives eagerly agreed and began taking turns.

“They were basically playing a video game,” Captain Kuchta later explained.<sup>7</sup> And what a video game it must have been!

At 320 feet high, the *Deepwater Horizon* had an additional 50 feet on the Brooklyn Bridge. It was 369 feet long and 256 feet wide—the size of an entire NFL football field, including end zones, coaching boxes, and team areas. There was enough space to house 130 people, along with a gymnasium, movie theater, lounge, laundry, kitchen, and helicopter pad, with room left over for the actual work of the rig: drilling for oil.

It was also one of the most famous offshore rigs in the world. Just six months earlier, in September 2009, it had set the record for drilling the deepest oil and gas well in history at BP’s Gulf of Mexico Tiber field. At nearly 40,000 feet below the ocean surface, the well is farther down than Mount Everest is up.

“It was an honor to be chosen again for that rig. Gordon was proud.” When Keith Jones speaks about his son Gordon, his love is obvious. But when he talks about Gordon’s job as a mud engineer, the only word that adequately describes his emotion is *restrained*. Gordon was part of the *Deepwater Horizon* drill team, but he wasn’t supposed to be. He got into the oil business because of his communication skills and scratch golf game, both of which lent themselves to sales, the job Gordon was headed for after putting in his time on the rigs.

His father looks bewildered as he recounts the story. The Joneses are lawyers and teachers, not oilmen. Even more bewildering is how Gordon ended up in the business: Keith got his son the job through a lucky encounter with an old fraternity brother.

When I ask if Gordon liked his job, Keith replies, “He liked being home.” It is a common response. Offshore work is typically “21 on, 21 off”—twenty-one days working on the rig and twenty-one days off work at home. Rig workers talk about having two families and two lives: one on the rig, one off. On the rig the work is intense: twelve-hour around-the-clock shifts, called tours (pronounced “towers”). While one team is on tour, the other sleeps; while the first team sleeps, the other is working. The payoff for many, in addition to the sizable paycheck, is the long period of downtime at home.

As on all offshore rigs, work on the *Deepwater Horizon* was exhausting. It was also uniquely complex. In contrast to older rigs and those in

shallower waters that attach to the seafloor with cables or anchors, the *Deepwater Horizon*, built in 2001, was dynamically positioned. A satellite provided the coordinates used by Transocean dynamic positioning officers, Yancy Keplinger and Andrea Fleytas, to determine the rig's location. Using computers, they then directed the twenty-four-hour-a-day, seven-day-a-week efforts of eight 7,375-horsepower thrusters that kept the rig floating on two giant pontoons on the water precisely above the wellhead some four miles below.

On April 20, the two officers held the ship steady while the drill team ran pipe through 5,000 feet of ocean, 13,360 feet of earth, and into the Macondo oil well. The only thing attaching the rig to the floor was the drill pipe and the blowout preventer.

As offshore drilling has gone ever deeper in the last twenty years, experts have increasingly come to liken it, and the dangers involved, to space travel. "We have gone to a different planet in going to the deep-water. An alien environment," oil industry analyst Byron King told the *Washington Post*. "And what do you know from every science fiction movie? The aliens can kill us."<sup>8</sup>

We can only imagine the thrill for the visiting executives who got to "steer" the rig. They even tried to intensify the experience by simulating increasingly rough conditions. "We loaded into the simulator about 70-knot winds and 30-foot seas and two thrusters down and then you switch it into the manual mode and see if the individuals can maintain the rig on location," explained visiting Transocean executive Daun Winslow, operations manager-performance for the North American division. For BP vice president O'Bryan, the "newbie" on the rig, "we loaded up with the most environment," Winslow said.<sup>9</sup>

The thrill of the game very quickly turned to real-life terror around 9:50 p.m., just as O'Bryan took his turn. "All of a sudden, the rig started shaking," he later testified. "And I remember I believe it was Captain Kuchta that went over to the door and opened it. . . . He closed the door and said everybody stay inside. And then soon thereafter I don't know how quickly but pretty quick I heard a hissing sound. And that's when I heard the first explosion. . . . And you could actually see the rig floor, and the rig floor was on fire. And it was just right there, after there was a larger explosion. And that's when all the power on the bridge went out."<sup>10</sup>

## The Doghouse

If the rig floor is the operational heart of a drilling rig, then the “doghouse,” the driller’s shack, is its soul. The doghouse looks like a giant airplane cockpit. Two large chairs dominate the room, each with its own joystick, telephone, microphone, and set of two computer screens. A large window above the screens provides the crew with a view of the rig floor, where the giant 242-foot-tall derrick resides.

Work on a drilling rig largely breaks down into two categories: that done on a computer and that done in the mud. The doghouse is the cord that ties the two together. Inside the doghouse, the crew is comfortably dressed in T-shirts and pants. Outside, they are in bright yellow coveralls, thick rubber boots, and hard hats. Using their computers, those in the driller’s shack direct all the drilling operations, while those in the mud make sure that the pipes and the rest of the physical equipment behave as they should on their many-miles-long journey down to the well.

The mud is the lubricant that keeps the equipment flowing. It’s called mud because that’s what it looks like, but it is actually a toxic chemical cocktail more formally known as drilling fluid. The chiefs on the *Horizon* are the mud engineers: Gordon Jones, Blair Manuel, Greg Meche, and Leo Linder. They work for contractor M-I SWACO. Instead of working with the mud, they were, in Keith Jones’s words, “technicians who slipped off to the lab, came up with a formula, and handed off the final product to the floor hands.” The mud is composed of rock that is ground to a fine powder on shore, which is then mixed with chemicals and water on board, depending on the frequently changing needs of the rig and the well. Among its other functions, the mud provides a weight to counter the pressure down in the well, preventing gas or water from coming up through the pipe.

The *Deepwater Horizon*’s job, like that of any drill ship, was to look for a good hole in a well and then prepare the hole for a production vessel to follow. The crew does this by drilling a pipe into the well, hitting oil, sealing the pipe with cement (like a cork on a champagne bottle), disconnecting from the pipe, and moving off. A production vessel then moves in, uncorks the pipe, and removes the oil. At 9:50 p.m. on April 20, the crew was nearly ready to “cork the pipe” and move on. This may sound simple; however, it is anything but.

Drilling in deep water is an acrobatic dance with pressure. The deeper you go, the greater the pressure. Imagine a giant bag of popcorn, fresh from a microwave oven, waiting to be opened. Now bury it under 5,000 feet of ocean and 13,500 feet of earth. Instead of ripping the bag open, you insert an 18,500-foot straw in the form of the pipe and then place your thumb over the top to keep the contents from exploding out. The air in the bag is the gas, the popcorn is the crude oil, and the thumb is the cement job temporarily sealing the hole.

Managing the pressure so that oil and gas can be brought to the surface in a controlled manner is called well control. A well-control event or incident—also known as a kick—occurs when there are problems with managing this pressure. A loss of well control is called a blowout.

Thirty-year oil industry veteran Bob Cavnar described the difficulty this way: “I often think of deepwater drilling as like driving a car from the backseat; you can reach the steering wheel, but it’s hard to control and you can’t get your foot on the brake pedal very easily. Because the distance between man and well is so far in the deepwater, the technology must be the link between those two. As we’ve been made painfully aware, when the technology fails, or people fail, the consequences are catastrophic.”<sup>11</sup>

The technology on board the *Horizon* was far from perfect. Just one example of hundreds of unattended repair issues on the rig was described as “the blue screen of death” in testimony by Transocean chief electronics technician for the *Horizon*, Mike Williams. There are three drilling chairs: A and B in the drill shack and C in the assistant drill shack. The computer screens locked up—regularly on the A chair, and occasionally on the B chair, according to Williams. When a screen locked up, it “would just turn to a blue screen,” he testified. “You would have no data coming through.” While waiting for a replacement system, the *Horizon* crew members “were limping along with what we had.”

In questioning, Williams was asked, “Well, if the driller is sitting there trying to manage the well, and the blue screen of death shows up, how is the driller supposed to be able to manage the well?” Williams answered, “He’s going to have to go to B Chair.”

“And if B Chair isn’t functioning properly?”

“He’s got to go to C chair.”

“And if that’s not functioning properly?”  
“Abandon ship.”<sup>12</sup>

Although corporate executives are obsessed with oil, everything on a rig is focused on gas: how to keep the gas out while bringing the oil in. The Gulf of Mexico has many unique attributes, including being one of the most methane-rich production areas in the world, which also makes it one of the most dangerous places on earth to drill.

Gas kicks are routine. Even blowouts occur far more often than the industry would have us believe, and with increasing frequency. From 2005 to 2010, twenty-eight blowouts occurred in the Gulf of Mexico, four of which took place in the eighteen months preceding the blowout of the Macondo well.<sup>13</sup> From 1999 to 2004, there were twenty blowouts, and from 1993 to 1998 there were just eleven.<sup>14</sup>

Most of these blowouts were in shallow waters, because that’s where the vast amount of drilling takes place. Of the 565 productive wells in the Gulf of Mexico, 488 are in water depths of less than 300 feet; only 37 wells are located at depths greater than 1,000 feet, but these wells account for nearly 70 percent of the oil produced in the Gulf.<sup>15</sup> As more drilling moves to ever deeper waters in search of richer fields, we can expect more deepwater blowouts.

Blowouts in deep water can be far more serious than those in shallow water because of the increased difficulty of reaching the blown-out well; the oil industry’s lack of experience, technology, and equipment in deep water; and the potential for much greater amounts of oil to be spilled.

Each misstep made by BP, Transocean, Halliburton, and others on the *Deepwater Horizon*’s fateful journey opened a new door that allowed the gas from the Macondo well to enter and ultimately explode the rig.

## The Macondo Well

The *Deepwater Horizon* wasn’t supposed to be at the Macondo well. It was a replacement, taking over for Transocean’s *Marianas*.

The U.S. government owns the land where the Macondo well resides, Mississippi Canyon Block 252, and the hydrocarbons within it. In 2008, BP, with minority partners Anadarko Petroleum (25 percent)

and MOEX Offshore (10 percent), paid \$34 million for a ten-year lease to the area. In exchange for the lease payment and the royalty fees on each barrel recovered, the hydrocarbons essentially became BP's. Estimates of the amount of oil in the well vary greatly, from 50 million to 1 billion barrels, worth as much as \$86 billion in today's market.<sup>16</sup>

BP originally leased Transocean's *Marianas* to work the well, and it began drilling on October 6, 2009. Mechanical failures on the *Marianas* were intensified by the kicking well, which kicked so hard that it literally blew out the rig's blowout preventer. The blowout preventer shuts in a well in the event of a serious kick, in order to prevent a kick from becoming a blowout.

On November 1, the *Marianas* was forced to unlatch from its blowout preventer in "one of the singularly most costly events in the drilling of a well if it occurs," according to rig experts WEST Engineering Services.<sup>17</sup> When Hurricane Ida came through on November 7, the *Marianas* was already sitting idle.<sup>18</sup> It then sustained further electrical wiring damage from the storm, was sent to shore for repairs, and was later decommissioned.

Such problems on a Transocean rig are not unique. In fact, since 2008, 73 percent of incidents that triggered federal investigations into safety and other problems on deepwater drilling rigs in the Gulf have been on rigs operated by Transocean. This rate is out of proportion to the percentage of rigs the company operates in the Gulf: less than half.<sup>19</sup>

The *Deepwater Horizon* arrived at the Macondo well on January 31, 2010. It began drilling on February 15 and was supposed to be done just three weeks later, on March 8, for a total cost of \$96 million. From the start, the well was kicking, and the crew lost control of it several times. In March, the drill pipe became so irrevocably stuck that it was left there while the crew moved on to try a new spot.

The reason, explained Mike Williams, was pressure to get the job done fast. A BP manager ordered a faster pace, telling the driller, "Hey, let's bump it up. Let's bump it up." Going faster caused the bottom of the well to split open. "We got stuck so bad we had to send tools down into the drill pipe and sever the pipe," Williams said. BP told the crew that it lost two weeks and some \$25 million in the process. "And you always kind of knew that in the back of your mind when they start throwing these big numbers around that there was gonna be a push coming,

you know? A push to pick up production and pick up the pace,” Williams explained.<sup>20</sup>

As the operation grew further behind schedule and over budget, BP was cutting costs, Transocean’s and other subcontractors’ shoddy practices were put into heightened relief, and government regulators rubber-stamped each cumulatively more dangerous move.

Unfortunately, none of these events was unique to the Macondo well or the *Deepwater Horizon*. It was simply an unlucky cumulative impact that led this rig and not others to such catastrophic disaster. The enormity, extreme difficulty, and relative newness of deepwater drilling regularly puts production wells off schedule, which always means mammoth cost overruns. In response, companies cut corners.

I spoke with many offshore oil workers for this book; all of them are currently employed, so few would speak on the record. A typical response was provided by a completions engineer who has worked on many Transocean rigs as a subcontractor and is currently at work on one of BP’s Macondo relief wells.

“When you start a new job, it’s all about safety,” he tells me. “But after you’re out there for so long, you find you can save \$2 million here or \$3 million there, and they start cutting corners, save whatever money they can. I’ve seen ’em all cut corners they shouldn’t cut. They all do it. Shell, Chevron, they all do it. They hit a comfort zone, get complacent, could do it a little cheaper, a little differently, and, yeah, eventually the worst happens. But, you know, we’re paid to go out there, and you have confidence in the decisions they make. Doesn’t do no good to worry and stress about it, because there’s nothing you can do about it, anyway.”

## The Well from Hell

With seventeen years of experience in the oil industry, assistant driller Stephen Curtis knew a tough well when he worked one. He christened the Macondo “the well from hell” because it reminded him of another wicked well, Devil’s Tower.

The Macondo well is not unique. It is, rather, a tragedy of foreseeable errors left uncorrected that has set its place in history. Mike

Williams worked both wells with Curtis. The wells “exhibited a lot of [the] same characteristics,” Williams explained, “where we lost circulation, we’re getting tons of gas back all the time, we got stuck, we had to sever the pipe. It was just—it was déjà vu all over again.”<sup>21</sup> With Devil’s Tower, however, the well had its way without loss of life. The oil company in charge, Italy’s ENI, gave in, severed the pipe, and drilled in a different spot.

Floor hand Adam Weise was calling his girlfriend, Cindy Shelton, before and after every shift—unusual for him. He was frustrated with the problems on the project. “Everything that could go wrong was going wrong,” she said. “Every time he’d call me, he’d say, ‘This is a well from hell.’”<sup>22</sup>

Shane Roshto shared the same worries. Just twenty-two years old, he tried to explain the dangers of offshore drilling to his twenty-one-year-old wife, Natalie. “Baby,” Shane told her, “the earth is . . . like blowing up a red balloon and taking a pin and just pushing it and pushing it and pushing it as far as it could go and it just blowing.” On his last trip home before heading back to the Macondo, Shane told Natalie, “Mother Nature just doesn’t want to be drilled here.”<sup>23</sup>

“Dad, I know what they’re trying to do is unsafe, and I know it’s not right,” thirty-five-year-old Jason Anderson, the leader of the *Deepwater Horizon* drill team, told his father on his last trip home before the disaster. Like many other members of the crew, Jason had been with the *Horizon* since its birth, bringing the rig to the United States from Korea, where it was built. He was proud to be on the team that drilled the world’s deepest well.

Nonetheless, he was worried. Before he left, the father of two young children, ages five and one, gave his wife, Shelley, “a will and a list of things that he wanted handled if something happened to him.”<sup>24</sup> This was his last tour on the *Horizon*. He had recently been promoted, and his new job as senior toolpusher on Transocean’s *Discoverer Spirit* was to start on April 14, but the manager of the *Horizon* asked him to stay on for an extra week.<sup>25</sup>

On April 14, BP drilling engineer Brian Morel e-mailed a colleague, saying, “this has been [a] nightmare well which has everyone all over the place.”<sup>26</sup>

## Final Days

On April 15, the *Deepwater Horizon* was some forty-five days behind schedule and \$90 million over budget. In response, BP was cutting corners. BP changed its well design three times within one twenty-four-hour period. Each new design was approved by government regulators, sometimes within minutes of the request being submitted. The design ultimately utilized was, according to BP, \$7 to \$10 million cheaper than an earlier plan, the “tie-back.”<sup>27</sup> On March 30, BP’s Brian Morel wrote, “not running the tie-back saves a good deal of time/money.”<sup>28</sup>

The final design was one long tube running through the center of the well. The design was doable, according to Halliburton, the subcontractor hired to do the cement job to secure the pipe, as long as BP used twenty-one devices called centralizers to help hold the pipe in place while the cement set. The *Horizon* had six such centralizers on board, so BP drilling operations engineer Brett Cocales ordered an additional fifteen out to the rig.

On April 16, the centralizers arrived, but BP well team leader, John Guide, chose not to use them. In an e-mail that day, Guide argued that the new centralizers were not ideal for the job, and “it will take ten hours to install them.”<sup>29</sup>

On April 18, Halliburton ran a new computer model of a cement job using fewer than seven centralizers. It showed that such a job entailed a “severe risk of gas flow.”<sup>30</sup> Nonetheless, the decision to go with six centralizers stuck.

On April 19, Halliburton completed the job to BP’s specifications. Not only did Halliburton perform a substandard job, it also used the wrong cement. Halliburton used a nitrogen foam, common in offshore drilling generally, but not for deep high-temperature, high-pressure zones such as the Macondo well.<sup>31</sup> An investigation by the National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling, known as the National Oil Spill Commission, found that Halliburton and BP both had results in March showing that the cement mixture would be unstable, but neither acted on that data.<sup>32</sup>

On April 20, more than fifty days late and \$100 million over budget, the *Horizon* was running a series of tests to make sure that Halliburton’s cement job was holding. Tensions were high, and disputes appear to

have been taking place all over the rig. One such fight took place at the 11 a.m. pretour meeting.

Douglas Brown, Transocean chief mechanic, described “a scrimmage taking place” at the meeting among Robert Kaluza, the so-called company man, the highest-ranking BP employee assigned to the rig; Jimmy Harrell, the offshore installation manager (OIM), the most senior Transocean position on the rig; and Dewey Revette, the toolpusher.<sup>33</sup>

Forty-eight-year-old Dewey Revette had been working offshore for nearly thirty years. He was on the *Horizon* when it broke its world record, but he nearly missed it. About four years earlier, he told his wife, Sheri, that he wanted to quit offshore and maybe start consulting. As Sheri recounted the story to me, she said no. The economy was in a tailspin. They had one daughter in high school and another in college. There was too much security in sticking with Transocean.

“I told him he could wait ‘til it was time to retire, get his full benefits, and *then* go into consultin’ if he wanted,” Sheri tells me in her heavy Mississippi accent. “It was the last [work] decision we made. He would keep goin’, then retire.” Sheri’s voice trails off. Dewey wasn’t tired, she emphasizes. “He just liked bein’ home. He liked huntin’, fishin’, playin’ on his tractor. . . . He wanted to do ‘round here and be with his family.” Her voice trails off again. “We were gonna get my son-in-law offshore; this was about a year ago, but my daughter, she said no.”

At the 11 a.m. meeting, Dewey was outlining his plans for the displacement test to be run that evening. The test, which displaces heavy mud in the drill pipe with lighter seawater to test the stability of the cement job, was one of the final procedures before moving off from the well. BP’s company man, Robert Kaluza, stood up and said, “No, we have some changes to that.” The changes were even more shortcuts and cost savings. The displacement would be faster and cheaper. Two tasks would also be performed at once: the displacement and the second negative test to measure upward pressure from the shut-in well.

According to Douglas Brown, “the company man was basically saying, ‘Well, this is how it’s going to be.’ And the toolpusher and the OIM reluctantly agreed.”

Kaluza later told investigators that he was just following BP’s orders. “They decided we should do displacement and the negative test together; I don’t know why,” he said. “Maybe they were trying to save

time. At the end of the well sometimes they think about speeding up.”<sup>34</sup>

The risks involved appear not to have been lost on Jimmy Harrell, the Transocean OIM, who seemed to think that all was now resting on the rig’s last line of defense, the blowout preventer. Brown testified that as Harrell left the meeting, he grumbled, “Well, I guess that’s what we have those pinchers for,” referring to the blowout preventer’s pinchers that close in on the pipe, cutting it off from the rig and shutting in the well in case of a blowout.<sup>35</sup>

Weighing some 325 tons and standing nearly fifty feet high, the blowout preventer (BOP) sits at the bottom of the ocean on top of the wellhead. The riser is the portion of the drill pipe that descends from the rig into the top of the BOP. The pipe then passes through the BOP and descends into the well. Inside are a series of mechanisms that can, when activated, sever the pipe, thereby locking in the well. Activating the BOP is like sucking on a straw and then pinching the middle of it with your fingers to stop the fluid from moving, breaking off the top portion of the straw, and sticking a cork in what’s left.

Harrell, who is facing possible criminal charges, says the disagreement happened the day before and was about something else. Other accounts support Brown’s version and shed more light on the skirmish, including on Dewey’s role. I shared one such report with his wife, Sheri, when I visited her home in State Line, Mississippi, a small rural community of about five hundred people.

Sheri is a petite woman. Her appearance is that of an attractive suburban American “everywoman.” Sheri is from Fairborn, Ohio, which she describes as “the city” because “the mall was just twenty minutes away and the Kmart was within walking distance.” By comparison, when she moved to State Line, “Dewey’s parents didn’t even have a telephone.” But she was willing to make the sacrifice for Dewey. Sheri’s smile and laughter are contagious as she retells the story of their whirlwind romance, engagement, and marriage—all in one year. She was just eighteen and he was twenty-one. “Everyone was lookin’ for a baby,” she laughs. “There wasn’t one. We were just that in love.” They met when Dewey drove up to the local Kerr gas station where Sheri worked. “We had the old-time Coca-Cola coolers. He reached in for one and he was sittin’ there and we were talkin’ and that was *it*.” The extra emphasis on the last “t” conveys how Sheri never had a chance. “Dewey had this

smile. It would make you melt.” When Sheri says, “It was love at first sight,” she means it.

Thirty years in rural Mississippi changed Sheri in many ways. And, while she looks much younger than her forty-five years, it remains very difficult to imagine her riding mud hills in Dewey’s jacked-up four-wheel-drive Toyota truck, although she claims, “It was a blast!”

Sheri is also a calm woman, but it is an active calm, an intentional and self-imposed serenity. It is how she copes. It takes a jolt for the calm to be disrupted and the “mud trucker” to come out, which is just what happened when we sat in her kitchen and read the following account from *Esquire* magazine together:

When [Kaluza] proposes a procedure that runs counter to the procedures the drilling team has in place, Dewey Revette, the driller, fresh from his circuit around the deck, begins to argue with him. Revette thinks that what Kaluza is proposing is reckless and premature, and when the argument grows heated, what the various crewmembers witnessing it remember is the passion and anger of an inherently careful man. “Dewey got pretty hot,” one says.<sup>36</sup>

It’s the last line that hits Sheri the hardest. “Dewey never—never—ever loses his temper. Never, ever, ever.” The thought of him being that upset is not only shocking, it hurts. What perhaps hurts even more is that she wasn’t able to be there for him. Dewey and Sheri usually talk around 9 a.m. every day before Dewey’s tour, but “I missed his phone call that morning.” Dewey called, but Sheri’s phone didn’t ring. “He left me a message, but I deleted it because I knew he was coming home, you know. Normally I always keep them. But for some reason I deleted that one.”

Sheri had not seen the *Esquire* article, but she’d heard the story of the fight. If Dewey knew that something was wrong, “he wouldn’t have done it unless they really, really made him buckle,” Sherri tells me. He wouldn’t have backed down “unless they really put him in his place and said—BP or whoever said—‘We’re going to do it like this because I said so.’ I just don’t know, you know. I would figure Dewey would tell them to take that job and shove it first. You know, he’s just that headstrong, and if he really believed that any of this could have happened, he’d have never, never let them do it.”

Dewey may, in fact, have had several reasons to be upset that morning. He may have learned not only that the displacement test was being messed with but also that the subcontractors hired to perform a key test on the well's stability were on a helicopter leaving the *Deepwater Horizon*.

## Kill This Well

Schlumberger (pronounced “slumberjay,” in the oil patch), an oil field service contractor, was hired by BP to perform a cement bond log, a final test on the cement job performed by Halliburton. Called “the only test that can really determine the actual effectiveness” of the well's seal, the test was a critical final step in ensuring the stability of the well.<sup>37</sup> Instead of running the test, the Schlumberger employees left the rig at 11 a.m. that day.

There are two explanations for why they left. One is that they knew the well was going to blow, could do nothing to stop it, and evacuated. The other is that BP decided at 7:30 a.m. on April 20 that it didn't need the test.

Sherrill Boega was the first person to alert me to the competing accounts. I met Sherrill at the Shrimp and Petroleum Festival in Morgan City, Louisiana—“after Mardi Gras, the largest festival in Louisiana.” Like his father before him, Sherrill had spent his life working for Shell. While in college, he spent his summers working for the company and then, after a brief stint as a high school teacher, went to work for Shell full-time in operations offshore. He moved into the safety specialization and in 1999 retired as an offshore health safety environment coordinator after thirty years with the company. Since 1999, he has continued working for a variety of companies, including Exxon, BP, Chevron, and Shell.

The story he told me about Schlumberger was really about the gas. When Schlumberger arrived, “gas was showing, and the well was trying to come in. I know it sounds like the well has a personality, but what it means technically is that whatever was in there to prevent it from coming up was not doing its job. . . . The well was trying to come in. Supposedly, when [the Schlumberger employee] reported that to the BP guy and said, ‘You need to kill this well,’ the BP guy said, ‘I ain't doing

nothing; you go to work.' That's when [Schlumberger] asked for the helicopter. He was told that the helicopter wasn't available. That's when he called his supervisor on the beach, and I don't know what transpired, but I do know that Schlumberger sent a helicopter. . . . This guy ought to get an award, because he did what his company told him to do: if you can't stop the job, leave. That's what he was trying to do, have them kill the well, and the guy wouldn't have anything to do with it."

Virtually identical accounts appeared on several industry-insider Internet discussion boards, including the most often quoted account on the *Oil Drum*, posted on May 14. "AlanfromBigEasy" writes that Schlumberger (SLB) got out on the *Horizon* to run the test and "they find the well still kicking heavily, which it should not be that late in the operation." Schlumberger orders the well killed, the company man refuses, and "SLB gets on the horn to shore, calls SLB's corporate HQ, and gets a helo [helicopter] flown out there at SLB's expense and takes all SLB [personnel] to shore. . . . Pick your jaw up off the floor now."

In testimony and in its internal analysis, BP contends that its executives chose not to do the test and therefore sent Schlumberger home on a regularly scheduled BP flight. Oddly, no one from Schlumberger has testified at any of the dozens of investigations held by Congress, the Marine Safety Board, or the National Oil Spill Commission. All we have is a statement from Schlumberger spokesman Stephen Harris, who said that BP had a Schlumberger team on standby from April 18 to 20. "But BP never asked the Schlumberger crew to perform the acoustic test and sent its members back to Louisiana on a regularly scheduled helicopter flight at 11 a.m."<sup>38</sup>

Many have argued that BP chose not to do the test because of time and expense. The New Orleans *Times-Picayune* reported that "the test would have cost \$100,000 or more, taken time and required a month of remedial work if it found problems, like an uneven cement job, at a likely additional cost of \$30 million."<sup>39</sup> When asked, "Which option is cheapest: not running the cement bond log or running it?," BP's John Guide responded, "It's cheaper not to run it."<sup>40</sup>

Professor Robert Bea, a former Shell Oil Company engineer, heads the *Deepwater Horizon* Study Group at the Center for Catastrophic Risk Management at the University of California. The group was asked to provide monthly reports and cumulative findings to President Obama's

National Oil Spill Commission. Professor Bea told me that he believes it will be impossible to know what really happened with Schlumberger until “someone has to give sworn testimony” in a court case, “and we might not even know then.”

Whatever the reason, the test was never run. Had the Schlumberger crew stayed on the *Deepwater Horizon* to run the test, they would surely have found that Halliburton’s cement job was faulty; the findings of the negative tests performed later that day by the drill team, which showed the well to be stable, were wrong; and the displacement test that Dewey, Stephen, Jason, and the rest of the drill team were to perform later that night was doomed to catastrophic failure.

## Blowout

At 9:20 p.m., Dewey was in the C chair in the assistant driller’s shack, and Jason and Stephen were in the driller’s shack in chairs A and B, respectively. All were following orders, performing the second negative test and the displacement at the same time, as designed by BP. It was one of the final necessary steps before the *Deepwater Horizon* could say good-bye to the Macondo well forever.

Why did these three men, and the rest of the crew, keep following what they knew to be bad orders? People who work offshore are, by and large, an order-abiding group. The vast majority are men, many are former military, and life on a rig is frequently described with military terminology: they are a unit at war against the sea, the weather, the gas, the oil, the government, the environmentalists—you name it. Whereas the Schlumberger crew was visiting, the Transocean crew was part of a unit, many of whom had been together since the birth of the rig nearly ten years earlier.

Although executives from BP and Transocean stressed in testimony that any crew member can at any time halt any operation on a rig, it rarely, if ever, happens. “Yeah it’s in the manual,” lawyer Kurt Arnold tells me, but from the perspective of his clients, more than a dozen of whom worked on the *Horizon*, “from a practical perspective it’s a myth.”

The crew not only believe in their unit, they also believe in keeping their jobs. Even though most have just high school educations, they easily

earn from \$50,000 to \$100,000 working offshore. When you live in places like State Line, Mississippi, there aren't many other choices. "Dewey went offshore when he was nineteen," Sheri tells me. "It was either that or cuttin' timber." Not only have times not changed, they've gotten worse.

Thus, the crew did what they were told to do and then fought like hell to save the rig from the consequences of the bad orders they were given to follow.

There were several problems with the test they were performing. It was the second negative test that day; both tests were premature, adding to the already unstable well. The foamed cement used by Halliburton required forty-eight hours to strongly solidify. Nonetheless, the first negative test was performed just sixteen and a half hours after the cement was pumped, and the second test was just twenty-one hours later. The cement would have "almost no functional strength at [those] time[s] and would still be in a very fragile state," concludes industry analyst Paul Parsons.

The displacement test occurred at a much lower depth than is standard practice. Whereas government regulations are set at 1,000 feet, BP requested approval for 3,300 feet. The reason for doing so may have been further cost savings. As Paul Parsons wrote, it is possible that BP was "interested in the fact that setting the plug further down allows the removal of more expensive mud from the well for reuse elsewhere (all mud above the plug would be removed)." Parsons argued, "A deep negative test as BP performed (3,300 feet below the mudline) plus a full riser displacement would not only expose a problem with the cement but could also create or worsen a problem if performed too early."<sup>41</sup>

As Jason, Stephen, and Dewey were removing the mud and replacing it with lighter seawater, there would have been less pressure on the gas holding it in place, allowing more to escape into the pipes and up into the rig.

At 9:20 p.m., Randy Ezell, Transocean senior toolpusher, called Jason to ask how things were going. Jason had just completed the second negative test and was displacing the mud with seawater. "Do you need any help from me?" Randy asked. "No, man. . . . I've got this," Jason reassured. "Go to bed. I've got it."<sup>42</sup>

At 9:40 p.m., mud began overflowing onto the rig floor and then shot up through the derrick.

At 9:41 p.m., the blowout preventer was activated, but it did not act.

At 9:44 p.m., either Dewey or Jason called BP's well site leader, Donald Vidrine, and said, "We're getting mud back."

Randy had taken Jason up on his offer. He went to his quarters, called his wife, and got into bed. He had just turned off his overhead light when the phone rang. This time, the drill shack was calling him. BP's clock has the call at 9:45 p.m.; Randy testified that it was 9:50 p.m.

"The well is blown out."

It was Stephen Curtis.

"Do y'all have it shut in?" Randy asked.

"Jason is shutting it in now. Randy, we need your help."

Stephen was a big man, a former marine and a deer hunter who got married in full camouflage gear. For Stephen to ask for help meant that something was seriously wrong. Randy was horrified. "I put my coveralls on; they were hanging on the hook. I put my socks on. My boots and my hard hat were right across that hall . . . in the toolpushers office," he recalled in testimony. Just as he opened the door, "a tremendous explosion occurred. It blew me probably twenty feet against a bulkhead, against the wall in that office. And I remember then that the lights went out, power went out. I could hear everything deathly calm."<sup>43</sup>

The next morning, Sheri was expecting her husband to come home. Instead, her sister called at 5:15 a.m., telling her to turn on the television. She knew right away that her husband was dead. "My heart sunk, and I lost it," she says, choking on the words. "I knew where he would have been at that time because he was on tour. I said, 'I don't need to wait for a phone call, he's gone.'"

## The Gas Attacks

We do not know exactly what happened in the drilling area at the time of the explosion, because everyone who was down there is dead. We do know this: before a blowout occurs, there are generally warning signs sent by the well and safeguards taken on the vessel. In the case of the Macondo, there were numerous warnings that the well was unstable before it blew. There were also many lines of defense that were supposed to stop the worst-case scenario from happening.

When the well blew, it evacuated the material thrust down the pipes: first the mud and then the cement. With the debris out of its way, the gas exploded into the rig, ignited two explosions, and sent a massive fireball up through the length of the derrick followed by oil.

“All of the workers that died during the blowout would have known they were in a dangerous situation and had time to flee,” Parsons reminds us. “Instead, they elected to stay on position to try to regain control of the well.”<sup>44</sup>

They should, however, have gotten a lot more warning and assistance in their efforts. The rig was equipped throughout with both visual and auditory alarms that would alert the crew if gas enters the rig in dangerous proportions. It also came equipped with control panels that automatically shut down operations in specific areas if gas is detected. The rooms in the drilling area were airtight, so if gas made it into one room, it would be isolated and not threaten the entire ship.

BP’s internal investigation into the *Deepwater Horizon* explosion reveals that the ship’s computer began to report gas approximately forty minutes prior to the explosion while Dewey, Jason, Stephen, and the rest of the drill team were running the negative test and displacement. As the gas entered the rig, they, and the rest of the crew, should have been alerted. They should have heard an alarm. They should have seen lights flashing. They should also have seen control panels automatically shutting down operations in their areas. They neither heard nor saw any such thing. Nor did anyone else on the rig. The automatic gas alarms were intentionally inhibited, set to record information on the computers but not to trigger alarms automatically.

Transocean chief electrician Mike Williams testified that more than a year earlier, he had asked why the *Deepwater Horizon* alarms were inhibited. From the OIM on down, he was told, “They did not want people woke up at three o’clock in the morning due to false alarms.” When he tried to fix the alarms, Transocean subsea supervisor Mark Hay told him, “The damn thing’s been in bypass for five years. Why did you even mess with it?” Hay said, “Matter of fact, the entire fleet runs them in bypass.” Williams explained that Hay meant the entire Transocean fleet.<sup>45</sup>

Because the system was inhibited, the automatic shutdowns did not happen. The drill rooms were not shut in. And those elsewhere in the vessel were left unaware of gas until it was too late and the gas, now

fully unleashed into the rig, was winding its way around the vessel like a wraith, heralding impending doom.

Transocean manager Daun Winslow was on his way to the bridge when “there was kind of a warm breeze, a whoosh of kind of high-pressure air went by,”<sup>46</sup> followed by the first explosion. For Douglas Brown, “the room was dark and the hiss of escaping gas was deafening.”<sup>47</sup> BP manager David Sims heard “what sounded like a hissing sound. I would describe it as gas escaping something.”<sup>48</sup>

Chris Pleasant, a Transocean supervisor, heard the hissing in his office. Over on the *Damon B. Bankston*, the cargo ship that gathered the mud from the *Horizon*, Captain Alwin Landry “heard a high pressure release of air or gas . . . right as the mud was flying,” and then the first explosion hit.<sup>49</sup>

The first to die were Gordon Jones, Blair Manuel, and Karl Klepinger. Just as Keith Jones would suggest that his son wasn’t born to be on the rig, neither was he supposed to be in the mud room when the explosion occurred. Gordon was supposed to be asleep in his quarters. He wasn’t on for another three hours, but his replacement, Leo Linder, seemed as though he could use more sleep, so Gordon offered to stay on.

Gordon, age twenty-eight, had a two-year-old son and a pregnant wife, Michelle, eagerly waiting for him at home. He was on the *Horizon* for just a one-week tour before heading home for seven weeks to be with Michelle for the birth. But he had “already eaten, he’d said goodnight to Michelle, he had the night shift, and Leo looked tired to him, so he said, ‘Look, I’ve got this’ and sent Leo off to bed. That’s the last thing I know that Gordon said,” Keith recalls.

His father knows the story because a few days later Leo visited the family. “He came to tell Michelle that he knew her baby was going to be a boy because Gordon knew and talked a lot about it.” Leo told Michelle, “When your little boys get big enough, you tell them that their daddy’s kindness saved my life.”

“I know what my fervent prayer is. It’s that Gordon never felt it when the explosion happened. But I know who Gordon was and that he had to be well aware of what was happening.” Keith is looking away while he tells me this. It is not easy for him to talk about that night.

“He knew when stuff is gushing out of the well head . . .” Keith

excuses himself. He's begun to cry. "He knew that the worst is about to happen." He pauses again and looks away. The tears flow down his face. "Gordon knew what a blowout was. Everybody does. I've seen BP's application to the MMS [Mineral Management Service] in which they describe that the worst-case scenario is a blowout. The worst thing that can happen is a blowout. Everyone knows that. Gordon knew that."

Gordon died with Blair Manuel. At fifty-six years old, Blair was one of the oldest men on the rig and the oldest to die. The father of three adult daughters was getting married in July. The hundreds of mourners who attended his memorial services wore a tie or a swath of purple and gold, the colors of Blair's beloved Louisiana State University.<sup>50</sup>

Karl, age thirty-eight, was in the shaker room, where the mud is separated from the liquids. His wife, Tracy, knew something was wrong when Karl, who never spoke about the rig unless he was worried, was talking about it incessantly on his last trip home. "He [was] losing sleep over it, because not only [was] it a 'bad hole,' his drilling team [was] getting pushed to drill it. They [were] way over budget and way behind schedule."<sup>51</sup>

The next in line were likely Shane Roshto, Adam Weise, and Roy Kemp, all of whom were in the pump room. At ages twenty-two, twenty-four, and twenty-seven, respectively, they were the youngest to die.

Five days earlier, on April 15, Shane wrote on his MySpace page: "Chillin out on the rig. . . . Ready to go home but gonna work over on the stack. . . . Missin Nat and Blaine . . ." The accompanying photo is of Blaine, Shane and Nat's three-year-old son, sitting on his father's lap, "driving" a very muddied jacked-up jeep. Shane was scheduled to go home on April 21.

Adam's grandmother told a local reporter, "I don't remember when we actually found out he was one of the ones in the pump room when the explosion happened. They said they believed they did not suffer, that it was almost instant. That's comforting."<sup>52</sup>

Roy was from Jonesville, Louisiana. The father of two young children was remembered as a devoted husband, father, and son with a "unique" sense of humor. He loved hunting with his dog, Ellie, but "most of all," he was "a man who loved the Lord."<sup>53</sup>

As the mud and oil was raining down from the derrick, drenching everyone in a black rain, floor hand Caleb Holloway said to Dan Barron,

"I smell gas. Run." They ran out the door from the drill floor to the deck just as assistant driller Don Clark was running in. He got through the open door and was greeted immediately by the second blast.<sup>54</sup>

Don was forty-eight years old and one of the few black men on the rig. He was a soybean farmer turned municipal worker. His wife, Sheila, never wanted him to go offshore, because he loved being home so much. But she was the woman of his dreams, and he wanted to earn enough money to support her and her two young children.

Don was on his way to help Jason, Stephen, and Dewey when he died.

They had all left the drillers' shacks and were seen on the drill floor "frantically [trying] to stop the natural gas before the rig blew."<sup>55</sup>

The Reverend Clyde Grier, who performed Jason's memorial, told a local newspaper, "Someone from the rig called and said a couple of minutes before the explosion, he had seen Jason on the drilling floor near the drill head. He was basically on ground zero."<sup>56</sup>

The eleventh and final man to die was likely the only man to die alone. Crane operator Aaron Dale Burkeen, a thirty-seven-year-old father of two, was celebrating his eighth wedding anniversary on April 20. He was on deck in his crane 100 feet aboveground when the first explosion happened. Crew member Daniel Barron saw Burkeen struggle to exit the crane's cabin. In the light of the flames, he watched as Burkeen made it out of the cabin and halfway down the stairs. Then the second explosion hit. It "literally picked him up . . . like a child would throw a toy" and slammed him into the deck fifty feet below.<sup>57</sup>

Chris Choy, a twenty-three-year-old roustabout, saw the fire engulf Burkeen. He tried to reach him, but a fireball erupted and blocked his path. "It just killed me that I knew I couldn't get to him. That's probably the hardest thing I've ever had to do in my life—and the hardest decision I've ever had to make in my life was I either can go over there and, you know, I might not make it back. That's, by far, the hardest decision I've made in my life, that we had to leave that and leave him there."<sup>58</sup>

Burkeen's supervisor, Bill Johnson, was already in the water in a lifeboat and "watched helplessly as the whole starboard side of the rig erupted in a cloud of smoke and flame. Burkeen just vanished."<sup>59</sup>

In February 2009, BP had submitted its fifty-two-page *Initial Exploration Plan* for the Macondo well to the U.S. Department of the Interior's

Mineral Management Service (MMS). The “worst-case scenario” was a blowout of 162,000 barrels of oil per day. BP certified that were the worst to happen, the company had the capability to respond to such a blowout “to the maximum extent practicable.”<sup>60</sup>

Professor Robert Bea of the *Deepwater Horizon* Study Group is seventy-three years old and bald with a sharp white beard. His voice was ravaged by years spent in New Orleans investigating the engineering failures associated with Hurricane Katrina’s devastation. When he recounts for me the testimonials of men who survived the rig floor at the time of the explosions, he sounds like the narrator of a 1940s horror movie.

“Each man described this strange transparent fluid moving across the drill deck. That fluid was gas. When the gas reached the mud pits . . . they were the first to die, that’s where the first explosion happened. Now the gas continued to ignite back to the drill floor. The second explosion was the drill floor, that’s where those people got incinerated instantly. . . . It was that damn gas that got loose. That’s the killer. Once that fire happened and then they couldn’t get loose from the well, that’s when the *Deepwater Horizon* becomes toast.”

## Chaos

The two explosions, just seconds apart, rocked the *Deepwater Horizon*. The first explosion hit at 9:49 p.m., followed ten seconds later by the second one.

The explosions should not have happened, nor should they have destroyed the rig once they did occur. First, operations in the mud pit should have been automatically halted when the gas entered the area.

Second, the engine that sparked the second explosion should have automatically shut down. The second explosion is believed to have occurred when gas entered engine 3, causing it to overspeed, which most likely created a spark that led to an explosion. Engine 3 was located immediately below the living quarters where at least half of the crew was preparing for bed. The engine should, however, have shut off automatically as soon as the gas was detected. It should also have shut off automatically once it began to overspeed.<sup>61</sup>

Third, the blowout preventer should have prevented the blowout. Fourth, the emergency disconnect should have separated the rig from the well. Finally, the automatic mode function should have had fresh batteries.

In a thick Louisiana accent, Chad Murray, chief electrician aboard the *Deepwater Horizon*, described the fear and chaos that ensued as the explosions rocked the rig. "It's—it's absolutely a disaster. . . . I mean, we're talkin' 'bout alotta noise, alotta fire, and a tremendous amount a'heat, people panickin', and the fear a'losin' your life. At that time, I mean, you do what you can to survive. It's just a bad deal."<sup>62</sup>

Jimmy Harrell, the rig's OIM, described the scene on deck. "It was very chaotic. A lot of people were jumping over the side during this explosion."<sup>63</sup>

In an interview with the *Wall Street Journal*, crew member Carlos Ramos said, "People were in a state of panic. Flames were shooting out of the well hole to a height of 250 feet or more. Debris was falling. One crane boom on the rig melted from the heat and folded over. Injured workers were scattered around the deck. Others were yelling that the rig was going to blow up."<sup>64</sup>

Oleander Benton was one of just six women on board the *Horizon*. A cook, she was part of the catering crew. April 20 was her fifty-second birthday. She and another woman were in the laundry when the explosions occurred. The Associated Press reported that she "hit the floor as ceiling tiles and light fixtures came crashing down on her head and back. The concussion had blown a door off its hinges and pinned her friend to the floor. 'My leg! My leg!' the woman screamed." Benton couldn't move the door. "She told her friend to lie flat and slide herself out, and the two made their way into the darkened hallway." A man yelled to them, "Come on, Miss O! Go this way. This is the real deal! This is the *real deal!*" They made their way in the dark clogged halls past "dazed and injured people" and emerged safely on the deck.<sup>65</sup>

Steve Bertone, a Transocean chief engineer, had just finished smoking a cigarette and taking a shower. He was getting into bed to read a book when what sounded like a freight train coming through his room jolted him to attention. "There was a thumping sound that consecutively got much faster and with each thump, I felt the rig actually shake," he later testified. "Then there was an initial boom. The lights went out. I

jumped out of the bed, ran to my door. . . . When I turned to go grab my clothing, the second explosion occurred, which threw me across my room.”

Bertone made it out to a stairway only to find a group of people standing there, frozen; the stairway was blocked with debris. “I hollered out to head to the port forward or starboard forward spiral staircase and go to your emergency stations. I ran to the port spiral staircase and made my way to the bridge.”<sup>66</sup>

The second explosion buried Randy Ezell, Transocean senior tool-pusher, under a mountain of debris. “I tried two different times to get up, but whatever it was, it was a substantial weight. The third time it was something like adrenaline had kicked in and I told myself ‘Either you get up or you’re going to lay here and die.’”

As he recounted in testimony, Ezell tried to stand up but ended with a face full of smoke. On hands and knees he crawled in the direction of air. “The living quarters was pretty well demolished. Debris everywhere. But I made it to the doorway and what I thought was air was actually methane and I could actually feel like droplets. It was moist on the side of my face.” He kept crawling till he put his hand on the body of an injured Wyman Wheeler. He heard another voice calling out in the dark, “God help me. Somebody please help me.” He looked to where the maintenance office had been and saw “a pair of feet sticking out from underneath a bunch of wreckage and debris.” It was Buddy Trahan, “one of the visiting Transocean dignitaries.”<sup>67</sup>

Trahan had left the bridge after his turn at the video game simulator. The initial explosion had hurled him thirty feet through a wall, burning most of the clothing off his back in an instant. He regained consciousness just in time to get Ezell’s attention. Ezell not only dug Trahan out from beneath the rubble but also yanked away a steel door whose hinge was stuck in Trahan’s neck a half-inch from his carotid artery.<sup>68</sup>

Wheeler and Trahan were put onto stretchers, but getting them through the living quarters was treacherous; there was “debris hanging from the ceiling, the wall was juttied out, the floor was juttied up,” Ezell recounted. “I mean it was just total chaos.”<sup>69</sup>

The first explosion threw chief mechanic Douglas Brown up against the control panel. A hole opened up in the floor beneath him, and down he fell. “I was confused. I was hurting. I was dazed, and I proceeded to

try to get up and the second explosion happened. And I ended up falling back down in the hole and the ceiling caved in on top of me. . . . I started hearing people screaming and calling for help, that they were hurt, they needed to get out of here.”<sup>70</sup>

## Mayday

Confusion reigned on the bridge, where most of the people seemed to be the last on board to realize the full extent of the disaster. BP’s Pat O’Bryan was running the video game simulator when the first explosion hit. With him was BP’s David Sims. Daun Winslow from Transocean arrived shortly thereafter, following his encounter with the gas in the hallway. With so many executives in the room, the bridge crew might have been distracted, and they might also have been unclear about who was actually in charge.

Steve Bertone arrived on the bridge and went to his station only to discover that there was no more power on the rig. “There were no engines, no thrusters, no power whatsoever,” he recalled. He tried calling the engine room. “There was no dial tone whatsoever. . . . I hollered out, ‘We have no coms!’” With the communication system down, he ran to the starboard window of the bridge and looked back to the derrick.

He later recounted that “prior to this, for whatever reason, the second explosion and everything had not registered with me. . . . I was fully expecting to see steel and pipe and everything on the rig floor. When I looked out the window, I saw fire from derrick leg to derrick leg and as high as I could see. At that point, I realized that we had just had a blowout.”

Bertone heard a voice behind him saying that the engine room, the engine control room, and the pump room were gone. “They are all gone.” He turned around but didn’t recognize Mike Williams, whose face was covered in blood from a deep head wound. Bertone asked, “What do you mean gone?” The voice behind the blood responded, “They’ve blown up. They’re all gone. They’ve blown up.”<sup>71</sup>

There was at least one person on the bridge who was paying attention: twenty-three-year-old dynamic positioning officer Andrea Fleytas. It was Fleytas, one of just three women on the crew, who manually set

off the ship's general alarm at 9:47 p.m. when the automatic alarms failed to signal that combustible gas had entered parts of the rig where crews were working. It was Fleytas who, at approximately 9:53 p.m., four minutes after the explosions—with power out, communication out, engines down, fires throughout the rig, and men throwing themselves overboard—noticed that no one had sent a distress signal to the outside world. It was she who activated the distress button—“grabbed the radio and began calling over a signal monitored by the Coast Guard and other vessels. ‘Mayday, Mayday. This is *Deepwater Horizon*. We have an uncontrollable fire.’”

When Captain Kuchta realized what Fleytas had done, the *Wall Street Journal* reported, “he reprimanded her. ‘I didn’t give you authority to do that,’ he said, according to Ms. Fleytas, who says she responded: ‘I’m sorry.’”<sup>72</sup> In a statement, Steven Bertone wrote that the captain’s response was even stronger, that “the Captain was screaming at Andrea for pushing the distress button.”<sup>73</sup>

## Disconnect

Meanwhile, Bertone realized that no one had activated the emergency disconnect system (EDS). The EDS triggers the blowout preventer (BOP) and separates the rig from the wellhead. Bertone immediately yelled to Chris Pleasant, the subsea supervisor, “Have you EDSed?!” Pleasant said he needed permission to do so. Bertone turned to see Transocean’s Daun Winslow standing right next to him. “Can we EDS?” Winslow said yes, and Bertone turned back to Pleasant when “somebody on the bridge hollered out, ‘He cannot EDS without the OIM’s approval!’”

Bertone then spun around and saw the OIM, Jimmy Harrell, running across the bridge. “I hollered out for Jimmy, ‘Can we EDS?!’ ‘Yes, EDS, EDS!’ Harrell replied. “When I turned back to Chris,” Bertone continued, “he was in the panel pushing a button. I hollered to Chris, ‘I need confirmation that we have EDSed!’ He said, ‘Yes, we’ve EDSed!’”<sup>74</sup>

Records indicate that Pleasant activated the EDS at 9:56 p.m.

Nothing happened.

• • •

Federal regulations require BOPs to be recertified every five years. The *Deepwater Horizon* BOP had been in use for nearly ten years and had never been recertified. Getting it recertified would have required Transocean to take the rig out of use for months while the four-story stack was disassembled.<sup>75</sup>

There are two control panels on the rig to operate the BOP, one on the rig floor close to the driller and the toolpusher and one on the bridge close to the OIM and the master captain. These rig control panels link to two control pods on the BOP, called the yellow pod and the blue pod. These pods respond to signals by activating hydraulic valves that channel hydraulic pressure to open and close the BOP devices. The BOP has the capacity to store enough pressure to fully close all valves one time in the event that pressure is lost from the riser.<sup>76</sup>

As noted earlier, BP's records indicate that at 9:41 p.m. the BOP was activated, most likely by the drill team. Nothing happened.

At 9:56 p.m., the bridge again tried to activate the BOP, this time using the EDS. Again nothing happened. The well continued to blow, and the *Deepwater Horizon* remained tethered to the well by the riser pipe.

There were several problems with the BOP that were well known on the rig and that had been reported in the BP Daily Operations Reports as early as March 10. Both BP and Transocean officials knew that the yellow control pod had a hydraulic leak. They also knew that federal regulations required that if "a BOP control station or pod . . . does not function properly," the rig must "suspend further drilling operations" until it's fixed. When asked if regulations were followed and operations were suspended, Ronnie Sepulvado, the BP company man on the *Horizon* until April 16, answered, "Well, no, it wasn't. And the reason it wasn't, I guess we assumed that everything was okay since I reported it to the team leader and he should have reported it to the MMS."<sup>77</sup> The team leader was BP's John Guide, who admitted to knowing about the problems but failing to report them.<sup>78</sup>

Chief electronics technician Mike Williams also reported that the BOP was damaged just four weeks before the explosion. The annular is a key component at the top of the BOP. It is one of the devices that closes off the drill pipe in the case of a blowout. While testing the annular, Williams reported, a crewman on deck accidentally nudged a joystick, applying hundreds of thousands of pounds of force and moving

fifteen feet of drill pipe through the closed BOP. Later, while he was monitoring drilling fluid rising to the top, the man “discovered chunks of rubber in the drilling fluid. He thought it was important enough to gather this double handful of chunks of rubber and bring them into the driller shack.” Williams asked the supervisor if this was out of the ordinary and was told, “Oh, it’s no big deal.” He recalls thinking, “How can it be not a big deal? There’s chunks of our seal now missing.”<sup>79</sup>

When the BOP failed to activate from the floor and from the bridge, there should have been one more backup, the automatic mode function (AMF), but it failed, too. The BOP has a built-in battery-powered AMF device, commonly called the “deadman switch,” that would activate the blind shear rams that close in the well if both the hydraulic pressure and the electrical communication with the rig were lost.

According to BP’s internal investigation, “insufficient charge was discovered on the 27-volt AMF battery bank in the blue pod, and a failed solenoid valve 103 was discovered in the yellow pod.”<sup>80</sup> In other words, the batteries had been allowed to run down.

All across the rig, the technology on which everything on the *Deepwater Horizon* so dearly depended was failing, and with catastrophic results.

## Escape

In the dark of night and fifty miles from shore, the *Deepwater Horizon* was inextricably locked to an exploding oil well. Gas and fuel met to ignite new explosions that kept rocking the ship like the aftershocks of two giant earthquakes. Without power, the water pumps would not function, and the crew was without means to fight the spreading fires. As the crew crawled out of collapsed living quarters and ran toward life rafts, chaos prevailed.

Some, but not all, of the chaos was preventable. The rig was equipped with two main lifeboats, each with a capacity of seventy-five people, and two smaller life rafts, with a capacity of about twenty-five. Although the crew had been required to practice mustering to lifeboats, the drills were so routine that they were nearly useless. The drills were conducted at the same time and on the same day every week: Sunday between 10 a.m.

and noon. People at work were excused from the drills, which did not include lowering the lifeboats into the water. There were never any surprise drills, nor were any drills conducted under distress scenarios.

On the evening of April 20, the lack of adequate drills was nearly catastrophic. Rather than wait for lifeboats, ten people threw themselves from the rig—an estimated 100-foot drop. Meanwhile, one lifeboat was dangerously overcrowded when lowered while the other was not even full. One life raft was never deployed, whereas the other was lowered while tethered to the ship, leaving it dangling at a ninety-degree angle, attached to the burning rig. Moreover, according to the testimony of several on board, the captain abandoned the ship before all of the crew was off.<sup>81</sup>

“There was no chain of command. Nobody in charge,” Carlos Ramos said. “People were just coming out of nowhere and just trying to get on the lifeboats,” said Darin Rupinski, one of the operators of the rig’s positioning system. “One guy was actually hanging off the railing. . . . People were saying that we needed to get out of there.”<sup>82</sup>

Douglas Brown went to the lifeboats and was waiting to receive orders. “It was just complete mayhem, chaos, people were scared, they were crying. I heard later that people were jumping overboard.”<sup>83</sup>

Crane operator Micah Sandell described pure pandemonium. “A lot of screaming, just a lot of screaming, a lot of hollering, a lot of scared people, including me.” While he was trying to get people on the boats, others were yelling, “Drop the boat, drop the boat!” even though it was not yet full. “We was still trying to get people on the boat and trying to calm them down enough to—trying to calm them down enough to get everybody on the boat. And there was people jumping off the side. . . . We were trying to get people to count ‘1, 2, 3’ . . . people couldn’t even count right because they was too scared.”<sup>84</sup>

Greg Meche, a compliance specialist with M-I SWACO, is one of those who jumped. He had an understandable difficulty trying to explain the decision to an investigatory committee. He cited the chaos and slow speed of the mustering. He also expressed his pure fear and quick, five-minute decision to jump rather than wait for a lifeboat.<sup>85</sup>

Roustabout Chris Choy made it into a lifeboat, but “there he found chaos. Men, including some with broken bones, open wounds and burning flesh pushed onto the lifeboat.” The lifeboat, an enclosed fiberglass

capsule, “was supposed to save them but now it was looking like a hot and smoky tomb. Choy had seen other men jump off the rig. . . . They had jumped to get away from the heat of the flames. Now, Choy thought about jumping too. ‘And there was a couple people, you know, yelling, trying to get everybody to calm down and just, you know, stay as calm as we could so everybody could hear, you know, what we needed to do. Some people just refused to do it and they just kept screaming, you know: The derricks fixing to fall. Hollering, cussing: We’ve got to get out of here.’”<sup>86</sup>

The visiting executives—Patrick O’Bryan, Daun Winslow, and David Sims—made it safely off the rig on lifeboat number 2.

Transocean executive Buddy Trahan recounted his escape to a reporter. Rig workers Stan Cardin and Chad Murray had strapped him to a stretcher and put him into a lifeboat. He suffered twelve broken bones and was bleeding heavily from second-degree burns and gashes, including a nine-inch, bone-deep slash across his left thigh and a fist-sized hole in his neck. “While I was laying on the stretcher,” Trahan recounted, “I could see the rig floor engulfed in flames, and that’s when I knew we lost everybody on the rig floor, including three who were dear to me.”<sup>87</sup>

After the two lifeboats deployed, about ten people were likely left on the rig. The last to leave the *Deepwater Horizon*, these were the crew from the bridge and a few others. But not all were lucky enough to leave on a raft. By this time the fire had engulfed much of the rig. The heat was unbearable, and smoke combined with the dark night sky made sight almost impossible. Because of the turmoil surrounding the escape, there is conflicting testimony of exactly how the events unfolded.

Steve Bertone, who made it into the life raft, described the terrifying scene. “There was a lot of explosions still going on, smaller explosions, and immense heat. All the flames and heat from the rig floor were coming down the forward part of that deck, as well as all of the flames and the heat from under the rig. They were meeting, I guess, in like a vortex or something right there at the life raft.”<sup>88</sup>

Randy Ezell made it to the bow of the *Horizon* with the injured Wyman Wheeler on a stretcher just in time. The first thing he noticed

was that both of the main lifeboats had already been deployed and were gone. He looked to his left and saw Captain Kuchta “and a few of his marine crew deploying a life raft.”<sup>89</sup> Ezell made it to the raft, got Wheeler on, and the raft set off with approximately six people on board. At this point, there is disagreement over who cut the cord that lowered the raft into the water. Some say it was Captain Kuchta, others chief mate Dave Young. What we do know is that there were still people on the rig when this, the last raft, was lowered.

In an interview with *60 Minutes*, Mike Williams recounted standing on the burning rig, watching the final raft leave, and realizing that there were no choices left but to jump. “I remember looking at Andrea and seeing that look in her eyes. She had quit. She had given up. I remember her saying, ‘I’m scared.’ And I said, ‘It’s okay to be scared. I’m scared too.’” Andrea asked what they should do. “We’re gonna burn up. Or we’re gonna jump,” Williams replied. He closed his eyes, said a prayer, and asked God to tell his wife and his little girl “that Daddy did everything he could and if, if I survive this, it’s for a reason. I made those three steps, and I pushed off the end of the rig.”<sup>90</sup>

It appears that Andrea Fleytas jumped at Williams’s encouragement, but she jumped into the descending raft rather than into the water.<sup>91</sup>

When the raft hit the water, Bertone jumped out and swam beside it; with the help of others, he dragged it out of the way of the burning rig. He looked up into a “tremendous amount of smoke bellowing out from under the rig” just in time to see “a person’s boots and his clothing and stuff come shooting through the smoke.” It was Captain Kuchta. Within seconds, another pair of boots came flying out of the smoke. This time it was Yancy Keplinger.

Finally, Bertone looked up and saw a man running full speed across the deck. “When he jumped off the end of the [deck], he was still running. Just before he splashed into the water, he was actually looking over at us and that was Mike Williams.”<sup>92</sup>

Williams crashed down into an ocean on fire. Burning fuel from the rig mixed with the gas and the heat was unbearable. Williams thought, “What have you done?! The fire’s gonna come across the water, and you’re gonna burn up!” So he swam as hard and as fast as he could until a hand reached down and scooped him into a life raft.<sup>93</sup>

## Rescue

By sheer luck, the *Damon B. Bankston* was tethered by a hose to the *Deepwater Horizon* that day to collect mud for reuse on another BP well. Had it not been there, it is all but certain that there would have been far fewer survivors.

The 260-foot-long *Bankston* is a multipurpose supply vessel that looks like a barge. It provided a range of services to the *Horizon*, such as running supplies and cargo, and exported mud from the rig's drilling operations.

As the mud from the blown-out well rained down on his ship, Captain Alwin Landry ordered the hose untethered and the *Bankston* a safe distance away. As soon as the explosions hit, he began a search and recovery. Over the course of about one hour and twenty minutes, all surviving crew members of the *Horizon* were scooped out of the water and from lifeboats and life rafts onto the *Bankston*.

The *Bankston* was aided by another lucky stroke: four guys on a fishing trip. Marine biology student Albert Andry III and three high school buddies had come to the *Deepwater Horizon* for "a couple leisurely days of tuna fishing and beer drinking" in Andry's twenty-six-foot catamaran, the *Endorfin*. The men were fishing for bait under the lip of the platform when water began raining down from the rig's network of pipes. Luckily, one of the men, Wes Bourg, had worked offshore. "Go, go, go, go, go-o—o!" he shouted.

"With no radar and only the light of a crescent moon to see by, Andry pointed the bow north, gunned the twin 140-horsepower Suzuki outboards and hit the deck. They were about 100 yards from the *Deepwater Horizon* when the lights went out, and the first explosion hit."<sup>94</sup>

They stayed until they were nearly out of fuel, four hours later, pulling survivors out of the water and searching for the missing.

## The Missing

On April 20, the heroic efforts of the brave crews on the *Deepwater Horizon* and the *Damon B. Bankston*, the fishermen on the *Endorfin*, and many others enabled 115 people to escape the *Deepwater Horizon*. The



Keith Jones in October 2010, whose son, Gordon, died aboard the *Deepwater Horizon*.

U.S. Coast Guard arrived at approximately 11:30 p.m., just as the last of the survivors had been brought safely aboard the *Bankston*. By early the next morning, images of the burning vessel began to appear on television sets, and the families began receiving phone calls from their loved ones' employers.

When the Jones family learned of the explosions, they gathered at the home of Gordon and his wife, Michelle. There were rumors about a lifeboat that the coast guard had seen but lost sight of, and some were holding out hope that Gordon was on this craft. Keith didn't say it at the time, but he told me later that he knew it was nonsense.

"Gordon told me about those lifeboats. They have not just food and water, they have telephones. They have GPS. The coast guard doesn't lose track of those boats. I knew, I accepted before anyone else did, that Gordon was gone."

Sheri Revette listened politely to the people from Transocean and the coast guard who called to tell her to hold out hope. Dewey's parents were hoping, and so was Sheri's family. But she knew Dewey was dead.



Sheri Revette in September 2010, whose husband, Dewey, died aboard the *Deepwater Horizon*, sits with the commemorative bronze helmet Transocean gave her upon her husband's death.

The coast guard searched for the missing men for nearly seventy hours. With none of the bodies recovered, the hunt was officially ended at 5 p.m., April 23, 2010.

Several months later, I sit with Keith in Baton Rouge. It's our fifth interview and my second visit to his office. This time I notice the piles of paper stacked up in the corners, on the desk, and on the bookshelves. I notice how tired Keith is. We then talk about anger.

"I know I should feel anger," Keith tells me, "but I don't." When I ask why he should, he suddenly turns toward me, and he is angry.

"They murdered my boy, Antonia. Greed murdered my boy."