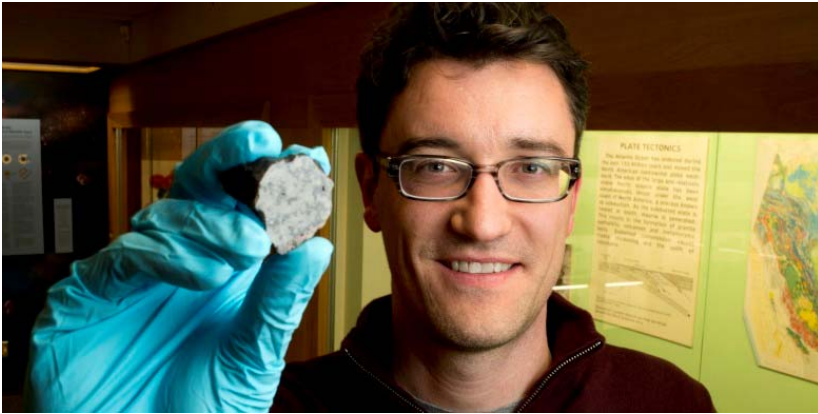


# EDMONTON JOURNAL

## Edmonton researcher's meteorite study shines a light on the red planet



EDMONTON - A University of Alberta researcher is unlocking some of the secrets of Mars by studying a meteorite that plummeted into the Moroccan desert 15 months ago after making a 225-million-kilometre journey from the red planet.

A science fiction buff and expert on Martian meteorites, Chris Herd says the volcanic rock was presumably launched about one million years ago when an asteroid crashed into that planet's surface. Shockwaves likely sent it into orbit, where it stayed until July 18, 2011, before thundering through the

sky and smashing to the ground. Villagers in Tissint, 48 kilometres away, witnessed the fireball as it hurtled through the atmosphere and rained pieces down.

The first Martian meteorite to reach Earth since 1962, it was recovered after only a few months — before it could be scarred by the weather.

“It is interesting because it is fresh,” says Herd, the co-author of a research paper that was released Thursday by the journal *Science*. “There is evidence of weathering, but it's not terrestrial, it's Martian.

“It is pretty consistent with other meteorites of this type: It's an igneous rock formed from lava from a volcano that erupted on the surface of Mars.”

A university research team in Edmonton led by Herd matched traces of gases found inside the meteorite with samples from Mars that were collected in 1976 by NASA's Viking 1 lander vehicle. They also found evidence of weathering from water on the surface of the planet from within the past few hundred million years, and cracks and fissures that were caused by the impact of the asteroid that launched it into outer space.

“I have studied 20 or 25 of these over the years, but this is the most interesting,” Herd says.

The cracks and fissures were sealed instantly by heat, trapping components of Mars' atmosphere inside, Herd says. Alas, the intense heat would have destroyed any water-borne life forms that may have existed deep within the cracks of the rock.

The son of geologist Richard Herd, who retired as curator of the natural meteorite collection in Ottawa, Herd feels fortunate to possess a small chunk of the meteorite weighing 58 grams. About 54,000 meteorites have been documented as landing on the Earth, only 62 of which came from Mars.

“When you think about all of the advances in science that have occurred since the last one landed in 1962, this offers us a remarkable opportunity,” he says. “It will be the basis for many papers published by many researchers after this.”

It is just an odd coincidence the Martian meteors crash to the ground about every half-century. Nothing spooky about it at all.

“It is not like there are Martians up there firing them down at us,” Herd says.

By Marty Klinkenberg, Edmonton Journal, October 11, 2012

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