

Oil and Gas Extraction in Gulf of Mexico

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ABSTRACT

This paper discusses about the oil spill in the Gulf of Mexico in 2010 along with its causes and factors with lead t this disaster. This paper also suggests some of the preemptive measures that could have been taken to stop this oil spill and how BP can positively influence its shareholders even after this oil spill.

Keywords: Gulf of Mexico, energy information administration, business ethics, shareholders, oil spill

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INTRODUCTION

Gulf of Mexico is the prime source of oil and gas for America as the extraction of oil and gas reached 1.65 million barrels [2] per day in 2017. According to the Energy Information Administration, the extraction of crude oil constitutes about 18% of America's oil [3] production and 5% of natural gas production of America.

Causes of Gulf Oil Spill

Several failures are responsible for gulf oil spill causing a great explosion, which lead to an explosion that demolished the [7] Deep Water Oil Rig. In this incident, 11 people lost their lives.

Some of the factors are as follows:

- Doggy Cement—there were no seal caps in the bottom of the borehole's as a result oil and gas started to leak in the inner pipelines.
- Valve Failure—the failure of mechanical seal taps to restrict the flow of oil and gas.
- No battery for BOP—failure of safety mechanism, which was supposed to shut the valves if they lose contact with surface. As a result, blowout preventer did not shut down.
- Overwhelmed Separator—mad gas separator was quickly overwhelmed

and flammable gas started to rise on the oil rig.

- No gas alarm—failure of onboard oil detection system
- Pressure test misinterpreted
- Leak not spotted soon enough as shown in Figure 1.

Effects of Deep Water Horizon Oil Spill

It caused a significant amount [9] of disturbance to sea habitat.

- Decreased Mobility
- Exhaustion
- Dehydration
- Overheating

Oil spill in Gulf of Mexico caused about 18 billion of [5] environmental damage. It harmed about 90,000 birds of 200 species, 10,000 sea turtles, 43,000 sea animals including whales and dolphins.

Lack of Business Ethics by BP and its Shareholders

British Petroleum or as we know BP Is one of the sixth largest company when measured by revenue as of measured by December 2012. BP was fully operating over 80 countries producing around 3.3 million barrels of oil per day at around 200,700 [11] service stations.

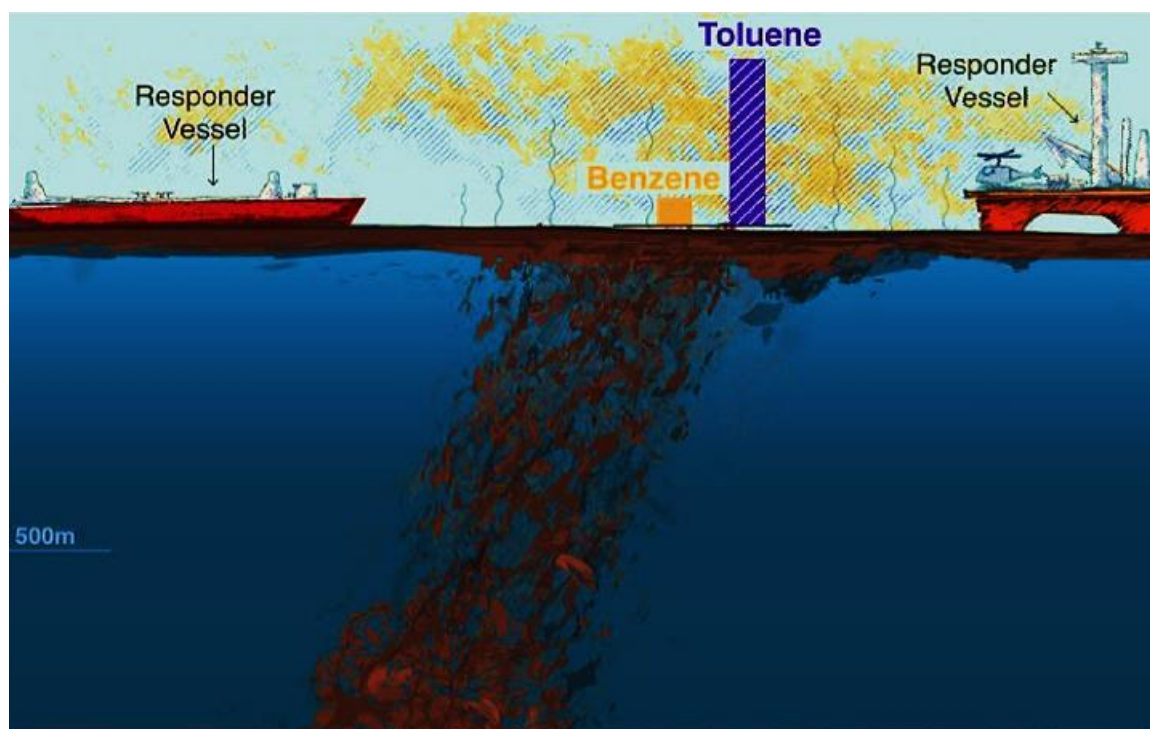


Fig. 1/ Representation of Oil spill in Gulf Of Mexico

This oil and gas company has a critical mistake on April 22, 2010, when BP recorded [6] the largest oil spill in the world. About 50 miles on the coast of Louisiana there was an explosion on the Trans oceans Deepwater Horizon oil rig. The oil rig was producing around [10] 336,000 gallons of oil a day and was carrying around 700,000 gallons oil when the explosion happened.

Offshore drilling is a tricky thing because of the water and the pressure elements that the company has to face. They have to connect the drill site to a [8] platform with a subsea drilling area. This is known as drill sting which is made up of multiple 30 foot drill pipes that screw together. On the platform there is a turn table the turn the drill sting into [3] the earth surface. The process occurs in phases which consist of drilling, metal piping called casing and blowout preventer which is where BP went wrong.

The explosion was followed by fire that engulfed the platform. The fire started at 9.56 am and at that time there were 126 crew members on board, 7 employees of

BP, 79 Transocean and employees of various other companies involved in the operation of the rig. After burning for more than a day, deep water horizon sank in the ocean on 22nd April 2010. The central cause of the explosion abroad the deep water horizon drilling rig was the failure of the cement at the base of about 18,000 feet deep well that was supposed to contain all the oil and gas within the well bore that lead to a cascade of human and mechanical errors that allow natural gas under tremendous pressure to shoot onto the drilling platform causing an explosion and the oil spill that took 87 days to get under control. It was the methane bubble that escaped from the well drill column expanding very promptly as it blasted through several of the main seals that's when the explosion happened according to the rig worker BP did a lot of things wrong. They cut cost and placed profits over safety and by that they went with the cheaper design that saved them several million dollars but in return that cost them hundred billion dollars. They downplayed the size of the spill because they underestimated the size of the spill and it

made it seem like it wasn't a bigger problem as actually was. On site managers were pushed to pace up the production regardless of problems that were occurring as soon as it was discovered that the critical rubber gasket have been damaged, immediate steps should have been taken to stop drilling and fix the safety equipment first BP is known for cutting corners just before the explosion occurred. They chose cheap design that was that was intended to save them money and they also violated several regulations and among them were violation of laws that require BP and its contractors to operate in safe manner to contain oil and gas for the protection of health and other environment and also conducting reliable test of well pressures to notify federal regulators of changes in drilling plans. Four weeks before the deadly explosion, a rubber piece gasket (safety equipment) was accidentally destroyed during the safety test.

BP struggled with its communication also. BP CEO Tony Hayward was initially slow to respond at any information that came from BP eventually determined by local and federal officials as being untrustworthy and lastly they have poor follow up plan in early stages of the leak rather than work with local officials. BP officials only acted on those things necessary in effort to contain the damage to their reputation rather than addressing their immediate needs of the Louisiana coastline.

Other Possible Decisions to Stop Oil Spill

While dealing with projects like Deep Water Horizon, the main [1] focus should be solutions for fixing the Oil leaks miles below the sea. This is where engineers can find their best chance to stop the leak. Some of the solutions are as follows.

- BP engineers must have deployed sea robots to those broken pipelines and tried to insert another tube at the point of leak and direct the oil back up the surface.

- BP could have also released chemical dispersants under the sea.
- BP could have also tired of putting 100 ton containment dump which can be called as TOP HAT. But it requires a lot of precision as it hat is supposed to hit the right spot else it might cause other leaks.
- BP could have also tried Junk Shot. Injection of shredded tyre noddled ropes or even golf box which can be mudded or cemented on the top of it. Moreover it can be ready and deployed in few days.
- BP could also have built relief wells 3.5 miles below the surface. It could clear about 85% of oil leaking from the pipeline.

Some of Possible Measures BP Could have Taken to Influence their Shareholders

- Decreasing oil price per barrel
- Selling more units at every containment
- Increase fixed cost utilization.
- Putting shareholders interest above BP's interest
- Governance that include care for every community in which BP operate
- Transparency in complete and accurate financial decisions

CONCLUSIONS

The disaster in the Gulf of Mexico was caused due the poor administration of British petroleum. The ethics of a businessman are only to make profits, so it's very important for BP to rise at the standards of industrialists to also maintain ethical policies towards environment .BP needs to focus on social responsibility and the benefits of environmental sustainability. BP needs to reduce risk, cut costs, increase revenues and create strong brands by building environmental thinking into their business strategies.

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