

Sputnik Chunk Contains Two Rare Minerals

MANITOWOC — Information received by John Muller, chairman of the local International Association of Machinists committee creating the Sputnik IV marker at North Eighth and Park streets, states that Smithsonian Astrophysical Observatory, Cambridge, Mass., found in the sputnik chunk "two minerals rarely found on earth."

Mrs. Ursual Marvin, a mineralogist, borrowed a piece of the slaggy fragment which plunged Sept. 5, 1962, into the street at the intersection, was discovered by Manitowoc Police Dept. and eventually confiscated by the U.S. Government. The 20½ pound piece of metal was offered to the Russians, who at first refused it, then accepted Jan. 5, 1963, at the Soviet Embassy in Washington, D. C.

X-raying the fragment in her laboratory at Harvard's University Museum, Mrs. Marvin found wustite on the first film. This black crystal made of iron and oxygen, is so unstable that when it occurs on earth, usually in steel smelting, it decays almost immediately. She had not suspected that the satellite would contain the rare metal.

"Lucky it appeared on my first film, because I probably wouldn't have made a second," Mrs. Marvin stated.

Further examination detected not only more wustite, but another unstable mineral, akaganite. Wondering if the minerals were space-caused, Mrs. Marvin looked for them in a fresh-fallen meteorite. She found wustite. Then she examined other, old meteorites, including the famous "Braunau" that has been in the museum 115 years. And, in every one she found one or the other of the minerals, but never both.

Explanation, Mrs. Marvin feels, is that when the satellite plunging into the upper atmosphere was heated sufficiently, its iron combined with oxygen to form wustite. As it cooled the crystals "froze" into a "metastable" form. The akaganite was also formed as it cooled.

More Questions

Mrs. Marvin does not know why only one or the other of the two minerals seem to occur in similarly heated and cooled meteorites.

"As usual in meteoritics," she concluded, "this new information raises more questions than it answers."

Clipper City Lodge No. 516, IAM, through the efforts of Muller, caused a marker to be placed at the spot where the 20½ pound piece of sputnik fragment imbedded itself in North

Eighth street. This project was completed Nov. 15, 1963. The bronze, circular ring has marked on its underside the following:

"Ring marks spot where piece of Russian Sputnik IV fell on Sept. 5, 1962. Sponsored by Lodge No. 516, International Association of Machinists, Walter Koepke, mayor."

A sign on the Rahr Civic Center and Museum lawn points out the marker.

A remarkable bit of "moon-watching" occurred with the disintegration of Sputnik IV, Muller has also been informed through Smithsonian Astrophysical Observatory.

Set 'Death Watch'

On the night of Tuesday, Sept. 4, 1962, Ed Halbach, a Moon-watch team leader, helped by Gale Highsmith, figured reentry time for Sputnik IV was close. They set the "death" watch, with team members Leonard Schaefer and Raymond Zit assigned to the Milwaukee Observatory, and Highsmith manning a hand-made theodolite on a hill near his house.

At 4:49 a.m. Wednesday, a scant nine minutes before predicted orbit plane zenith passage, the incredible happened. Highsmith saw just what he was looking for. Coming from the northwest was a bright reddish-orange star-like thing, which appeared to split into several pieces, exactly as a disintegrating satellite might behave.

The pieces moved southeast, along the predicted Sputnik path, and vanished. Schaefer and Zit saw much the same sight. So did Wisconsin policemen, farmers and other early risers all the way from Eagle River to Abrams. The discovery of the 20½ pound chunk at 5:30 a.m. by two Manitowoc policemen followed.

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