

# Bp's macondo blow-out, gulf of mexico

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Name: Instructor: Course: Date: BP's Macondo Blow-out, Gulf of Mexico

Introduction and background of the Transocean Deepwater Horizon rig The oilrig involved in the 20 April oil spill, in the Gulf of Mexico, was the Deepwater Horizon rig. The rig was owned and managed by Transocean Limited. The competitive rig was of the semi sub Generation 5 that had a drilling depth of 30, 000 ft.

The Deepwater Horizon rig however had a rated water depth of 10, 000 ft and operated at a depth of 4, 992 ft, which was partly caused the oil spill. The rig was designed by Reading & Bates RBS-8D and consisted of a Drecto derrick with the dimensions 242' x 48' x 48' and weighing 2, 000, 000 lbs. The Deepwater rig had four mud pumps with 2200 HP and the Varco rotary table was 60 inches in diameter (Achenbach 34). Partners in the Deepwater Horizon rig The companies that had invested and working on the Deepwater Horizon oilrig included BP, Anadarko Petroleum Corporation and MOEX Offshore 2007. BP owned 65% of the Macondo Prospects.

Anadarko Petroleum Corporation is a company that deals with oil and gas exploration and has their headquarters in Texas. Anadarko owned 25% of the Macondo Prospect. MOEX Offshore 2007 was a unit of Mitsui Oil Exploration that specializes in natural gas. MOEX Offshore 2007 owned 10% of the prospect (Achenbach 26).

Environmental damage caused by the oil spill The Gulf of Mexican oil spill killed 11 engineers and injured seventeen other employees. The accident managed to spill 4. 9 million barrels of crude oil into the ocean before it was capped. In August of 2011, the oil sheen that covered hundreds of square

kilometers was reported to have originated from the Macondo BP well. The oil spill caused widespread damage to maritime and animal habitats as well as disrupting the tourism and fishing patterns in the Gulf. There were immense underwater plumes of suspended oil that were that were not visible on the surface.

Later in November over 11, 000 km<sup>2</sup> of the ocean were closed to fishers after tar balls were discovered in their nets. In Louisiana, the shoreline that was covered with oil grew from 289 miles in July to 340 miles in November 2010. By 2012, there were still traces of oil as far as 200 miles off the Louisiana Coast (Achenbach 12). Cause of the oil spill The Deepwater Horizon explosion was caused by a combination of negligence and unprofessional engineering. The profit-minded board of directors at BP had reduced the amount of money allocated toward installing safety measures such as alarms and blowout preventers. First, Deepwater Horizon was an exploratory rig that was transformed into an extractive rig. This meant it did not have the necessary safety and structural facilities to handle a blowout. On the day of the explosion, the cement plug was not installed, and pressure from the mud and the gas shot out of the unstable gas and exploded into a ball of fire.

Possible approaches that could have prevented the oil spill The federal government, alongside private associations of companies, should have come up with stringent policies and standards of operation. These policies would have included thorough inspection of deep-water oilrigs to ensure their safety. These safety precautions would have provided recommendations

against companies such as Halliburton that have had previous high rates of accidents. The state should also have created a spill response department that would have been conducting research into the best way to control oil spills with the minimum cost and damage to the environment. Such a team would have easily contained the oil spill using technological means. The Deepwater horizon oilrig should have installed a drilling blowout preventer.

The blowout preventer technology is more expensive to install and maintain and the consequence when it fails are worse. However, the blowout preventers work more efficiently than most spill prevention systems in the following ways. Blowout preventers have independently placed and operational cut off mechanisms that work automatically. In the Deepwater Horizon rig, there were two annular and five ram blowout preventers. Shear rams are also used but as a last option. The Minerals Management Service had however questioned the efficiency of shear rams in deepwater rigs.

Well casing are another option that could have prevented the Gulf of Mexico oil spill. In this technique, the casing of the oil well is lined with nested steel pipes that could fail and lead to injection of oil into the water. Placing centralizers into the casings of the oil well before they are lowered underwater sufficiently helps in reducing the pressure that may lead to an explosion. The well walls are also lined with cement to ensure their durability. The total cost of the accident The clean up efforts from the April 20 oil spill revealed the extent of damage that the accident had on the environment and the economy. By this time, the BP oil spill had surpassed the Exxon Valdez spill by far. The magnitude of the spill is the first category

of loss that will be analyzed. Over 127, 000 barrels of crude oil were collected by BP containment cap since the well was installed in June.

In a day, over 60, 000 barrels or 2. 5 million gallons were being lost into the ocean. The BP cleanup also utilized many reserved funds with over 436, 000 gallons of dispersant drenched on the oil spill to dissolve the hydrocarbon pollution.

BP also used 50, 000 barrels of heavy mud in the top kill method to stop the flow of oil from the well (Achenbach 127). The mud was poured into the leaking well to overcome the oil pressure and plug the hole. The cost that BP and USA incurred because of the oil spill also extended to compensation and insurance. Over 12, 000 Louisiana residents filed compensation cases due to the effect of the oil that rendered some of them unemployed, as they were dependent on the Gulf that was immediately cordoned off after the accident. The total amount of money that was spent by BP Company in controlling the oil spill was \$1.

6 billion as of June 2010. BP Company was also incurring fines with the amount ranging from \$5 to \$42 million per day. However, economists estimated that the state could fine the company anywhere between \$38 million and \$1.

4 billion. The government was also mindful of the liability of BP Company and imposed the compulsory cap of \$75 million. Insurance companies on their part were claiming about \$1. 5 billion in insurance claims that they predicted that the BP oil spill would cost insurers. Later, Gulf residents that were

directly affected were paid \$62 million as compensation for the pollution. On the market scene, BP shares fell more than 8% in a week, and the company lost \$25 billion in value since the oilrig accident.

Stock exchange watchers also predicted that the share price would dip further in the next week after President Obama's announcement that BP would be responsible for financing their own clean up. By 12 June 2012 trading on Thursday, BP shares had lost \$4.78 to close at \$52.56. BP financial struggle in funding the clean up process BP Company had the uphill task of collecting about \$38 billion to dispose the Texas City Refinery and use the liquid assets to pay debts that had accrued due to the oil spill in the Gulf of Mexico.

BP had developed on a selling spree approach to raise cash for the claims, fines and liabilities that would surface from the Deepwater Horizon spill (Konrad & Tom 28). The sale of the Texas refinery was followed by the sale of the Carson refinery that was located in California to Tesoro for \$2.5 billion and instead focused its investments on Cherry Point (Washington), Toledo (Ohio) and Whiting (Indiana).

BP Company also disposed off its gas and oil fields in the Mexican Gulf for \$5.5 billion to Plains Exploration. Background of the victims of the Macondo blow out The names and occupations of the employees who died in the deepwater explosion include Shane Roshto who was a deck floor hand. Karl Kleppinger, Adam Weise, Aaron Dale Burkeen who were safety engineers, Donald Clark, Roy Kemp, Jason Anderson, Stephen Curtis, Gordon Jones, Blair Manuel and Dewey Revette, all engineers, died in the event. Extent of

responsibility of Halliburton for the Gulf of Mexico oil spill The oil service provider, Halliburton may be deeply involved in the Mexican Gulf oil spill of April 2010. The investigation into the cause of the oilrig accident pointed toward flaws in the cementing process specifically the process of pumping cement into the pipeline seal which was considered flawed.

Halliburton was the company responsible for laying the cement for Deepwater Horizon and were therefore partly culpable for the oil spill. Early speculation on the gas leaks that came before the actual leak also confirmed the fault cementing theory. Comments made by Robert Mackenzie who was a former cementing professional and currently the managing director at FBR Capital Markets speculated that the problem could have been a faulty cement plug or that the cement laid between the well walls and the pipe did not set properly and allowed gas to pass through it (Konrad & Tom 28). Halliburton was initially brought to the spotlight by federal lawsuit that was filed by a wife to one of the rig's employees, Mrs. Natalie Roshto.

The lawsuit claimed that Halliburton was squarely responsible for its actions that led to the oilrig accident. The suit explained in detail, how Halliburton had engaged in the cementing projects of Deepwater Horizon prior to the explosion and that they had constructed the well and the well cap in a substandard, improper and negligent way which caused the explosion. The claims in the lawsuit were picked up by Congressman Henry Waxman who ordered Halliburton to explain their procedures on the rig. Halliburton has had a trend of poor construction on oilrigs that have resulted in fatal accidents.

A similar blow out had occurred in Australia at a rig which had been assembled and serviced by Halliburton. In this incident, workers apparently did not bother to pump cement into the well according to the laid down procedure. However, to their credit, Halliburton wrote an official letter confirming several facts. One, they accepted full responsibility for being the sole provider of services such as cementing which were being overseen by four employees who were safely out of harms way when the accident happened (Schneider 27).

Two, Halliburton confirmed that they did perform all the necessary accepted industry tests to confirm the integrity of the cementing job. Three, Halliburton accepted that, at the time of the oil spill, the cementing was done, but the operation had not reached the level of installing a cement plug that would have stopped the oil spill. These three facts are enough evidence that Halliburton was clearly involved in the oil spill. In determining whether the company was liable to be labeled as guilty for having caused the oil spill, various factors must be analyzed before that conclusion is made (Kahn 34).

Halliburton was responsible for the cementing projects on the Deepwater Horizon oilrig and were therefore squarely responsible for ensuring that the cementing would withhold the pressure of a possible blowout. The company claimed that they undertook all tests that confirmed the integrity of the cementing job. However, Halliburton has been mentioned in several oilrig accidents that meant that they had low quality and safety standards. Halliburton finally admitted that they were behind schedule in installing the



cement work and the accident caught them off guard when the cement plug had not been installed.

To that extent, these three factors are valid enough to justify blaming Halliburton for the oil spill at the Gulf of Mexico (Schneider 127).