

CATALOG OF METEORITES SPECIAL EDITION Vol. 6

ROBERT A. HAAG METEORITES, P.O. BOX 27527, TUCSON, AZ 85726 USA
TELEPHONE (602)882-8804 TELEEX: 497-3594 ZEES

Keep!

IRON METEORITES



CANYON DIABLO, ARIZONA USA

COARSE OCTAHEDRITE IA 100 kg. LARGE BOWL-SHAPED SPECIMEN FROM ARIZONA'S METEORITE CRATER NEAR FLAGSTAFF.



HENBURY, CENTRAL AUSTRALIA

MEDIUM OCTAHEDRITE IIIA 30 kg. PERFECTLY ORIENTED SPECIMEN. SHOWS EXCELLENT SURFACE PITTING AND "THUMBPRINTS" DUE TO HIGH SPEED ABLATION DURING ENTRY.



CAMPO DEL CIELO, ARGENTINA

COARSE OCTAHEDRITE IA 62 kg. THIS SPECIMEN HAS BEEN WIRE BRUSHED CLEAN TO REMOVE A THICK OXIDE SHELL, REVEALING AN EXCELLENT PITTED SURFACE INSIDE.



KHOTE-ALIN, USSR

COARSEST OCTAHEDRITE IIB 755 grams. THIS SPECIMEN IS PART OF THE LARGEST METEORITE FALL IN RECENT HISTORY TOTALING OVER 23000 kg. NOTE JAGGED TWISTED SHAPE.



MUNDRABILLA, WEST AUSTRALIA

MEDIUM OCTAHEDRITE (IRANOM) 70 kg. THIS VERY UNUSUAL METEORITE IS COVERED WITH DIME SIZE HOLES — WEATHERED OUT IN TIME. FOUND ON THE NULLARBOR PLAIN.



CANYON DIABLO, ARIZONA USA

COARSE OCTAHEDRITE IA 3 kg. NATURAL AS FOUND RIM SPECIMEN WITH RUSTY OUTSIDE APPEARANCE AND A SMALL HOLE PIERCING THE UPPER EDGE.



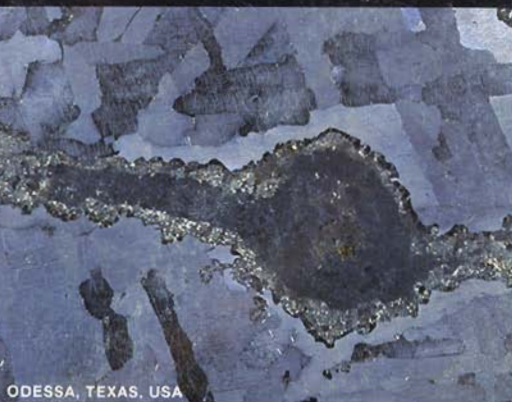
IBEBON, NAMIBIA AFRICA

FINE OCTAHEDRITE IVA 2.497 g. THIS SPECIMEN HAS BEEN CUT AND POLISHED, THEN ETCHED TO REVEAL A UNIQUE WIDMANSTATTEN PATTERN.



ODESSA, TEXAS USA

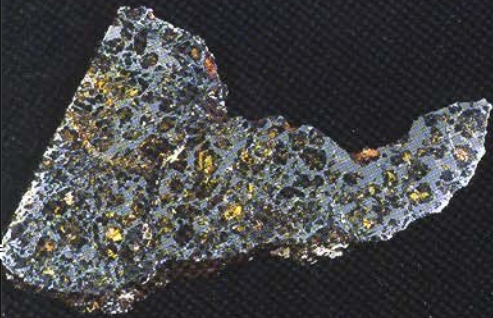
COARSE OCTAHEDRITE IA 2 kg. THIS ETCHED END PIECE IS FULL OF TYPICAL INCLUSIONS WITHIN IRON METEORITES. COARSE WIDMANSTATTEN PATTERN IS CLEARLY VISIBLE.



ODESSA, TEXAS, USA

CLOSE UP PHOTOGRAPH OF AN ODESSA INCLUSION MADE UP OF GRAPHITE, TROLITE AND RIM OF SCHREIBERITE. NOTE A SINGLE SILICATE OLIVINE INCLUSION.

STONY-IRON METEORITES — PALLASITES AND MESOSIDERITES



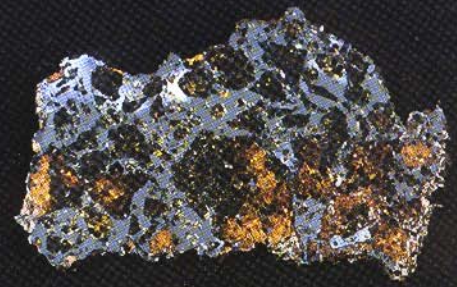
ALBIN, WYOMING USA

STONY IRON PALLASITE 740 grams slice. THIS METEORITE WAS FOUND IN 1915 AND RECOGNIZED AS A METEORITE TWENTY YEARS LATER. THE PERIDOT-OLIVINE CRYSTALS ARE VERY CLEAR AND BROKEN UP THROUGHOUT THE MASS.



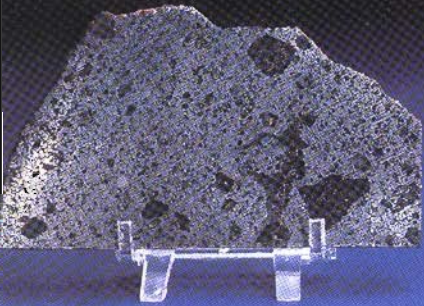
ESTERVILLE, IOWA USA

STONY IRON MESOSIDERITE, FELL MAY 10, 1879. 818 grams. END PIECE. THE METAL AND SILICATE PORTIONS OF THIS METEORITE ARE JUST SLIGHTLY MIXED TOGETHER. COMPARE THIS TO EMERY BELOW.



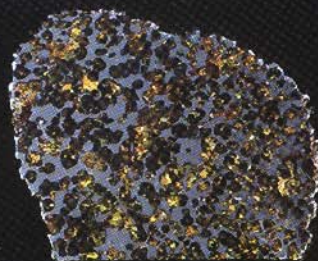
DURANGO STATE, MEXICO

TEMPORARY NAME STONY IRON PALLASITE 3.5 kg. THIS IS THE END PIECE FROM A SINGLE 8 kg. STONE JUST FOUND IN MARCH 1986. NOTE THE LARGE PERIDOT CRYSTALS.



EMERY, SOUTH DAKOTA USA

STONY IRON MESOSIDERITE 211 grams slice. THE METAL AND SILICATES HAVE BEEN BROKEN AND SMASHED TOGETHER, MIXED DUE TO COLLISIONS IN SPACE.



SPRINGWATER, SASK. CANADA

STONY IRON PALLASITE 357 gram slice. THE PERIDOT OLIVINE CRYSTALS ARE IN SMALL FOUND "BUBBLES" THROUGHOUT THE NICKEL IRON MATRIX. A VERY BEAUTIFUL METEORITE.



BRENHAM, KANSAS USA

STONY-IRON PALLASITE 35 kg. THIS LARGE END PIECE IS FROM A 150 kg. METEORITE. THE OLIVINE CRYSTALS ARE ALSO UNBROKEN LIKE SPRINGWATER, ONLY LARGER.



HUCKITTA, AUSTRALIA

STONY IRON PALLASITE 500 g. ALL OF THE METAL NICKEL IRON HAS WEATHERED AWAY TO HEMATITE AND MAGNETITE. THE OLIVINE CRYSTALS REMAIN INTACT.



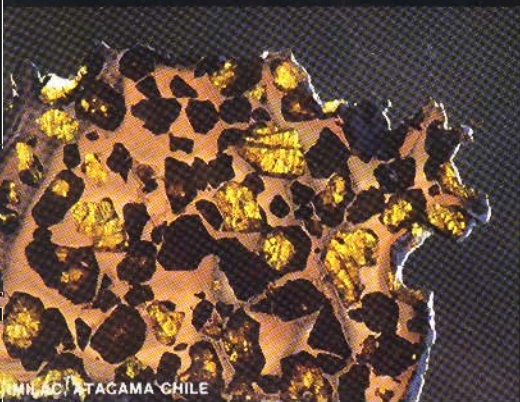
VACA MUERTA, ATACAMA, CHILE

STONY IRON MESOSIDERITE 2310 g. NOTE THE DEGREE OF WEATHERING ON THE SURFACE. A EUCRITE LIKE PEBBLE 5 cm ACROSS CAN BE SEEN CLEARLY IN THE UPPER LEFT.



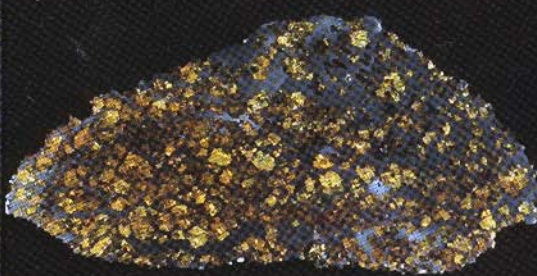
VACA MUERTA, ATACAMA CHILE

STONY-IRON MESOSIDERITE. THIS CUT AND POLISHED FACE BETTER SHOWS THE UNUSUAL NATURE OF MESOSIDERITES. NOTE THE EUCRITE LIKE PEBBLE.



IMILAC, ATACAMA CHILE

STONY IRON PALLASITE 200 g. slice. THE BRIGHT YELLOW PERIDOT CRYSTALS MAKE THIS THE MOST BEAUTIFUL METEORITE IN THE WORLD. PHOTO BY WARREN KRUPSAW



IMILAC, CHILE

PALLASITE 1 kg. IN THIS SLICE THE OLIVINE PERIDOT CRYSTALS ARE VERY LARGE AND CONCENTRATED ON THE BOTTOM HALF, THINNING OUT AS YOU MOVE UPWARD.



IMILAC, CHILE

STONY IRON PALLASITE 500 g. A BRIGHT FLASH OF LIGHT BEHIND A THINLY CUT SLICE BRINGS THE YELLOW CRYSTAL TO LIFE. HELD BY THE AUTHOR.

CATALOG UPDATE

March, 1987

Dear Collector,

Due to our constantly changing inventory we've printed this all new color insert to update our last catalog. This is now Volume 7, March, 1987. There have been several changes. Some specimens have sold out and we've added four new meteorites, one of those being a rare eucrite achondrite.

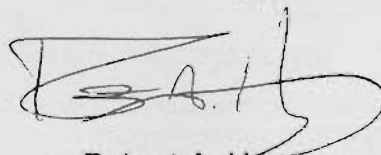
There is a lot happening with meteorites, my business has grown and so has my collection. We now have a Telex machine for faster international service, and for your convenience we now take the American Express card. Due to a quickly growing market, meteorite specimens are being hunted and collected in many locations throughout the world. I will always try to stay on top of it, and keep this catalog as up-to-date as possible.

During the year I receive hundreds of requests for more information on how to recognize meteorites. These new photographs should help.

I've selected the best specimens from my personal collection to use as examples from the three main groups: stones, stony irons and iron meteorites. Pictured are good examples of both freshly fallen meteorites with the burnt black crust and older weathered meteorites that fell thousands of years ago. Time and the elements have changed their crust to a dark brown, rusty color. I've also cut and polished several specimens to reveal the beauty and diversity within each group to help you get a better idea of what a typical meteorite looks like inside. Study these textures and surface features. The key to recognizing a meteorite in the field is mostly recognizing old fusion crust and the presence of *metal*.

Good Hunting!

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Haag', with a large, sweeping flourish extending to the right.

Robert A. Haag
The Meteorite Man

ROBERT A. HAAG METEORITES, P.O. BOX 27527, TUCSON, AZ USA 85726
Telephone (602) 882-8804 Telex 497-3594 ZEES UI

IRON METEORITES

Coarse Octahedrites

(Differentiated Meteorite) Iron Meteorites consist of about 90% iron and 10% nickel. Ranging in size from a few grams to many tons.

CANYON DIABLO, METEOR CRATER, ARIZONA U.S.A.

About 30,000 years ago (age estimates vary greatly!) a giant meteor hit the dry Arizona desert at incredible speed (30,000 M.P.H.). The resulting blast (20 megaton) vaporized most of the meteorite and created a crater nearly 4,000' across and 800' deep. Surviving fragments were thrown as far as 11 miles. It is those specimens we offer. (* Canyon Diablo is our most popular meteorite. Traces of platinum [1/3 oz. per ton] and tiny black diamonds have been discovered in this "gem from outerspace.") * See photos. 454 grams = 1 pound. (All specimens have been wire brushed clean.)

<i>Weight</i>	<i>Description</i>	<i>Size</i>	<i>Price</i>
1) 32 grams		20 mm x 20 mm x 15 mm	\$10.00
2) 50 grams		25 mm x 20 mm x 17 mm	15.00
3) 75 grams		30 mm x 30 mm x 25 mm	20.00
4) 100-150 g.		35 mm x 30 mm x 25 mm	30.00
5) 150-200 g.		40 mm x 35 mm x 30 mm	45.00
6) 200-250 g.		45 mm x 35 mm x 30 mm	55.00
7) 300-350 g.		50 mm x 45 mm x 40 mm	75.00
8) 350-800 g.		60 mm x 50 mm x 40 mm	100.00
9) 500-600 g.		80 mm x 60 mm x 40 mm	125.00
10) 760 grams	Very unique specimen that stands up, many depressions		150.00
11) 955 grams	This specimen has legs and several deep cavities		200.00
12) 1307 grams	This is a pitted specimen in a "star" shape		270.00
13) 2100 grams	Only one like this; looks great, both sides		350.00
14) 2600 grams	A long, tall and thin specimen	160 mm x 130 mm x 60 mm	450.00
15) 3500 grams	This piece has lots of cavities and character		650.00
16) 4900 grams	One of my nicest looking meteorites, deep holes		850.00
17) 6500 grams	Another excellent display specimen		1,200.00
18) 15,000 grams	My very best specimen. Very attractive. You won't be disappointed.		2500.00

GRAPHITE NODULE, CANYON DIABLO, AZ

Sometimes very rare graphite nodules have been discovered near the Winslow Crater surviving the incredible blast intact. These exhibit beautiful ribbons of Kamacite in a jet black matrix of carbon (*see Mason's book).

25 gram slice	\$50.00	100 gram specimen	200.00
50 gram end piece	100.00	200 gram end piece	350.00

TUMBLE POLISH IRONS — CANYON DIABLO, AZ

Beautifully polished iron specimens. Very nice looking and nice to hold.

100 gram specimen	\$50.00	200 grams	\$100.00
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ODESSA, TEXAS, U.S.A.

A single impact crater 600' across was discovered in 1923 rising out of the Texas plain only a few miles southwest of Odessa. This iron meteorite is also a coarse octahedrite and is very similar to Canyon Diablo. Many thousands of small fragments have been collected over the years, the largest being 130 kg. I recently purchased an entire collection of meteorites from a man who had been collecting them since the 1960s. I am pleased to offer these excellent specimens.

ODESSA — ETCHED SLICES

1) Part slices — one edge crust, 40 grams	40 mm x 30 mm x 5 mm	\$40.00
2) ¼ slices — ½ crust, ½ cut edge, 100 grams	65 mm x 35 mm x 6 mm	100.00
3) ½ slices — very good patterns, 200 grams	75 mm x 75 mm x 6 mm	200.00
4) Complete large slices, 400 grams	150 mm x 100 mm x 6 mm	350.00

End pieces are available from \$100 to \$500.

IRON METEORITES (cont.) Medium Octahedrites

Mundrabilla, West Australia, Australia — Discovered 1966

These are the most unusual shaped meteorites I have ever seen. Most specimens have holes and large depressions. They come in wild shapes, twisted beautiful masses. These specimens are left with the original rusted oxide surface as found. Discovered by a prospector on the Nullarbor plain. *See photo.

<i>Weight</i>	<i>Description</i>	<i>Price</i>
1) 61 grams	Long hook shaped piece	\$35.00
2) 88 grams	Round specimen with a large cavity, several points	50.00
3) 120 grams	Nice specimen for beginning collector of exotic iron	65.00
4) 188 grams	Beautiful specimen, seems like it was bent around something	90.00
5) 254 grams	A nice specimen that is sort of splitting into two complete specimens	125.00
6) 282 grams	Tall specimen that stands up like a cobra	160.00
7) 383 grams	Two long masses joined together, like a camel kneeling	200.00
8) 425 grams	Specimen. Very nice shape with holes and legs that stands up and makes an excellent display piece	250.00

**I also have several cut, polished and etched small end pieces for \$40.00 each.*

Toluca, Mexico State, Mexico

These iron meteorites have been used by the local people for centuries, being made into axes, anvils, spades and other tools. Specimens are still being located after heavy rains or when another side of a mountain is cleared and plowed for corn. I have specimens from 1 kilo to 30 kilo sizes that I can get on special arrangement from a Mexico City Collector. *Call on supply. I am working on some slices again but the prices in Mexico have tripled.

Campo Del Cielo, Gran Chaco Gualamba, Argentina (Coarse Octahedrite)

On my last trip to South America I spent nearly a week hunting and buying specimens in this very famous strewn field. The area is unbelievably desolate and coupled with very nasty thorn bushes and cactus. There are over 10 impact craters in the strewn field that was mapped out by William Cassidy in the 1960s. A single 33,400 kg. specimen was found beneath crater #10 at a depth of over four meters!

I have only ten specimens that weigh from 500 grams to 6000 grams and I also have several slices available from one specimen we cut up and etched. *Call and check this one*

Henbury, Central Australia, Australia — Discovered 1931

Thirteen craters were discovered within an area of about a quarter of a square mile, the largest being nearly 700' across.

10 grams	24 mm x 8 mm x 8 mm	\$10.00
20 grams	34 mm x 20 mm x 10 mm	20.00

Boxhole, Plenty River, Central Australia — Discovered 1937

This iron meteorite looks very similar to Henbury, only a different locality. Weathered exterior as found.

1) 4 grams	\$3.00
2) 8 grams	6.00
3) 15 grams	12.00

STONE METEORITES: CARBONACEOUS CHONDRITES/ACHONDRITES FALLS

(Undifferentiated) Composed of chondrules, aggregates and a fine grained, volatile-rich matrix. The most primitive of all chondrites.

Allende, Chihuahua, Mexico CV3

Fell Saturday morning, February 8,th, 1969, approaching from the S-SW. The Allende fall was the largest recorded stony meteorite fall in its aerial extent (200km²) and total weight recovered. Source: Smithsonian Publication, 1970#5.

*New discoveries have recently found interstellar grains (star dust!) inside the Allende and Murchison carbonaceous chondrites. The isotopic anomaly of heavy carbon 13 are believed to have formed during a supernova/red giant star that exploded in this area of the galaxy *before* our solar system condensed to form the sun and the planets. The carbonaceous chondrites also condensed at this time, trapping these interstellar grains inside, remaining virtually unchanged for about 4.6 *billion* years.

1) 22 grams	30 mm x 20 mm x 20 mm	30% crust	\$80.00
2) 41 grams	30 mm x 30 mm x 25 mm	75% crust	150.00
3) 238 grams	45 mm x 35 mm x 50 mm	70% crust	750.00
4) 435 grams	50 mm x 75 mm x 55 mm	40% crust	1400.00
5) 938 grams	70 mm x 60 mm x 120 mm	50% crust	3000.00

B) Slices

I have several 1/2 stones (called end pieces) that are excellent collector pieces because they show both the black fusion crust on the outside and a nice cut and polished face on the inside. Exhibits good chondrules and C.A.I.

1) 4 gram slice	2 mm x 20 mm x 20 mm	\$20.00
2) 14 gram slice	3 mm x 40 mm x 35 mm	60.00
3) 20 gram slice	5 mm x 50 mm x 35 mm	100.00

Murchison, Victoria, Australia CM2

This rare meteorite fell on Sept. 28, 1969 (same year as Allende) complete with interstellar grains and one more incredible discovery. *Organic* compounds in the form of amino acids were found inside this unique meteorite. Cytosines, adenine, thymine, guanine, and uracil (all molecules of hydrogen, carbon, nitrogen and oxygen) were discovered by Dr. Cyril Ponnamperna in his laboratory at the University of Maryland in the Murchison meteorite. The same five chemical bases of human genes were all synthesized in a single laboratory experiment designed to show how they might have formed in the primitive conditions of earth billions of years ago. Life on earth may have arisen by natural chemical processes, and may have done so elsewhere in the universe.

*These are fragile specimens, expensive and they even have a peculiar smell to them, but these are unique! Did the building blocks of life form in the harsh frigid environment of space? Could they have "seeded" life on earth? *See photo.

<i>Weight</i>	<i>Description</i>	<i>Price</i>
2.5 grams	fragment with crust	\$50.00
9.2 grams	fragment with 40% crust	200.00
22 grams	end piece 100% crust 33 mm x 28 mm x 24 mm	500.00
40 gram	complete stone 95% crust 43 mm x 40 mm x 24 mm	1,000.00

*Some fragments are still around from an older fractured specimen at \$20/gram.

CAMEL DONGA, WEST AUSTRALIA EUCRITE ACHONDRITE

The Camel Donga eucrite was discovered in 1985. It was recognized by its glossy black fusion crust of calcium rich achondrites. Only 8 kilos were recovered of this rare meteorite. It was first investigated by Brian Mason of the Smithsonian Institute in Australia. Later investigations recovered these additional specimens by a local collector. The meteorite is very metal-rich—unusual for a eucrite. It was first thought to be a howardite, also rare. No one knows exactly when it fell but it is in an excellent state of preservation. See photo.

5 gram fragment, no crust	\$100.00
10 gram fragment, no crust	200.00
65 gram sliced chunk with crust	1,200.00
74 gram complete 100% crust stone	1,400.00
189 gram complete stone 100% crust	3,600.00

STONE METEORITES FALLS ORDINARY CHONDRITES

Nuevo Mercurio, Zacatecas, Mexico (H5)

On Dec. 15, 1978 a bright fireball, visible over a radius of at least 200 km exploded and rained hundreds of small stony meteorites over an area 10 km in length. Total weight recovered was about 10 kg. (Source: Meteoritics, Vol. 15, #1, 1980).

* These are perfect complete little black stones with excellent fusion crust. Some specimens have a small broken area which shows the lighter colored matrix inside. These are typical of a meteorite shower where stones "pepper" a town. * See photo.

<i>Weight</i>	<i>100% crust</i>	<i>75% crust</i>	<i>50% crust</i>
1) 1 to 2 gram perfect specimens	\$10.00	\$8.00	\$6.00
2) 2 to 4 grams	20.00	15.00	10.00
3) 4 to 7 grams	30.00	20.00	15.00
4) 7 to 10 grams	40.00	30.00	25.00
5) 10 to 15 grams	50.00		
6) 47 gram complete 100% specimen 40 mm x, 25 mm x 25 mm	200.00		

La Criolla, Entre Rios Provence, Argentina (L6)

This beautiful fresh new meteorite fell on January 6th, 1985 at 6:20 p.m. local time. Detonations were heard under the fireball's path and a blueish black smoke remained in the air for about 20 minutes. One specimen went through the thatched roof of a woman's house, landing on the kitchen table. She became very frightened, thinking a bomb had fallen off a passing aircraft. The total fall was about 35 kilos and the largest specimen was 7000 grams. I've spent two months in the area since the summer of '85, hunting and buying specimens.

Complete Stones

22 gram stone	100% crust	25 mm x 25 mm x 20 mm	80.00
39 gram stone	100% crust	40 mm x 35 mm x 20 mm	150.00
52 gram stone	70% crust	40 mm x 35 mm x 25 mm	200.00
80 gram stone	90% crust	40 mm x 40 mm x 35 mm	300.00
193 gram stone	95% crust	60 mm x 40 mm x 40 mm	650.00
258 gram stone	95% crust	55 mm x 55 mm x 50 mm	800.00

End Pieces:

37 gram end piece		40 mm x 30 mm x 20 mm	150.00
63 gram end piece		55 mm x 35 mm x 25 mm	250.00

Holbrook, Arizona, U.S.A. (L6)

On July 19, 1912, at a small railroad station just east of Holbrook a rain of tiny stones fell, hitting a small boy and kicking up dust and lots of excitement. 16,000 stones were later collected and distributed to collections all over the world—a very famous and well known fall. I only have about 30 specimens that weigh up to 5 grams. Most are in excellent shape with 75-90% fusion crust. *Looks like Nuevo Mercurio stones.

½ to 2 gram size are \$20.00

STONE METEORITE FINDS

Forrest "B" West Australia (L6)

Found October 1980, 20 miles southwest of Forrest, West Australia, south of the Trans-Australian Railway. Total known weight 26 kilos. Source: Meteoritical Bulletin, Volume 18, #1, 1983. The burnt fusion crust has turned a deep dark red; larger specimens show piezoglypts. A good example of an average "find" in the field. * See photo.

Weight	% Fusion crust	Size	Price
A) Complete fragments as found with some fusion crust visible — uncut.			
1) 200 grams	20%	80 mm x 60 mm x 35 mm	\$500.00
2) 244 grams	15%	80 mm x 50 mm x 50 mm	600.00
3) 650 grams	40% ("piezoglypts")	80 mm x 80 mm x 70 mm	1,500.00

B) End pieces — One polished face and one or more naturally weathered exterior surfaces.

Weight	Crust	Size	Price	Weight	Crust	Size	Price
1) 9 grams	No crust	30 mm x 20 mm x 10 mm	\$25.00	5) 57 grams	NC	50 mm x 45 mm x 27 mm	\$150.00
2) 17 grams	NC	45 mm x 30 mm x 14 mm	50.00	6) 66 grams	NC	65 mm x 45 mm x 15 mm	180.00
3) 40 grams	NC	30 mm x 30 mm x 30 mm	120.00	7) 67 grams	NC	58 mm x 50 mm x 10 mm	180.00
4) 46 grams	NC	50 mm x 40 mm x 20 mm	125.00				

C) Slices — Two polished faces showing the bright specks of nickel-iron and the dark matrix.

1) 8 grams	30 mm x 20 mm x 6 mm	\$24.00	4) 36 grams	50 mm x 45 mm x 7 mm	100.00
2) 19 grams	40 mm x 40 mm x 6 mm	55.00	5) 40 grams	65 mm x 30 mm x 8 mm	115.00
3) 27 grams	30 mm x 35 mm x 10 mm	80.00			

ETTER, MOORE COUNTY, TEXAS U.S.A.

STONE METEORITE (L6) — OLIVINE HYPERSTHENE CHONDRITE

The Etter, Texas stone meteorite was first discovered in 1965 in a rock pile, where farmers had cleared their land of stones and piled them at the end of their fields. News of the meteorite spread. Soon, three more specimens were found. The largest specimen, which weighed 115 kg., was unearthed while a water storage pond was being dug. Bright flakes of NiFe metal are clearly visible, sometimes veining between the jade green silicates. Etter is a typical veined chondrite.

Etter is a good value meteorite, and is priced right. I recommend it for beginning collectors.

13 gram slice, no crust, polished face shows good metal content	\$25.00
29 gram slice with crust on one edge. 25 mm x 25 mm x 6 mm	50.00
51 gram slice with crust along one edge. 40 mm x 30 mm x 6 mm	85.00
70 gram slice with 1/2 crust 50 mm x 30 mm x 7 mm	125.00
150 gram 1/2 slice — good crust — from a smaller complete stone	250.00
318 gram 1/2 slice — a single metal vein length of specimen	500.00
811 gram complete slice like photo. Good veining, complete crust	1,200.00

Correo, New Mexico, U.S.A. (H4)

A very new find in northern New Mexico which seems to be a large old fall. The biggest specimen yet recovered weighs only 270 grams. Most specimens have good fusion crust that's weathered to a light brown color. All are in an excellent state of preservation.

Specimens range from 20 to 100 grams at \$3.00/gram. Call me!!!

PLANVIEW, HALE CO., TEXAS U.S.A.

L6 STONE METEORITE

This famous large fall was first discovered back in 1917 with several stones found totaling 31 kg. 20 years later H.H. Nininger returned to the area believing there may be more around. He spent time educating local farmers and showed them what to look for. It paid off with nearly 700 kg. of material being found since. The strewn field is nearly 25 miles long, with 3 overlapping falls mixed in. (Carbonaceous inclusion have been found inside Plainview.)

L6 OLIVINE HYPERSTHENE CHONDRITE — SLICES		
23 gram slice	3 mm x 35 mm x 55 mm	\$60.00
37 gram slice	4 mm x 45 mm x 65 mm	100.00
One large 170 gm end piece is available for		400.00

PAMPA C, ATACAMA DESERT, CHILE

This Pampa "C" stone meteorite was found in Nov. of 1986 only a few miles from the sea by accident when the searcher got out of his jeep to fix a flat tire. The total mass weighs only 10 kg. and is estimated to have been on the earth nearly 1 million years. The specimen is in an excellent state of preservation because of the very dry conditions in the Atacama Desert. (The price is only \$1.00/gram—a good, inexpensive stone meteorite from an exotic location.)

10 gram slice	\$10.00	25 gram slice	\$25.00	50 gram slice	\$50.00
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STONY-IRON METEORITE

Pallasite Group

IMILAC, CHILE — THE ATACAMA DESERT Found 1882

This Pallasite is the most beautiful ever found. The Olivine crystals are a beautiful lemon green color. Large angular fragments, very different than the Brenham, Kansas, U.S.A. Pallasite pictured in the catalog. This is my favorite all time meteorite. It is very resistant to weathering and you will love it.

5 gram jewelry pieces in cut stone shapes	\$30.00	100 gram thin slice, 1/2 crust one cut edge	375.00
10 gram thin slice—perfect for jewelry	50.00	200 gram complete slice, thin cut—beautiful	600.00
25 gram slice, slightly thicker—nice pattern	100.00	Complete large slice 400-500 grams	1,000.00
50 gram slice with crust, thin cut—light passes through crystal easily	200.00		

BRENHAM, KANSAS, U.S.A. (see photo)

The Brenham specimens are the most common of the Pallasites (also known as Haviland Crater). I have distributed almost 300 lbs. of this meteorite in the last 5 years.

20 gram part slice—no crust	65.00	50 gram part slice—1 edge & crust	120.00	100 gram part slice—1 edge & crust	200.00
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ADMIRE, LYON COUNTY, KANSAS, U.S.A.

PALLASITE STONY IRON METEORITE

Mr. W. Davis first discovered the Admire meteorite while plowing his field in 1881. It weighed about 7 kg.

This rare and beautiful meteorite is a mixture of both faceting grade peridot (Olivine) crystals and Nickel Iron in about equal proportions. The olivine crystals called "silicates" were severely shattered into sharp angular fragments by violent impacts on its parent body in space. These high speed collisions among asteroids eventually caused its breakup and sent a piece flying in towards the Sun. Luckily, the earth got in the way and it arrived on our planet as a meteorite.

This slice is a piece of a 90 kg. specimen that was recently discovered in the same area.

10 gram part slice	35.00	20 gram part slice	70.00	40 gram part slice with crust	120.00
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Some larger slices may be available at \$3.00/gram — please call on this one.

HUCKITTA, NORTHERN TERR., AUSTRALIA

STONY/IRON METEORITE PALLASITE

Huckitta is the largest pallasite known, weighing over 1400 kg. This meteorite must have laid on the surface of the desert for thousands of years. The entire specimen was covered with over 900 kg. of iron shale. Weathering changed the nickel-iron matrix into hematite (Fe²O³) and the magnetite (Fe³O⁴). The olivine, peridot crystals remain in perfect shape, retaining their unusual color and pattern. The main mass was discovered in 1937, then transported to the South Australia Museum in Adelaide.

1) 22 gram end piece	25 mm x 20 mm x 15 mm	\$45.00
2) 40 gram end piece	30 mm x 30 mm x 20 mm	85.00
3) 150 gram end piece	60 mm x 45 mm x 25 mm	300.00
4) 500 gram end piece	80 mm x 70 mm x 40 mm	1000.00

Some small slices are available and sizes in between these listed — Price: \$2/gram.

MESOSIDERITE GROUP

VACA MUERTA, TALTAL DIST, ATACAMA, CHILE

The Vaca Muerta Mesosiderite is a very unique meteorite full of very interesting inclusions. I'm sure that this specimen will become one of the most sought after stony iron meteorites for collectors as many new discoveries are being made. Specimens have been collected on the Atacama Desert since being recognized in 1861. A new mass was discovered only one year ago and I purchased about 1/2 the specimen. This is the first mesosiderite I have ever had the opportunity to buy in 6 years, or at less than \$10.00/gram, the previous going price. Recently, several very rare inclusions of eucrite achondrite up to 60 mm x 40 mm x 40 mm have been discovered inside this unique mesosiderite.

End Pieces—Cut and polished fragments from the largest complete specimen.

10 grams	I have an assortment of smaller pieces.	\$40.00
25 grams	The best are sent out to the first orders.	100.00
40 grams		150.00
150 grams	Good looking specimen, stand up	500.00
333 grams	Excellent end piece, large inclusions	1200.00
685 grams	This is one of the largest mesosiderites available on the market today	2000.00

TEKTITES — Silica rich (70-80% SiO²) Naturally occurring black to translucent green glass objects that superficially resemble obsidian. Occurring in strewnfields and believed to be formed by meteor impacts, most specimens show aerodynamic ablation indicating high velocity flights through the earth's atmosphere. Tektos, Greek meaning molten, melted. *Note — no one's really sure where they come from!

INDOCHINITES — Pailin District, Thailand

Jet black specimens in most shapes; these are the most common of the tektites. I have several kilos of small specimens in most shapes. I can offer these at \$5.00 and \$10.00 depending on size and condition.

Weight	Shape	Price	Weight	Shape	Price
5 gram	Teardrop	\$5.00	20 gram	Round	10.00
10 gram	Teardrop	8.00	10 grams	Cigar shape	5.00
15 gram	Teardrop	12.00	15 grams	Cigar shape	8.00
5 gram	Round	3.00	20 grams	Cigar shape	10.00
10 gram	Round	5.00	Other odd shapes at .50¢/gram.		

MOLDAVITE, TEKTITE — CZECHOSLAVAKIA

Moldau River Valley, Bohemia — Natural as found and faceted stones

Moldavites are the most beautiful of the tektites. Their emerald green color makes them highly prized. Larger specimens are being cut and faceted into cosmic gemstones and used in custom jewelry pieces.

- A) Rough, natural specimens 2 to 5 gram sizes \$20 each
These look great in or out of jewelry.
- B) Faceted, brilliant cut stones 3 mm round cut stones 20.00 each
4 x 6 mm oval cut stones 40.00 each

Very popular in 18 c. gold with or without other gemstones.

****EXOTIC WOOD STANDS WITH BRASS NAMEPLATES****

Can be special-ordered to really show off your prize specimens — Price about \$25.00-40.00.

**METEOR CRATER, ARIZONA
 FULL COLOR PHOTOGRAPH 8x10 \$5.00**

This is a first class photo of the world's best preserved and most well known impact crater — suitable for framing.

BOOKS

- THE SEARCH FOR OUR BEGINNINGS**, by ROBERT HUTCHISON 1984
 A very good, easy to read book about meteorites from the curator of the British Museum \$16.00
- METEORITES, THEIR RECORD OF THE EARLY SOLAR SYSTEM**, by JOHN WASSON (U.C.L.A.) 1985
 A very up-to-date book on current studies on cosmochemistry and geophysics. Technical. \$35.00
- FIND A FALLING STAR** by H.H. NININGER 1972
 This is the life story of the world's most famous meteorite hunter who's 60 year career hunting net 100s of specimens around the world. \$10.00
- THE BRITISH MUSEUM CATALOG OF METEORITES** 460 pages
 The "bible" of meteorite information \$75.00
- BRASILIAN STONE METEORITES** Gomes & Keil 160 pages
 A good inexpensive detail of stone meteorites \$12.00
- COSMIC DEBRIS** — JOHN BURKE 440 pages
 A very good history of meteorites since B.C. to present day theory \$35.00

REFINISHING SERVICE/RE-ETCHING & POLISHING

Sometimes etched iron meteorites will rust on the polished face no matter what you do. The exotic natural chemicals in the meteorite mix with water in the air and produce rust. This can be easily taken care of. Alcohol will remove the lacquer and then simple touch-up will restore the appearance of the meteorite. However, if you wait too long the meteorite must be re-polished and re-etched. I can do this for only \$10.00 plus return postage. *Or, you can do it at home. It's easy and fun.* Write for the procedure, all you need is sandpaper, nitric acid and gloves.

MISC. INFORMATION

All meteorites are completely guaranteed to be exactly what I say they are. I now have a collector network of over 2000 serious collectors so please be patient when you order something—I usually need about two-three weeks to send it out. I am out of the country a lot, and we get overloaded with orders. Remember when you order a meteorite the sizes and weight are guaranteed *minimum* amount of material you will receive for that amount of money. We sell out often, so bear with us.

WE BUY METEORITES FOR THE HIGHEST PRICES — Call us and see!!

STONE METEORITES — CHONDRITE



HOLBROOK, ARIZONA USA

STONE METEORITE 1550 gm. L6 PART OF A LARGE SHOWER OF STONE SEEN TO FALL JULY 19, 1912.



LAKE LABYRINTH AUSTRALIA

STONE METEORITE LL6 AMPHOTERITE. A RARE TYPE OF STONE AMPHOTERITE HAVING MUCH LESS METAL THAN ORDINARY CHONDRITES.



MACY, NEW MEXICO USA

STONE METEORITE L6 176 GRAMS. FOUND 1984 NOTE THE EFFECT OF WEATHERING AND RUST IN THIS CUT AND POLISHED SLICE.



ETTER, TEXAS USA

STONE METEORITE L6 1000 g. slice. LIKE MOST STONE METEORITES BRIGHT FLAKES OF METAL CAN BE CLEARLY SEEN. NOTE THE VEINING OF THE METAL ON THE RIGHT SIDE.



CORREO, NEW MEXICO USA

STONE METEORITE H4 176 grams. THIS CLOSE UP PHOTO SHOWS EXCELLENT DETAIL OF WEATHERED FUSION CRUST. FOUND IN A BLOW OUT BY ROBERT HAAG.



BRÜDERHEIM, ALBERTA CANADA

STONE METEORITE L6 830 g. FELL MARCH 4, 1960 IN THE SNOW COMPLETELY COVERED IN FUSION CRUST. NOTE SURFACE DETAILS



LA CRIOLLA, ARGENTINA

STONE METEORITE L6 6.1 kg. THIS FRESH STONE FELL TO EARTH ON JAN. 6, 1985 THE SURFACE SHOWS DEEP THUMBPRINTS AND GOOD BLACK FUSION CRUST. NOTE THE WHITE INTERIOR.



MELVERN LAKE, KANSAS USA

STONE METEORITE H5 6 kg. THE CUT FACE SHOWS OFF THE BRIGHT FLAKES OF METAL INSIDE MOST STONE METEORITES.



MELVERN LAKE, KANSAS, BACKVIEW

THIS METEORITE CLEARLY SHOWS GOOD SURFACE FEATURES AND THUMBPRINTS EVEN AFTER THE FUSION CRUST HAS WEATHERED BROWN



ANTARCTICA 76009

STONE METEORITE FRAGMENT L6 200 grams. THIS SPECIMEN WAS SPOTTED FROM A HELICOPTER FLYING OVER THE BLUE ICE WHILE HUNTING METEORITES.



PLAINVIEW, TEXAS USA

STONE METEORITE H5. 1230 grams. THIS PHOTOGRAPH SHOWS GOOD SURFACE DETAIL. THE BLACK CRUST IS JUST STARTING THE WEATHER BROWN



NEENACK, CALIFORNIA USA

STONE METEORITE L6 slice 449 g. A RIM OF OLD FUSION CRUST CAN BE SEEN. NOTE THE WEATHERING OF THE INTERIOR METAL GRAINS.

STONE METEORITES — CARBONACEOUS AND ACHONDRITES



CAMEL DONGA, WEST AUSTRALIA

EUCRITE ACHONDRITE 1,133 grams. THIS BEAUTIFUL SPECIMEN HAS A CLASSIC SHINY BLACK FUSION CRUST AND WAS THE LARGEST SPECIMEN FOUND. A CALCIUM RICH HIGHLY CRYSTALLINE TEXTURE.



PASAMONTE, NEW MEXICO USA

EUCRITE ACHONDRITE 67 grams. THE PASAMONTE SHOWER FELL MARCH 24, 1933 AFTER A HUGE FIREBALL WAS TRACKED DOWN. ONLY A FEW SMALL SPECIMEN WERE FOUND. NOTE TEXTURE OF THE CRUST — VERY FRAGILE ASHLIKE APPEARANCE.



STANNERN, CZECHOSLOVAKIA

EUCRITE ACHONDRITE 396 grams. FELL 1808. THIS END PIECE EXHIBITS THE WHITE FRAGILE INTERIOR AND SHINY BLACK ACHONDRITE CRUST. VERY DIFFERENT FROM ORDINARY CHONDRITES.



JOHNSTOWN, COLORADO USA

DIOGENITE ACHONDRITE 762 grams. THIS SPECIMEN FELL JULY 24, 1924. PART OF THE BLACK FUSION CRUST CAN STILL BE SEEN, BECAUSE IT'S CALCIUM POOR. THIS CRUST IS NOT SHINY LIKE IN EUCRITES.



JOHNSTOWN, COLORADO USA

DIOGENITE ACHONDRITE 762 grams. INSIDE PHOTOGRAPH SHOW THIS METEORITE IS MADE UP OF SMALL GREEN CRYSTALS. VERY DIFFICULT TO RECOGNIZE WITHOUT FUSION CRUST. NOTE VERY LITTLE METAL.



KENNA, NEW MEXICO USA

UREILITE ACHONDRITE 22 grams. PHOTOGRAPH OF A POLISHED SLICE. A 10 Kg. STONE WAS RECOGNIZED BY THE FUSION CRUST FOUND ON THE BOTTOM OF THE SPECIMEN. THE REST HAD WEATHERED AWAY — VERY RARE.



ALLENDE, CHIHUAHUA, MEXICO

CARBONACEOUS CHONDRITE CV3, FELL FEB. 8, 1969. 17 kg. STONE. THIS IS A VERY LARGE SPECIMEN THAT WAS RECOVERED FROM A GARAGE WHERE IT HAD BEEN USED TO BLOCK THE WHEELS WHILE WORKING ON CARS.



MURCHISON, AUSTRALIA

CARBONACEOUS CHONDRITE CM2, FELL SEPT. 28, 1969. 373 grams. THIS SPECIMEN SHOWS GOOD CRUST DETAIL WITH SURFACE REGMAGLYPTS. SEE CLOSE UP OF CHONDRULES BELOW.

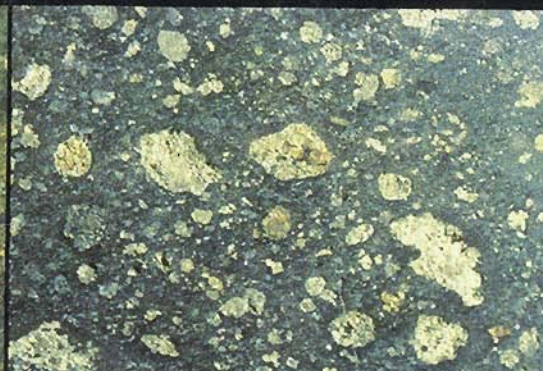


PASAMONTE, NEW MEXICO USA

EUCRITE ACHONDRITE 67 grams. AN INTERIOR SHOT SHOWING THE WHITE MATRIX AND HOW THIN THE BLACK CRUST CAN BE. THIS METEORITE WILL CRUSH LIKE AN EGGSHELL.



ALLENDE, CHIHUAHUA MEXICO



MURCHISON, VICTORIA AUSTRALIA

CARBONACEOUS CHONDRITE CM2. CLOSE UP PHOTOGRAPH OF SMALLER CHONDRULES WITHIN THE MURCHISON STONE. THE MATRIX IS MUCH DARKER THAN ALLENDE.



GRAPHITE NODULE, CANYON DIABLO, AZ USA

1 kg. THIS IS AN END PIECE OF A GRAPHITE NODULE FOUND NEAR METEORITE CRATER, AZ. NOTE THE NETWORK OF METAL.