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Blowout: The Deepwater Horizon Disaster

A Survivor Recalls His Harrowing Escape; Plus, A Former BP Insider Warns Of Another Potential Disaster

(CBS) The gusher unleashed in the Gulf of Mexico continues to spew crude oil. There are no reliable estimates of how much oil is pouring into the gulf. But it comes to many millions of gallons since the catastrophic blowout. Eleven men were killed in the explosions that sank one of the most sophisticated drilling rigs in the world, the "Deepwater Horizon."

This week Congress continues its investigation, but Capitol Hill has not heard from the man **"60 Minutes" correspondent Scott Pelley** met: Mike Williams, one of the last crewmembers to escape the inferno.

Extra: "I'm Gonna Die Right Here"

Extra: "As I Got To The Next Door, It Exploded"

Extra: "It Was A Ranging Inferno"

Extra: "We Were In Bad Trouble"

Extra: "We're Gonna Burn Up Or We're Gonna Jump"

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He says the destruction of the Deepwater Horizon had been building for weeks in a series of mishaps. The night of the disaster, he was in his workshop when he heard the rig's engines suddenly run wild. That was the moment that explosive gas was shooting across the decks, being sucked into the engines that powered the rig's generators.

"I hear the engines revving. The lights are glowing. I'm hearing the alarms. I mean, they're at a constant state now. It's just, 'Beep, beep, beep, beep, beep.' It doesn't stop. But even that's starting to get drowned out by the

sound of the engine increasing in speed. And my lights get so incredibly bright that they physically explode. I'm pushing my way back from the desk when my computer monitor exploded," Williams told Pelley.

The rig was destroyed on the night of April 20. Ironically, the end was coming only months after the rig's greatest achievement.

Mike Williams was the chief electronics technician in charge of the rig's computers and electrical systems. And seven months before, he had helped the crew drill the deepest oil well in history, 35,000 feet.

"It was special. There's no way around it. Everyone was talking about it. The congratulations that were flowing around, it made you feel proud to work there," he remembered.

Williams worked for the owner, Transocean, the largest offshore drilling company. Like its sister rigs, the Deepwater Horizon cost \$350 million, rose 378 feet from bottom to top. Both advanced and safe, none of her 126 crew had been seriously injured in seven years.

The safety record was remarkable, because offshore drilling today pushes technology with challenges matched only by the space program.

Deepwater Horizon was in 5,000 feet of water and would drill another 13,000 feet, a total of three miles. The oil and gas down there are under enormous pressure. And the key to keeping that pressure under control is this fluid that drillers call "mud."

"Mud" is a manmade drilling fluid that's pumped down the well and back up the sides in continuous circulation. The sheer weight of this fluid keeps the oil and gas down and the well under control.

The tension in every drilling operation is between doing things safely and doing them fast; time is money and this job was costing BP a million dollars a day. But Williams says there was trouble from the start - getting to the oil was taking too long.

Williams said they were told it would take 21 days; according to him, it actually took six weeks.

With the schedule slipping, Williams says a BP manager ordered a faster pace.

"And he requested to the driller, 'Hey, let's bump it up. Let's bump it up.'

And what he was talking about there is he's bumping up the rate of penetration. How fast the drill bit is going down," Williams said.

Williams says going faster caused the bottom of the well to split open, swallowing tools and that drilling fluid called "mud."

"We actually got stuck. And we got stuck so bad we had to send tools down into the drill pipe and sever the pipe," Williams explained.

That well was abandoned and Deepwater Horizon had to drill a new route to the oil. It cost BP more than two weeks and millions of dollars.

"We were informed of this during one of the safety meetings, that somewhere in the neighborhood of \$25 million was lost in bottom hole assembly and 'mud.' 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 said.

Asked if there was pressure on the crew after this happened, Williams told Pelley, "There's always pressure, but yes, the pressure was increased."

But the trouble was just beginning: when drilling resumed, Williams says there was an accident on the rig that has not been reported before. He says, four weeks before the explosion, the rig's most vital piece of safety equipment was damaged.

Down near the seabed is the blowout preventer, or BOP. It's used to seal the well shut in order to test the pressure and integrity of the well, and, in case of a blowout, it's the crew's only hope. A key component is a rubber gasket at the top called an "annular," which can close tightly around the drill pipe.

Williams says, during a test, they closed the gasket. But while it was shut tight, a crewman on deck accidentally nudged a joystick, applying hundreds of thousands of pounds of force, and moving 15 feet of drill pipe through the closed blowout preventer. Later, a man monitoring drilling fluid rising to the top made a troubling find.

"He 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. I recall asking the supervisor if this was out of the ordinary. And he says, 'Oh, it's no big deal.' And I thought, 'How can it be not a big deal? There's chunks of our seal is now missing,'" Williams

told Pelley.

And, Williams says, he knew about another problem with the blowout preventer.

The BOP is operated from the surface by wires connected to two control pods; one is a back-up. Williams says one pod lost some of its function weeks before.

Transocean tells us the BOP was tested by remote control after these incidents and passed. But nearly a mile below, there was no way to know how much damage there was or whether the pod was unreliable.

In the hours before the disaster, Deepwater Horizon's work was nearly done. All that was left was to seal the well closed. The oil would be pumped out by another rig later. Williams says, that during a safety meeting, the manager for the rig owner, Transocean, was explaining how they were going to close the well when the manager from BP interrupted.

"I had the BP company man sitting directly beside me. And he literally perked up and said 'Well my process is different. And I think we're gonna do it this way.' And they kind of lined out how he thought it should go that day. So there was short of a chest-bumping kind of deal. The communication seemed to break down as to who was ultimately in charge," Williams said.

On the day of the accident, several BP managers were on the Deepwater Horizon for a ceremony to congratulate the crew for seven years without an injury. While they were there, a surge of explosive gas came flying up the well from three miles below. The rig's diesel engines which power its electric generators sucked in the gas and began to run wild.

"I'm hearing hissing. Engines are over-revving. And then all of a sudden, all the lights in my shop just started getting brighter and brighter and brighter. And I knew then something bad was getting ready to happen," Williams told Pelley.

It was almost ten at night. And directly under the Deepwater Horizon there were four men in a fishing boat, Albert Andry, Dustin King, Ryan Chaisson and Westley Bourg.

"When I heard the gas comin' out, I knew exactly what it was almost immediately," Bourg recalled.

"When the gas cloud was descending on you, what was that like?" Pelley asked.

"It was scary. And when I looked at it, it burned my eyes. And I knew we had to get out of there," Andry recalled.

Andry said he knew the gas was methane.

On the rig, Mike Williams was reaching for a door to investigate the engine noise.

"These are three inch thick, steel, fire-rated doors with six stainless steel hinges supporting 'em on the frame. As I reach for the handle, I heard this awful hissing noise, this whoosh. And at the height of the hiss, a huge explosion. The explosion literally rips the door from the hinges, hits, impacts me and takes me to the other side of the shop. And I'm up against a wall, when I finally come around, with a door on top of me. And I remember thinking to myself, 'You know, this, this is it. I'm gonna die right here,'" Williams remembered.

Meanwhile, the men on the fishing boat had a camera, capturing the flames on the water.

"I began to crawl across the floor. As I got to the next door, it exploded. And took me, the door, and slid me about 35 feet backwards again. And planted me up against another wall. At that point, I actually got angry. I was mad at the doors. I was mad that these fire doors that are supposed to protect me are hurting me. And at that point, I made a decision. 'I'm going to get outside. I may die out there, but I'm gonna get outside.' So I crawl across the grid work of the floor and make my way to that opening, where I see the light. I made it out the door and I thought to myself, 'I've accomplished what I set out to accomplish. I made it outside. At least now I can breathe. I may die out here, but I can breathe,'" Williams said.

Williams couldn't see; something was pouring into his eyes and that's when he noticed a gash in his forehead.

"I didn't know if it was blood. I didn't know if it was brains. I didn't know if it was flesh. I didn't know what it was. I just knew there was, I was, I was in trouble. At that point I grabbed a lifejacket, I was on the aft lifeboat deck there were two functioning lifeboats at my disposal right there. But I knew I couldn't board them. I had responsibilities," he remembered.

His responsibility was to report to the bridge, the rig's command center.

"I'm hearing alarms. I'm hearing radio chatter, 'May day! May day! We've lost propulsion! We've lost power! We have a fire! Man overboard on the starboard forward deck,'" Williams remembered.

Williams says that, on the bridge, he watched them try to activate emergency systems. "The BOP that was supposed to protect us and keep us from the blowout obviously had failed. And now, the emergency disconnect to get us away from this fuel source has failed. We have no communications to the BOP," he explained.

"And I see one of the lifeboats in the water, and it's motoring away from the vessel. I looked at the captain and asked him. I said, 'What's going on?' He said, 'I've given the order to abandon ship,'" Williams said.

Every Sunday they had practiced lifeboat drills and the procedure for making sure everyone was accounted for. But in the panic all that went to hell. The lifeboats were leaving.

"They're leaving without you?" Pelley asked.

"They have left, without the captain and without knowing that they had everyone that had survived all this onboard. I've been left now by two lifeboats. And I look at the captain and I said, 'What do we do now? By now, the fire is not only on the derrick, it's starting to spread to the deck. At that point, there were several more explosions, large, intense explosions,'" Williams said.

Asked what they felt and sounded like, Williams said, "It's just take-your-breath-away type explosions, shake your body to the core explosions. Take your vision away from the percussion of the explosions."

About eight survivors were left on the rig. They dropped an inflatable raft from a crane, but with only a few survivors on the raft, it was launched, leaving Williams, another man, and a crewwoman named Andrea.

"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.' She said, 'What are we gonna do?' I said, 'We're gonna burn up. Or we're gonna jump,'" Williams remembered.

Williams estimates it was a 90-100 foot jump down.

In the middle of the night, with blood in his eyes, fire at his back and the sea ten stories below, Williams made his choice.

"I remember closing my eyes and sayin' a prayer, and asking God to tell my wife and my 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. And I fell for what seemed like forever. A lotta things go through your mind," he remembered.

(CBS) With a lifejacket, Williams jumped feet first off the deck and away from the inferno. He had witnessed key events before the disaster. But if he was going to tell anyone, he would have to survive a ten-story drop into the sea.

"I went down way, way below the surface, obviously. And when I popped back up, I felt like, 'Okay, I've made it.' But I feel this God-awful burning all over me. And I'm thinking, 'Am I on fire?' You know, I just don't know. So I start doin' the only thing I know to do, swim. I gotta start swimmin', I gotta get away from this thing. I could tell I was floatin' in oil and grease and, and diesel fuel. I mean, it's just the smell and the feel of it," Williams remembered.

"And I remember lookin' under the rig and seein' the water on fire. And I thought, 'What have you done? You were dry, and you weren't covered in oil up there, now you've jumped and you've made this, and you've landed in oil. The fire's gonna come across the water, and you're gonna burn up.' And I thought, 'You just gotta swim harder.' So I swam, and I kicked and I swam and I kicked and I swam as hard as I could until I remember not feelin' any more pain, and I didn't hear anything. And I thought, 'Well, I must have burned up, 'cause I don't feel anything, I don't hear anything, I don't smell anything. I must be dead.' And I remember a real faint voice of, 'Over here, over here.' I thought, 'What in the world is that?' And the next thing I know, he grabbed my lifejacket and flipped me over into this small open bow boat. I didn't know who he was, I didn't know where he'd come from, I didn't care. I was now out of the water," he added.

Williams' survival may be critical to the investigation. We took his story to Dr. Bob Bea, a professor of engineering at the University of California, Berkeley.

Last week, the White House asked Bea to help analyze the Deepwater Horizon accident. Bea investigated the Columbia Space Shuttle disaster for NASA and the Hurricane Katrina disaster for the National Science Foundation. Bea's voice never completely recovered from the weeks he

spent in the flood in New Orleans. But as the White House found, he's among the nation's best, having investigated more than 20 offshore rig disasters.

"Mr. Williams comes forward with these very detailed elements from his viewpoint on a rig. That's a brave and intelligent man," Bea told Pelley.

"What he's saying is very important to this investigation, you believe?" Pelley asked.

"It is," the professor replied.

What strikes Bea is Williams' description of the blowout preventer. Williams says in a drilling accident four weeks before the explosion, the critical rubber gasket, called an "annular," was damaged and pieces of it started coming out of the well.

"According to Williams, when parts of the annular start coming up on the deck someone from Transocean says, 'Look, don't worry about it.' What does that tell you?" Pelley asked.

"Houston we have a problem," Bea replied.

Here's why that's so important: the annular is used to seal the well for pressure tests. And those tests determine whether dangerous gas is seeping in.

"So if the annular is damaged, if I understand you correctly, you can't do the pressure tests in a reliable way?" Pelley asked.

"That's correct. You may get pressure test recordings, but because you're leaking pressure, they are not reliable," Bea explained.

Williams also told us that a backup control system to the blowout preventer called a pod had lost some of its functions.

"What is the standard operating procedure if you lose one of the control pods?" Pelley asked.

"Reestablish it, fix it. It's like losing one of your legs," Bea said.

"The morning of the disaster, according to Williams, there was an argument in front of all the men on the ship between the Transocean manager and the BP manager. Do you know what that argument is

about?" Pelley asked.

Bea replied, "Yes," telling Pelley the argument was about who was the boss.

In finishing the well, the plan was to have a subcontractor, Halliburton, place three concrete plugs, like corks, in the column. The Transocean manager wanted to do this with the column full of heavy drilling fluid - what drillers call "mud" - to keep the pressure down below contained. But the BP manager wanted to begin to remove the "mud" before the last plug was set. That would reduce the pressure controlling the well before the plugs were finished.

Asked why BP would do that, Bea told Pelley, "It expedites the subsequent steps."

"It's a matter of going faster," Pelley remarked.

"Faster, sure," Bea replied.

Bea said BP had won that argument.

"If the 'mud' had been left in the column, would there have been a blowout?" Pelley asked.

"It doesn't look like it," Bea replied.

To do it BP's way, they had to be absolutely certain that the first two plugs were keeping the pressure down. That life or death test was done using the blowout preventer which Mike Williams says had a damaged gasket.

Investigators have also found the BOP had a hydraulic leak and a weak battery.

"Weeks before the disaster they know they are drilling in a dangerous formation, the formation has told them that," Pelley remarked.

"Correct," Bea replied.

"And has cost them millions of dollars. And the blowout preventer is broken in a number of ways," Pelley remarked.

"Correct," Bea replied.

Asked what would be the right thing to do at that point, Bea said, "I

express it to my students this way, 'Stop, think, don't do something stupid.'"

They didn't stop. As the drilling fluid was removed, downward pressure was relieved; the bottom plug failed. The blowout preventer didn't work. And 11 men were incinerated; 115 crewmembers survived.

And two days later, the Deepwater Horizon sank to the bottom.

This was just the latest disaster for a company that is the largest oil producer in the United States. BP, once known as British Petroleum, was found willfully negligent in a 2005 Texas refinery explosion that killed of its 15 workers. BP was hit with \$108 million in fines - the highest workplace safety fines in U.S. history.

Now, there is new concern about another BP facility in the Gulf: a former BP insider tells us the platform "Atlantis" is a greater threat than the Deepwater Horizon.

Ken Abbott has worked for Shell and GE. And in 2008 he was hired by BP to manage thousands of engineering drawings for the Atlantis platform.

"They serve as blueprints and also as a operator manual, if you will, on how to make this work, and more importantly how to shut it down in an emergency," Abbott explained.

But he says he found that 89 percent of those critical drawings had not been inspected and approved by BP engineers. Even worse, he says 95 percent of the underwater welding plans had never been approved either.

"Are these welding procedures supposed to be approved in the paperwork before the welds are done?" Pelley asked.

"Absolutely. Yeah," Abbott replied. "They're critical."

Abbott's charges are backed up by BP internal e-mails. In 2008, BP manager Barry Duff wrote that the lack of approved drawings could result in "catastrophic operator errors," and "currently there are hundreds if not thousands of Subsea documents that have never been finalized."

Duff called the practice "fundamentally wrong."

"I've never seen this kind of attitude, where safety doesn't seem to matter and when you complain of a problem like Barry did and like I did and try

to fix it, you're just criticized and pushed aside," Abbott said.

Abbott was laid off. He took his concerns to a consumer advocacy group called Food & Water Watch. They're asking Congress to investigate. And he is filing suit in an attempt to force the federal government to shut down Atlantis.

"The Atlantis is still pumping away out there--200,000 barrels a day, and it will be four times that in a year or two when they put in all 16 wells. If something happens there, it will make the Deepwater Horizon look like a bubble in the water by comparison," Abbott said.

(CBS) In an e-mail, BP told us the Atlantis crew has all the documents it needs to run the platform safely. We also wanted BP's perspective on the Deepwater Horizon disaster.

The company scheduled an interview with its CEO, Tony Hayward. Then, they cancelled, saying no one at BP could sit down with "60 Minutes" for this report.

In other interviews, Hayward says this about Transocean, the owner of the Deepwater Horizon: "The responsibility for safety on the drilling rig is with Transocean. It is their rig, their equipment, their people, their systems, their safety processes."

"When BP's chief executive Tony Hayward says, 'This is Transocean's accident,' what do you say?" Pelley asked Professor Bea.

"I get sick. This kind of division in the industry is a killer. The industry is comprised of many organizations. And they all share the responsibility for successful operations. And to start placing, we'll call it these barriers, and pointing fingers at each other, is totally destructive," he replied.

Asked who is responsible for the Deepwater Horizon accident, Bea said, "BP."

We went out on the Gulf and found mats of thick floating oil. No one has a fix on how much oil is shooting out of the well. But some of the best estimates suggest it's the equivalent of the Exxon Valdez spill every four to seven days. Scientists are now reporting vast plumes of oil up to ten miles long under the surface.

The spill has cost BP about \$500 million so far. But consider, in just the first three months this year, BP made profits of \$6 billion.

There are plenty of accusations to go around that BP pressed for speed, Halliburton's cement plugs failed, and Transocean damaged the blowout preventer.

Through all the red flags, they pressed ahead. It was, after all, the Deepwater Horizon, the world record holder, celebrated as among the safest in the fleet.

"Men lost their lives," survivor Mike Williams told Pelley. "I don't know how else to say it. All the things that they told us could never happen happened."

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