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1 MS. WELLS: Hi. I'm Rachel Wells. I'm a senior at Washington University and I'm studying environmental science and I prepared the following statement. The equivalent of 2.3 million Hiroshima bombs is being stored in once place and will remain radioactive for over 10,000 years. The site must be geologically stable, but many questions still remain. One important concern is the possibility of a volcanic eruption. Yucca Mountain itself was formed by a violent series of eruptions 12 to 15 million years ago. The last violent eruption was 8.5 million years ago, but there have been small peaceful eruptions, the last one only 10,000 years ago. The two nearest volcanic cones are nine and 15 kilometers from the boundary of the waste emplacement area. Based on this information, many questions arise. Could a volcano erupt while the waste is still active? What would be the effects?

The area was assessed as low risk, but there has been an important study since then. Geologist Brian Wernicke and colleagues conducted a study using the Global Positioning System. Between 1991 and 1997 they used the GPS to measure crustal expansion between two different satellites on Yucca Mountain. This study produced results very different than the results from previous studies. According to previous studies, the distance between these two satellites should not have changed at all. However, the distance between these two satellites changed 1.7 millimeters, which is a small distance, but it still shows the movement of the Earth's crust in this area is much greater than previously thought, and accelerating. Wernicke suggested that the possibility of a volcano could be ten times higher than previously thought.

Because the measurement values were so small, this study does not provide conclusive proof, but it does raise many important questions. More research is needed to determine whether this new study is accurate. The evidence is consistent with the possibility of a magma pocket under Yucca Mountain. With this new evidence, the low-risk status is under question. If these findings are correct, there is a much greater chance of volcanic eruptions than previously thought. This raises important questions about the safety of our nuclear wastes. The Department of Energy is planning to send 70,000 tons of nuclear waste that will remain radioactive in Yucca Mountain for over 10,000 years. Before they do this, this study must be pursued further. The possible effects of a volcano through Yucca Mountain are too dangerous to ignore. We need to do more research about this possibility.

The Western Shoshone tribe that has a rightful claim to this land have another name for this land. They call it Serpent Swimming West. This could be a metaphor for magma swimming under Yucca Mountain. Along with the recent study, ancient wisdom speaks of the danger of radioactive waste at Yucca Mountain. Both ancient wisdom and recent studies are warning us to proceed with caution. If this study is proven correct, sending radioactive waste to Yucca Mountain is a dangerous choice. This study shows how much more research is needed before we could send waste to Yucca Mountain. Thank you.