

Kate Porterfield
February 22, 2022

“Upper Big Branch Mine Disaster”

Introduction: The Upper Big Branch Mine disaster was an explosion within a Montreal, West Virginia coal mine on April 5, 2010. Of the 31 miners working the mine, 29 were killed in the explosion, making it the most fatal explosion since 1970 and spurred national scrutiny over coal mining practices, and an increase in funding for a re-hauling of safety practices [1].

Facts of the Case: An explosion occurred inside the Upper Big Branch Mine at 3:27pm, on April 5, 2010. The source of the explosion’s ignition was never determined, but high local methane levels were attributed as a major catalyst for the severity of the explosion. At the time of the explosion, 31 miners were in the blast zone during a shift change. 25 coal mine workers, all men, were killed in the initial explosion. [1] On April 9, 2010, four more missing men’s bodies were identified in the explosion site, bringing the total death count to 29 persons. Two causes of death were attributed: 1) Death caused by injuries endured during the blast, and 2) Death caused by the inhalation of toxic gases released by the blast.

Emergency crews dispatched in response to the explosion identified high levels of methane and carbon monoxide in their initial search, credited to a lack of proper ventilation systems within the mine. This caused significant delays in search efforts, as crews had to drain mine shafts of the toxic gases before entry through the creation of access road and three drill shafts of over 1,000 feet each [2,3].

At the time of the disaster, Upper Big Branch Mine was owned and operated by Massey Energy, a major coal company. In the wake of an independent investigation by and the Mine Safety and Health Administration (MSHA), Massey Energy was found at-fault for the accident, cited as having failed to meet basic safety standards that were outlined in the Mine Safety Act of 1977 on multiple occasions. The explosion cost Massey Energy \$210 million in damages, with \$46.5 million in criminal restitution to victims’ families, \$128 million to mine safety upgrades, and \$35 million in fines for federal mine safety violations [4].

Epidemiological Aspects of the Event: An independent investigation was conducted regarding the enforcement of safety standards by Massey Energy and MSHA that could have contributed to the blast. Because of the significant concentration of toxic gases in the mine, investigators were forced to wait an additional two months after the explosion to conduct their investigation. The investigation itself included physical examinations of the mine, regulatory documents, Upper Big Branch internal records, and interviews with more than 300 past and present mine employees, family members, and government mine regulators [5]. Mine leadership refused to be interviewed for the investigation, which serves as a source of bias due to withholding of potentially vital information.

Management of the Event: After the initial explosion, Boone County’s emergency response teams were dispatched. 20 ambulances and three helicopters reached the scene, with three identified and reachable miners evacuated from the scene [2]. As noted above, was during these initial search efforts that EMS teams reported high levels of toxic gases, which prompted a subsequent investigation into the mine’s overall safety protocols. While the EMS teams were timely in their response, it was the mine’s lack of regulation systems, including proper ventilation, that prohibited the execution of maximum response efforts and arguably led to a higher death toll. Furthermore, mine conditions were in such a disastrous state that EMS rescuers did not realize they had walked past the bodies of the, at the time, presumed missing four miners, who later brought the death count to 29 persons [4].

The overall response by government officials, miners families, and the general public centered on a heavy criticism of Massey Energy’s management of the mine, with the poor mine conditions and a toxic corporate culture that silenced those fighting for better working conditions cited as catalysts of the disaster. Massey Energy and some West Virginia politicians reacted to this criticism with ferocious denial, citing the criticism as an excuse for the perpetuation of a climate change-centered agenda at the expense of the coal companies. The aftermath of the Upper Big Branch disaster became undeniably political, with these pro-coal organizations and officials taking away from what was and is an urgent need to revamp mine safety operations — with little changes to mining practices seen since the disaster [2].

Communications: Communications surrounding the initial explosions largely came from West Virginia-based media outlets, including newspapers and local TV stations. As word of the event spread, national publications like the *New York Times* and *Washington Post* reported on the disaster, which spread awareness regarding mine safety and the culpability of Massey Energy and its then CEO, Don Blankenship [3]. Statements were made by then President Barack Obama and West Virginia Governor Joe Manchin, with specific offerings of state and federal assistance to manage the response. It can be argued that the politicization of coal in the US aided in spreading awareness of the disaster and its public health impact [2]. However, after settlement was finalized between Massey Energy and victims’ families, word of the disaster largely disappeared and it is rarely mentioned in recent articles surrounding US disasters, as found in researching for this report.

Summary: The Upper Big Branch Mine disaster is a heavy example of how important occupational safety is in reducing the chance of mass disasters, and in turn, aiding maximum response when response to disaster is necessary. The MSHA independent investigation sought financial reparations from Massey Energy to support both victims’ families as well as directly fund mining safety practices — arguably an impactful course of action that could be taken with the allocation of funds. While the explosion generated discussion of improving mine safety on a national level, research today concludes that this conversation did not lead to *significant* long term improvements in mining practices between the disaster and today.

Citations

1. McAteer et al. "Upper Big Branch : The April 5, 2010 explosion: a failure of basic coal mine safety practices : Report to the Governor." May, 2011.
2. U.S. Department of Labor – Mine Safety and Health Administration, 103(k) Order for Performance Coal Company Upper Big Branch Mine-South. April 5, 2010. Last updated, January 13, 2014.
3. Greg Bluestein & Vicki Smith. "Mine rescue effort turns to recovery". NBC News (April 10, 2010)
4. Walter, Laura. "Criminal Investigation of Upper Big Branch Mine Disaster Yields \$209 Million Settlement." EHS Today. December 6, 2011.
5. Urbina, Ian. "No Survivors Found After West Virginia Mine Disaster." April 9, 2010. [https:// www.nytimes.com/2010/04/10/us/10westvirginia.html?smid=url-share](https://www.nytimes.com/2010/04/10/us/10westvirginia.html?smid=url-share)