

Meteorites Object Cart – Updated 3/14/2017

Object name, ID#, and description
<p>PG-2441 <u>Coarse Octahedrite</u> Nickel-Iron Meteorite fragment Black Oriented: note thumb print regmaglypts Witnessed Fall, 12 Feb., 1947. Sikhote-Alin, Siberia North of Vladivostok, Russia <i>Several of these meteorites are found in a "strewn field," or elliptical fall out from a break up of a larger body. This meteorite has melting and holes on one surface, from the intense heat caused by friction with Earth's atmosphere. How hot does it have to be to melt iron? Iron meteorites are thought to be remnants of the cores of other bodies in the early solar system. This fall was witnessed 12 February 1947. Look also for "thumb prints" and "flow lines."</i></p>
<p>PG-2440 <u>Ordinary Chondrite (r:c)</u> Cast Replica of Stony Meteorite Red, black Oriented: note ablation surface. Adamana, Near Holbrook, Arizona <i>The original specimen was collected from a landfill near Holbrook, Arizona in 1995. This is a cast replica from the Robert Haag Collection. Green Touch. Notice the meteorite's surface. Flow lines and ablation pits give us a near-perfect orientation of how this object traveled through the atmosphere.</i></p>
<p>PG-2439 <u>CV3 Carbonaceous Chondrite</u> Stony Meteorite (Aerolite) Black and Gray <i>Old: note light colored chondrules, 4.6 Byr. Also: note fusion crust. Witnessed Fall, 1969. Allende, Mexico</i> Collected near the town of Allende, Mexico, from a witnessed fall in 1969. Green Touch Look for the "chondrules" or spheres that show up as light circles on the cut surface. These are among the oldest known pieces of the universe, originating in stellar clouds and predating the formation of the Sun and the Earth.</p>
<p>PG-2321 <u>Beaverhead Shattercone 500-1000 million years ago</u> Metamorphic; gray, black, red <i>Beaverhead County, Montana</i> Caused by the shock of a meteorite impact and usually found near the center of large impact structures.</p>
<p>PG-2458 <u>Hematite</u> "Meteorwrong" Black Originally cataloged in 1985 as Meteorite. Hematite is an iron ore. Look for differences with the actual specimens on the cart. <i>This specimen was actually identified and cataloged into the Museum's collections in 1985 as a meteorite. While iron-brown and pitted, it lacks many of the key characteristics we use to identify meteorites. Weight, fusion crust, thumbnail pits, flow lines, shiny metal interior, and magnetism are some of these characteristics. It is actually a piece of hematite, an iron ore.</i></p>
<p>PG-2456; <u>Pallasite</u> Stony Iron Meteorite cross-section Olivine; gray, brown; Argentina; South America Metal is Nickel-Iron with Widmanstätten Pattern. Yellow Crystals are Olivine, Green Touch The stony iron meteorites are thought to come from remnants of parent bodies in the early solar system. These meteorites represent the zone where the core and mantle intersect, and this is shown by the olivine crystals "embedded" in the iron matrix. Note the lines on the iron. These are Widmanstätten Lines, and show up when nickel-iron meteorites are cut, polished, and etched in acid.</p>
<p>PG-2187 H3-6 <u>Chondrite</u> Stony Meteorite Olivine, Pyroxene; gray, brown Originating from Magma or Regolith Breccia. Fusion Crust on outside; Iron visible inside mountainside near Zag, Morocco Collected from a mountain outside the town of Zag, Morocco. Green Touch These meteorites most likely represent near-surface magma from a parent body and so may be thought of as a regolith breccia, or coming from the "crust." Speaking of crust, note the black burnt surface on this specimen. This is known as the fusion crust, a tell tale marker of its flight through the atmosphere.</p>

PG-2523 Indochinite Tektite

Black

Glass from meteorite impact. Thrown on ballistic trajectory into space. Thailand

PG-2283 Brecciated Impact Rock

Black 'Opanine' with various minerals

From Mega Breccia Partial Melt Zone. Sudbury Impact Structure. Age of impact 1.85 Byr. Sudbury, Ontario, Canada
Collected from Sudbury, Ontario, Canada. Sudbury was the site of a very large Nickel Ore mine. Some think that this might be a very large crater left by an impacting meteorite. Although there is no direct evidence (a large meteorite has not yet been found here), the rocks found at Sudbury suggest a crater. This breccia, or broken rock, rests in a glassy matrix. Very large crater forming meteorites often will melt sediments inside the crater, due to the enormous energies being released. Some times this glass is ejected into the stratosphere, raining back as tektites; other times the glass stays in the crater, flowing into pools and becoming embedded with smashed up bits of native rock. This specimen is known as "black onapine." Yellow Code--careful one-finger touch only, please.

PS-0042 Asteroid 216 Kleopatra

Stereolithographic Scale Replica

Kleopatra is almost 135 miles long

This is a stereolithographic scale replica based on radar images of this asteroid. Its three dimensional character comes from different radar angles; these digital images are processed in a computer and a 3D scale model is produced. Details including surface features and textures come from data from spacecraft such as NEAR-Shoemaker (Dec. 2001) and others. Kleopatra's actual size is 134.8x58.4x50.3 miles (217x94x81 kilometers), or roughly the size of the state of New Jersey (or the distance from Ft. Collins to Colorado Springs--basically the whole front range!).

PS-0040 Asteroid 433"Eros"

Stereolithographic Scale Replica

Eros is about 21 miles long

This is a stereolithographic scale replica based on radar images of this asteroid. Its three dimensional character comes from different radar angles; these digital images are processed in a computer and a 3D scale model is produced. Details including surface features and textures come from data from spacecraft such as NEAR-Shoemaker (Dec. 2001) and others. Eros is an near-Earth asteroid 21 miles in length (basically would cover Denver). The surface coloring is due to a covering of regolith ("dirt" here on Earth). Eros is thought to be made primarily of chondrites. Near-Earth and Asteroid Belt asteroids are the primary, though not only, source of the meteorites (and craters) found here on Earth.

PG-1927 Shergottite

Stony Meteorite (Eucrite, Achondrite)

Martian Meteorite. Volcanic: Pyroxene (Augite, Pigeonite). Witnessed Fall, 3 Oct. 1962. Zagami, Katsina Province, Nigeria

PG-1520 Octahedrite – Canyon Diablo Meteorite

Meteorite, Nickel Iron. 50,000 years ago

Black

Barrington Crater (Meteor crater)

Arizona; United States; North and Central America

PG-1542; K-T Boundary clay sedimentary

Brown, black, red, orange

One side polished. On polished side the clay Iridium layer is gray.

The top side (Tertiary) of the sample can be determined by the location of the collections catalogue number. When looking at the sample, position it so that the catalogue number is in the upper left corner. The numbers will be upside down but the sample will be right side up. When positioned correctly in the Riker the Tertiary (most recent) side is on top and the Cretaceous side is below.

New Mexico; United States; North and Central America



When counting, please ensure that there are:

11 individual items + 2 items on a single holder, with Education Collection slips for any missing items. Also check for magnet and magnifying glass!