The Mysterious Meteorite of Chalk Mountain, Texas

In May 2009 a meteorite impact was reported just thirty miles south of Fort Worth, Texas, but the mysterious object was of a very unusual composition for a meteorite. Had an impact occurred, it would have caused widespread devastation—yet nothing of the sort happened.

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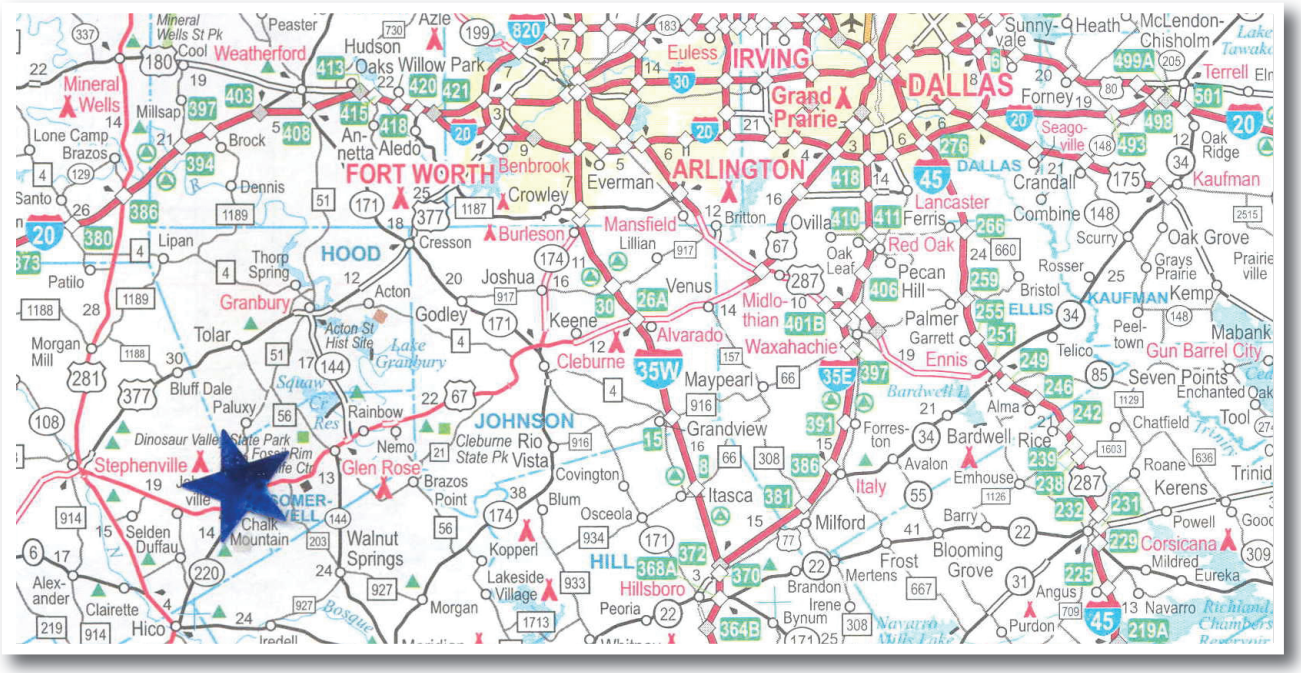
From my perspective, the event started to unfold at 8:20 AM CDT on May 18, 2009, when I received a phone call from Sue Stevens, the senior media relations officer at the University of Texas at Arlington (UTA). I'm an associate professor of physics and currently director of the astronomy program at the same institution. Arlington, well known as a sports and university city, is located in the center of the Dallas–Fort Worth metroplex. Stevens told me that she received an urgent phone call from Richard Ray, a reporter from a Fox TV affiliate, about a truly extraordinary event: a meteorite impact that occurred overnight, just south of Fort Worth. Richard Ray wanted to give me a call within the next few minutes, and he wanted to meet me at the impact site later that day.

Of course, I agreed. The reporter explained to me that the meteoric impact occurred close to Texas State Highway 67 at a location thirty miles south of Fort Worth, very close to the county line between the Erath and Somervell counties in the proximity of Chalk Mountain. In fact, this place is located at the northern outskirts of the Texas Hill Country, a geographical region of Central Texas four times the size of Connecticut. The Texas Hill Country is known for its vast diversity in botany and wildlife. Geological features include limestone and granite. It is noteworthy that the greater area of the alleged meteoric impact site is known for mysteries such as UFO sightings near Stephenville (January 8, 2008) and the



Overall setting of the meteoric site. Credit: Steve Hudgeons, Texas Mutual UFO Network (MUFON) lead investigator; forwarded by Richard Ray, Fox TV.

"Creation Evidence Museum" in Glen Rose. Some of the UFO sightings have meanwhile been attributed to night flights and flares dropped by US Air Force F-16s stationed at Fort Worth (see "The Stephenville Lights: What Actually Happened," SKEPTICAL INQUIRER, January/February 2009).

Visiting the Impact Site

Due to my work schedule, I decided to meet the television reporter at noon at the site of the alleged meteorite impact. I was accompanied by Aurelian Balan, the astronomy laboratory supervisor at UTA. At the site of impact, we met Corky Underwood, who owned the property. We also met Arthur J. Ehlmann, emeritus professor of geology at Texas Christian University (TCU), a leading expert in meteoric research, as well as the current curator of TCU's Oscar E. Monning Meteorite Gallery. There were a few other spectators as well.

The site of impact was quite amazing. The supposed meteorite was nearly round in shape and as big as a standard refrigerator. It was of a grayish-white color and did not show any signs of heat-related coating or disintegration. It was sitting near the end of a trench, and as a secondary feature it was sitting on a crater about three times the diameter of the meteorite. The trench itself seemed to indicate that the meteorite was partially sliding on the ground before coming to a complete stop. Corky Underwood also pointed to some trees in the background that had apparently been damaged by the incoming "meteorite." "These trees were perfectly all right before the meteorite hit," he said. The tracks on the ground as well as the smashed trees pointed to an extremely inclined meteoric trajectory.

My colleague Arthur Ehlmann chipped off a piece of the meteorite with his pocket knife. "This is limestone," he explained. "This can't be from outer space." Limestone is a sedimentary rock, one of the three major rock groups that form Earth's crust. It is composed mostly of calcium and magnesium carbonates and is formed via deposition in water. Limestone isn't found in meteorites.

Meteorite Origins

Meteorites are natural objects originating in outer space that survive impact with Earth's surface. Most meteorites derive from small astronomical objects called meteoroids, but they are also sometimes produced by impacts of asteroids, the large counterparts of meteoroids. When they enter the atmosphere, impact pressure causes the body to heat up and emit light. Meteorites have traditionally been divided into three broad categories: stony meteorites are rocks, mainly composed of silicate minerals; iron meteorites are largely composed of metallic iron-nickel; and stony-iron meteorites contain large amounts of both metallic and rocky material. Stony meteorites are by far the most abundant. Modern classification schemes divide meteorites into groups according to their structure, chemical

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Meteorite and crater. Credit: Steve Hudgeons, Texas Mutual UFO Network (MUFON) lead investigator; forwarded by Richard Ray, Fox TV

A piece of earth-moving equipment available from "RECS—Rental Equipment Contractor Supplies." The company's website identifies Elaine Underwood as owner and Corky Underwood as sales/operation manager.

and isotopic composition, and mineralogy.

Most meteoroids disintegrate significantly when entering Earth's atmosphere. If they hit the ground, the objects are known to arrive at their terminal velocity and typically create craters about ten times their size. Explosions, detonations, and rumblings are often heard during meteorite falls, which can be caused by sonic booms as well as shock waves resulting from major fragmentation events. These sounds can be heard over wide areas, up to many thousands of square miles. As meteoroids are heated during atmospheric entry, their surfaces melt and experience ablation. They can be sculpted into various shapes during this process. Obviously, all these features are in stark contrast to those of the meteorite encountered at Chalk Mountain.

The Meteorite in the News

The Chalk Mountain meteorite received significant news coverage, including from Fox TV. Although the Fox TV clip, which aired on the evening of May 18, 2009, was clearly skewed toward sensationalism, it was still technically correct because it stated that the so-called meteorite finding poses an unsolved mystery because its origin is still unknown. I also gave an interview to Whitney White-Ashley from a small local newspaper located at Glen Rose, the seat of Somervell County. Angelia Joiner later published an online article about the meteorite that tried to create the impression that there is chemical evidence that the rock is not from the immediate area. Joiner also quoted Steve Hudgeons, lead investigator of the Texas Mutual UFO network, who offered a calculation about the trajectory of the rock. At that time, the true origin of the meteorite was a mystery.

Conclusion

I received an unexpected and intriguing clue via email on May 20, 2009, from John Maroul of Benbrook, Texas, who had previously forwarded me a list of science questions about meteorites. His email read in part: "Look what Corky Underwood does for a living: Rents and sells heavy equipment that can carve limestone and dig trenches. Not saying he hoaxed this but it is more than suspect."

The solution to the meteorite mystery at Chalk Mountain turned out to be both trivial and embarrassing. John Maroul's email also pointed me to the website www.recsinc.com, which contains detailed information on renting out earth-moving equipment. According to the website, the company's equipment is able to handle dirt and all sizes of rock. Together with the overwhelming scientific evidence that the "meteorite" could not be from outer space due to its limestone composition and, additionally, would not have survived its path through Earth's atmosphere, this was the final piece of the puzzle. Problem solved—it was almost certainly a hoax.

For those of you who would like to find and visit the alleged site of the "meteorite impact," please be aware: the site is located on private property (indicated by a clearly visible sign), and most Texans, especially those in the Hill Country, own guns. There may be an admission fee. ■

Note

I later called the Fox News reporter to tell him my conclusion and the evidence on which it was based. Shortly after our phone conversation, the Fox News clip (which was about two minutes long) became unavailable.

References

Bennett, Jeffrey, and Seth Shostak. 2007. *Life in the Universe*, 2nd ed. Boston, Massachusetts: Addison-Wesley.

Comins, Neil F., and William J. Kaufmann III. 2008. *Discovering the Universe*, 8th ed. New York: W.H. Freeman and Co.

Creation Evidence Museum Online. Available online at http://www.creationevidence.org; accessed January 1, 2011.

Ehlmann, Arthur J. 2008. *The Oscar E. Monning Meteorite Collection Catalog*. Tucson, Arizona: Stanegate Press.

Joiner, Angelina. Mysterious crater and rock baffles all. Available online at http://www.angeliajoiner.com; accessed March 29, 2010.

"RECS—Rental Equipment Contractor Supplies." Accessed April 7, 2010; January 5, 2011. Available online at www.recsinc.com.

Seeds, Michael A. 2006. *Horizons: Exploring the Universe*. 9th ed. Belmont, California: Thomson Brooks/Cole.

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