

THE JUNE 13, 1998 PORTALES, NEW MEXICO METEORITE FALL AND STREWN FIELD. Hal Povenmire Florida Institute of Technology, 215 Osage Drive, Indian Harbour Beach, FL 32937 and Ivan "Skip" Wilson 457 S. Roosevelt Road, O Portales, New Mexico 88130

Abstract: The dimensions of the June 13, 1998, Portales, N. M. H6 meteorite strewn field are 12 by 2.5 km with an azimuth of 62°.

On Saturday morning, June 13 at approximately 7:32 AM M.D.T. (13:32 U.T.), a brilliant fireball exploded just south of Portales, New Mexico. This fireball was first sighted from near Happy, Texas by rancher, Ronnie Johnson. The fiery trail was estimated to have been visible for about 8 seconds. By remarkable coincidence, the end point of the fireball was almost directly over the house of veteran meteorite hunter, Ivan "Skip" Wilson. Since 1967, Skip Wilson has collected some 195 meteorites from Roosevelt County, New Mexico (1).

Skip was inside when he heard a double sonic boom followed by 6-8 popping sounds. When he stepped outside, he saw the gray, corkscrew shaped dust trail. He thought of a fireball, but at the same time heard a jet plane, so he was unsure. What he didn't know was not far away, his neighbor, Nelda Wallace had just sat down to drink her morning cup of coffee on her verandah. She heard a whistling sound and a 16.8 kg meteorite fell just 22 meters from her in her backyard. It was half buried in the dry, hard soil. The black fusion crust was easily visible and it was far too hot to handle (2). Even closer to skip, neighbor, Gale Newberry walked into his barn and saw daylight coming through a hole in the barn roof and a gash in the wall of the barn. A 530 g meteorite was found lodged in the wall. He called Skip and as soon as he heard the description, he knew that a major meteorite fall had occurred. Soon, there were reports of a 17.9 kg meteorite being recovered from the field of Elton Brown. Later, a 34 kg meteorite was found 1.5 km east and slightly north of these two. To date, about 100 kg of meteorites have been recovered but the total amount is estimated to be at least 150 kg.

While many of the meteorites fell in open fields, the hunting conditions were not easy. The

daytime temperatures were over 40°C and it was so dry the weeds were dying. Most of the meteorite hunters survived by wearing long sleeved shirts and then pouring 2 liters of water over themselves. This would keep them cool for a half hour and then they were bone dry again.

From the alignment of the recovered meteorites the azimuth of the strewn field was determined to be approximately 64.8° coming from the southwest. A peculiar aspect of this strewn field is that the bigger pieces would have been expected to have impacted at the end of the strewn field, instead they fell at the beginning.

Using the two referenced topographic maps, the exact locations of the known meteorite impact sites were recorded. This allowed the azimuth of the trajectory to be calculated. The southwestern most fragment was recovered at long. 103° 19' 41."0 W., lat. 34° 09' 15."0 N. The northeastern most fragment was recovered at long. 103° 12' 49."0 W, lat. 34° 12' 04."0 N. The distance between these find sites is 11.8 kilometers. The true length of the strewn field is probably 15 km (3) (4).

While the tentative classification is that of an H6, this fall appears to be composed of stony, stony-iron and iron meteorites. This is the only time when all three classes of meteorites are known to have fallen at the same time.

References: (1) Povenmire, H. (1998) The Unique Portales, N.M. Meteorite Fall of June 13, 1998 *Voyage Magazine* Vol. 2. No. 2. Sept. - Oct. p. 4. (2) Povenmire, H. (1998) New Mexico's Sky is Falling *Astronomy Magazine* Nov. pp. 30-32. (3) Wilson, I. S. (1998) Personal Communication (4) USGS 7.'5 Portales, N.M. (provisional) 1985 topographic map (5) USGS 7.'5 Arch N.W. N.M. (provisional) 1985 topographic map.