

NWA 4931

I have priced these at \$75.00 per gram for the polished slices and can offer further discounts on the large fragment and end cut. If you are interested in any of these specimens, please email me Off-List. Thank you for considering these beautiful angrite specimens!

Here is my description of NWA 4931 with photo links of the coring and overall meteorite:

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NWA 4931, the Main Mass to the now famous angrite, NWA 2999. NWA 4931 has a Total Known Weight (TKW) of 2140 grams in two interlocking fragments, which form a complete stone. Surprisingly, the two parts were recovered by nomads months apart in the Sahara Desert in 2007. The first 1314-gram half was flown to Massachusetts Institute of Technology in Boston where scientists extracted a core sample in order to conduct magnetism tests, which they hoped would provide vital evidence indicating the size of the Angrite Parent Body (APB).

Image of 1314-gram stone representing 60% of entire mass (cube: 1-inch square):

<http://www.lunarrock.com/nwa4931/nwa4931complete1.jpg>

Link to image of core sampling at MIT laboratory:

<http://www.lunarrock.com/nwa4931/nwa4931core.jpg>

Image of 66-gram complete slice displaying abundant xenocrysts:

<http://www.lunarrock.com/nwa4931/nwa4931slice.jpg>

An international consortium of scientists, led by Dr. Benjamin Weiss of MIT, took a new approach to the problem by testing samples from several angrites with an extremely sensitive magnetometer. They discovered the material showed evidence of ancient magnetic fields similar to those of rocks formed on Earth within the planet's magnetic field. In other words, as the team reported in the October 31, 2008 issue of Science, these 4.56 billion-year-old meteorites once were part of bodies that were either big enough or hot enough to produce central, molten, metallic cores.

Link to LPSC abstract on magnetic field on Angrite Parent Body:

<http://www.lpi.usra.edu/meetings/lpsc2008/pdf/2143.pdf>

"The meteorites, therefore, are essentially magnetic recording tapes," says Weiss. The magnetic fields that they recorded were probably generated by molten metal swirling around inside the planet's core like a giant, rotating dynamo, as happens on Earth. Angrites are among the oldest known pristine basaltic meteorites ever found and have provided new clues about the conditions that existed at the beginning of the solar system, solving a longstanding mystery and overturning some accepted ideas about the way planets form. They still contain magnetic records about the earliest stages of planet formation and differentiation.

ScienceNOW Daily News: October 30, 2008:

<http://sciencenow.sciencemag.org/cgi/content/full/2008/1030/2>

Science October 31, 2008:

<http://www.sciencemag.org/cgi/content/abstract/322/5902/713>

Link to abstract reporting ages of angrites NWA 2999, NWA 4801 and NWA 4590

"Tamassint":

<http://www.lpi.usra.edu/meetings/metchron2007/pdf/4061.pdf>

BSE image of corona textures in NWA 4931.