

Travis Brown

Group Image 1 Report

### **Diet Coke and Mentos**

The goal of this image was to capture the phenomena of the Diet Coke and Mentos reaction. Would the flow spill out of the bottle slowly or jet out instantly. Whether one Mentos being dropped into the bottle would have a greater reaction than 4 was also something I hoped to pick apart. With this, the image would work to gain an overall better understanding of exactly what is happening within the flow.

The apparatus in my image is a reaction between a 2 L bottle of Diet Coke and 4 Mentos dropped into it. The Diet Coke bottle was at room temperature during the time of the reaction. No shaking is necessary, just simply dropping the Mentos into a bottle of Diet Coke results in what you see in my image. Two previous experimentations had been done prior to this one, each tested with less Mentos. The cause of this reaction starts with the candy itself. The outer shell of the Mentos is covered with a large amount of microscopic pits. These pits allow a great deal of CO<sub>2</sub> bubbles to form. Once they form they need a place to go, this escape is the jet you are seeing (Discovery). The pressure of the reaction inside the bottle is forced out in huge laminar jet stream nearly 6 feet in the air. The bottle itself stood about a foot high so by comparing this to the stream we can approximate the jet reaching 6 feet.

In order to bring the visualization to life the key was lighting. Because we decided to shoot at night, we were forced to bring a fair amount of light to the scene. To do this, we placed two sets of work lights to the immediate sides of the Coke bottles. Throughout our several attempts, we repositioned the lights to get the perfect effect for the images.

My image was taken on a Canon Rebel XT<sub>i</sub> digital SLR camera. The field of view in my image is set to capture only what I thought was essential to the phenomena. In entirety the image covers about 3.5 feet in width and nearly 7 feet in height. When capturing the image I stood somewhere between 15-20 feet from the object. At the time of the capture, the focal length of my lens was set to 75. The exposure time of this picture is 1/30 of second. After the image capture, I then took it in to Photoshop for some minor post-production changes. I first removed some minor blemishes and splash streaks from the black areas of the image. Then, with some simple curve adjustments, I tweaked the color and contrast of the photo.

The image reveals the amazing phenomena of the Diet Coke and Mentos reaction. The tall laminar jet flow in the image gives viewers an idea of how immediate and forceful the reaction actually is. I think the image reveals a great deal but with a still image you will always miss some part of a process. Having said this, I think a high-speed camera's video capture of this reaction would capture the phenomena in its truest form.

Source

1. "Mythbusters: Diet Coke and Mentos MiniMyth." *Discovery Channel*. Web. 29 Apr. 2012. <<http://dsc.discovery.com/videos/mythbusters-diet-coke-and-mentos.html>>.



