

## Sunday February 9, 2003

10:30 A.M. at the InnSuites — Courtyard Terrace  
475 North Granada, Tucson (520) 622-3000

### Previews & In-person Registration

February 1 – February 9 (10:30AM – 6 PM)

February 9 (9:30AM – 10:30AM)

**Room 404 at the InnSuites Hotel**

### AUCTION NOTES

You must register to participate. Dimensions of lots are approximate. There is a 12.5% buyer's commission on all lots. Low and high estimates are merely a guideline. Witnessed falls are denoted by an asterisk. A bullet to the left of the lot number indicates that the specimen carries a reserve. Meteorites of a more decorative or sculptural nature are designated by a green box around the lot number.

LOT #	NAME TYPE	DATE OF FALL/FIND	TKW	LOCALITY	DESCRIPTION	WEIGHT & DIMENSIONS	ESTIMATE
<a href="#">CLICK ON METEORITE NAME TO VIEW IMAGE AND DESCRIPTION</a>							
1	<a href="#">Naiman*</a> L6	May/26/1982	1.05 Kg	Naiman Cnty, Mongolia	Encrusted fragment of an extremely difficult to obtain meteorite; Purple Mountain Observatory provenance	12.55 g 27 x 28 x 14	\$150 – \$250
2	<a href="#">Kilabo*</a> LL6	July/21/2002	~24 Kg	Hadejia, Nigeria	Complete specimen of Earth's most recent meteorite recovery to date; ~90% fusion crust	83.20 g 48 x 35 x 35	\$600 – \$750
3	<a href="#">Honolulu*</a> L5	Sep/27/1825	~3 Kg	Oahu, Hawaii	Highly brecciated thin quarter slice of this much sought-after meteorite; with fusion crust; Finnish Geological Museum provenance	1.99 g 27 x 21 x 1	\$250 – \$350
• 4	<a href="#">Peekskill*</a> H6	Oct/09/1992	12.57 Kg	Westchester Co., NY	Partial slice; the most famous meteorite/auto impact event on record; one edge crust featuring the Chevy's red paint; three fragments from the shattered rear tail light included	53.90 g 55 x 54 x 7	\$3,750 – \$4,750
5	<a href="#">Tabor*</a> H5	Jul/3/1753	~10 Kg	Bohemia, Czech Republic	Triangular partial slice from one of Europe's most historic early meteorite showers; one edge of fusion crust; museum marking evident on edge	1.85 g 17 x 16 x 2	\$250 – \$450
6	<a href="#">Felix*</a> CO3.4	May/15/1900	~3.2 Kg	Perry Co., AL	Choice rectangular partial slice of this low tkw CO3; 75% fusion crust along rim; not readily available; Smithsonian Institution provenance	8.19 g 30 x 18 x 3	\$850 – \$1,150
7	<a href="#">D'Orbigny</a> Angrite	1979	16.55 Kg	Buenos Aires, Argentina	Fragment with one cut and polished face; comprised primarily of augite, olivine and anorthite, D'Orbigny is the most appealing angrite	6.02 g 25 x 19 x 11	\$1,800 – \$2,400
8	<a href="#">Chassigny*</a> SNC	Oct/3/1815	4 Kg	Haute Marne, France	Small cut fragment from the most sought-after Martian meteorite available to the public; Museum National d'Histoire Naturelle (Paris) provenance	0.07 g 3 x 4 x 1	\$700 – \$1,000
9	<a href="#">Stannern*</a> AEUC	May/22/1808	52 Kg	Moravia, Czech Republic	From one Europe's most famous falls; a very fresh fragment with fusion crust	11.28 g 34 x 15 x 14	\$550 – \$850
10	<a href="#">Stannern*</a> AEUC	May/22/1808	52 Kg	Moravia, Czech Republic	Among the largest specimens from the Stannern meteorite shower; covered with fusion crust; accompanied by historic labels signed by Neumann and Kurat; Natural History Museum Vienna provenance	175.7 g 55 x 43 x 40	\$10,000 – \$12,500
11	<a href="#">Dhofar 081</a> LUNAR	1999	0.174 Kg	Sahara Desert	Beautifully prepared partial slice of the Moon; large anorthositic inclusions with 30% fusion crust	0.23 g 23 x 11 x 1	\$700 – \$1,100
12	<a href="#">Willamette</a> IIIA	1902	~15,500 Kg	Clackamas Co., OR	Cut fragment; polished on two sides; from one of the most famous — and most beautiful—meteorites in the world; exceptionally difficult to obtain; a British Museum of Natural History label is affixed to the sloping edge	9.93 g 24 x 9 x 8	\$1,200 – \$1,600
13	<a href="#">Eagle Station</a> PAL-ANOM	1880	36.3 Kg	Carroll County, Kentucky	Trapezoidal partial slice; Eagle Station is perhaps the most prized pallasite as a result of so little material being available and its membership in an unusual sub-group comprised of just 650 additional grams of two other tiny meteorites; Natural History Museum Vienna provenance	3.77 g 20 x 20 x 3	\$800 – \$1,000
• 14	<a href="#">Eagle Station</a> PAL-ANOM	1880	36.3 Kg	Carroll County, Kentucky	Similar to the previous specimen; a chance to acquire a superb specimen of a distinguished meteorite; Vienna Natural History Museum provenance	12.36 g 38 x 27 x 3	\$2,000 – \$2,700
15	<a href="#">Vigarano*</a> CV3	Jan/22/1910	~15 Kg	Emilia-Romagna, Italy	Fresh partial slice; one edge fusion crust; the "V" in the CV type; The Natural History Museum (London) provenance	7.15 g 40 x 22 x 3	\$550 – \$700
• 16	<a href="#">Barbotan*</a> H5	Jul/24/1790	6.4 Kg	Gers, France	Partial slice with slight crust; historic; The Natural History Museum (London) provenance	8.21 g 21 x 46 x 3	\$900 – \$1,300
• 17	<a href="#">Gibeon</a> IVA	1836	~90,000 Kg	Great Namaland, Namibia	A singularly uncharacteristic example of an iron meteorite — in fact, one of the most unusually-shaped iron meteorites known to exist; highly decorative and featuring a rich patina, this specimen was on loan to the American Museum of Natural History; a matchless, naturally occurring work of art from outer space; Macovich Collection provenance	6.88 kilos [15 lbs] 9.5 x 9.5 x 3 inches	\$17,500 – \$25,000

Meteorite Auction - Macovich Collection

18	<a href="#">Pasamonte*</a> AEUC-P	Mar/24/1933	5.1 Kg	Union Co., NM	Fractured end piece; three sides covered in fusion crust; recovered by Nininger at the Pasamonte Ranch; a superb specimen of a famed and difficult to obtain American meteorite	18.18 g 39 x 18 x 19	\$1,500 – \$2,000
19	<a href="#">Brenham</a> PAL	1882	4,300 Kg	Kiowa County, Kansas	A large singular endpiece of the most well-known American pallasite; easily the centerpiece of any collection, this important specimen has an American Museum of Natural History provenance	~50 kilos [110 lbs]	\$50,000 – \$70,000
• 20	<a href="#">Lost City*</a> H5	Jan/3/1970	17 Kg	Cherokee County, Oklahoma	A noteworthy meteorite detected by the Prarie Photographic Network; a singular partial slice with two long edges of fusion crust; Smithsonian Institution provenance	11.36 g 36 x 19 x 5	\$1,000 – \$1,500
21	<a href="#">Mighei*</a> CM2	June/18/1889	~8 Kg	Nikolaev, Ukraine	Prototypal fragment; loaded with CAIs; the "M" in the CM2 class; Academy of Sciences (Moscow) provenance	4.21 g 33 x 16 x 15	\$400 – \$550
22	<a href="#">Bencubbin</a> CH-BEN	1930	118 Kg	Western Australia	Cut partial slice; scientifically and aesthetically, Bencubbin is an impressive meteorite; its similarity with the Patwar meteorite resulted in a new classification, bencubbinites, to cover such anomalous enstatite-olivine stony-irons; a fine representation	10.78 g 22 x 22 x 20	\$700 – \$1,000
• 23	<a href="#">Barratta</a> L3.8	1845	200 Kg	New South Wales, Australia	Thin complete partial slice; dark variegated matrix with 7/8 inch chondrule, armored chondrules scattered throughout	248.90 g 225 x 140 x 2	\$1,200 – \$1,700
• 24	<a href="#">Allende*</a> CV3	Feb/8/1969	~3,000 Kg	Chihuahua, Mexico	Unusually large complete specimen of the most researched and scientifically investigated meteorite; 70% fusion crust; an extremely notable offering	4,500 g	\$9,000 – \$12,500
25	<a href="#">Tektite</a>			Thailand	The result of an asteroidal impact melting and "splashing" the earth's surface, this is a large, rather exotic looking tektite recovered in Thailand	220 g 85 x 9 x 8	\$75 – \$150
26	<a href="#">Mauerkirchen*</a> L6	Nov/20/1768	~19 Kg	Ober-Österreich, Austria	Partial slice; historic and infrequently available; The Natural History Museum (London) provenance	2.12 g 28 x 13 x 2	\$250 – \$350
• 27	<a href="#">Siena*</a> LL5	Jun/16/1794	3.7 Kg	Tuscany, Italy	Complete slice with three edges of fusion crust. Meteorites did not "exist" prior to Siena (within the scientific community), and so Siena will forever be one of the most historic meteorites and one of the most difficult to obtain — and it's also a gorgeous breccia; The Natural History Museum (London) provenance	6.79 g 30 x 28 x 3	\$1,700 – \$2,200
28	<a href="#">Pultusk*</a> H5	Jan/30/1868	~300 Kg	Warsaw, Poland	From one of Europe's most famous meteorite showers; three roundish complete individuals with an average of 90% crust; each specimen averages 8 grams and 15mm in diameter	25.10 g 17 x 16 x 11	\$200 – \$300
29	<a href="#">Pultusk*</a> H5	Jan/30/1868	~300 Kg	Warsaw, Poland	Similar to the previous lot; complete individual; Natural History Museum Vienna provenance; catalog number E.590i	369 g 89 x 69 x 40	\$2,000 – \$2,600
30	<a href="#">Imilac</a> PAL	1822	~920 Kg	Atacama Desert, Chile	Partial slice with one edge of crust and superior translucency; a very fine example overall; The Natural History Museum (London) provenance	54.8 g 54 x 67 x 3	\$800 – \$1,100
• 31	<a href="#">Imilac</a> PAL	1822	~920 Kg	Atacama Desert, Chile	Visually stunning triangular end piece from the Macovich Collection; four cut and polished faces with obverse covered in crust; from the main mass of Imilac (205 kg) which was, before recently being sectioned, on display at the former British Museum of Natural History (now The Natural History Museum); with gleaming highly refractive crystals, a singularly magnificent specimen	1295 g 175 x 89 x 57	\$13,000 – \$16,000
• 32	<a href="#">Imilac</a> PAL	1822	~920 Kg	Atacama Desert, Chile	The crown jewel of this offering. This is a large complete slice of Imilac derived from the main mass; filled with hundreds of glimmering crystals embedded within Imilac's gleaming nickel-iron matrix; pallasites are the most visually dazzling class of meteorites, and this is a highly decorative, breathtaking example; The Natural History Museum (London) provenance	2450 g	\$25,000 – \$35,000
33	<a href="#">NWA 968</a> 1AB	2002	0.625 Kg	North West Africa	Complete slice of a new and resplendent silicated iron with one etched face; recently available for the first time; one of only two silicated irons from NWA (the other is Zagora)	24.40 g 35 x 55 x 3	\$250 – \$450
34	<a href="#">Mayo Belwa*</a> AUB	Aug/03/1974	4.85 Kg	Haoussa, Nigeria	Cut and polished fragment; private collection	9.78 g 42 x 27 x 9	\$650 – \$850
35	<a href="#">Millbillillie*</a> AEUC-M	Oct/01/1960	~330 Kg	Western Australia	Complete specimen with more than 95% fusion crust; Millbillillie crust is readily identifiable, and this specimen elegantly exhibits its hallmark features: the burnt-sugar glaze streaked with terra cotta hues of Australian earth; a splendid example	175.9 g 71 x 36 x 39	\$2,000 – \$2,500
• 36	<a href="#">LA 001</a> ASHE	1999	0.452 Kg	Los Angeles Co., CA	Thin rectangular partial slice; two edges fusion crust; variegated green & black matrix; the smoking-gun that LA was once populated by Martians; recovered by Bob Verish	2.68 g 22 x 12 x 2	\$2,500 – \$3,250
37	<a href="#">Juvinas*</a> AEUC-M	Jun/15/1821	91 Kg	Ardeche, France	Thin partial slice from a historic meteorite; Museum National D'Histoire Naturelle (Paris) provenance	2.27 g 34 x 21 x 2	\$175 – \$250
38	<a href="#">Hvittis*</a> EL6	Oct/21/1901	14 Kg	Turku, Finland	Of keen interest to researchers and discriminating collectors; a square partial slice of an E chondrite witnessed fall; Finnish Geological Museum provenance	14.97 g 52 x 49 x 3	\$375 – \$650
39	<a href="#">Jalu</a> L5/6	2001?	100 Kg	Libya	While there is some debate as to whether this meteorite is entitled to a name or should just have an NWA number, what is clear is that it's a Jalu good show; end piece with 75% fusion crust	439 g 88 x 67 x 49	\$300 – \$400

40	<a href="#">Marjalahti*</a> PAL	Jun/1/1902	~45 Kg	Karelia, Russia	Partial slice of a matrix–dominant specimen with one large crystal; one of two witnessed–fall pallasites available to the public. Increasingly difficult to obtain, only a small portion of the Marjalahti mass contains intact olivine: upon impacting a granite outcropping much material was pulverized, the finder removed crystals thinking they were otherworldly gems and when Marjalahti olivine was designated the standard, even more crystals were lost to assist in the calibration of instruments; Helsinki Geological Museum provenance	35 g 63 x 51 x 3	\$600 – \$800
• 41	<a href="#">Marjalahti*</a> PAL	Jun/1/1902	~45 Kg	Karelia, Russia	Similar to the previous lot; a more typical partial slice with one edge of crust; loaded with Marjalahti's unique chartreuse olivine crystals; Helsinki Geological Museum provenance	32.3 g 59 x 36 x 3	\$1,000 – \$1,400
• 42	<a href="#">Marjalahti*</a> PAL	Jun/1/1902	~45 Kg	Karelia, Russia	Similar to the previous lots; with one edge of fusion crust; a superb representation of one of the most sought-after pallasites (see lot 40). Only several kilos of olivine–rich Marjalahti are available to the public. Marjalahti olivine was designated the standard, and labs throughout the world have calibrated their instruments to its crystals. Helsinki Geological Museum provenance	59.1 g 111 x 52 x 3	\$1,800 – \$2,300
43	<a href="#">Talpampaya*</a> AEUC-C	1995	1.421 Kg	Argentina	Partial slice with one edge of fusion crust; American Museum of Natural History provenance	6.51 g 29 x 19 x 5	\$500 – \$750
• 44	<a href="#">Talpampaya*</a> AEUC-C	1995	1.421 Kg	Argentina	Similar to the previous lot; this partial slice, with two edges of fusion crust, contrasts starkly with the milky, brecciated matrix; recovered by a mountain climber after he was buffeted by a pressure wave; a superlative example of a wonderful meteorite; American Museum of Natural History provenance	18.68 g 27 x 28 x 11	\$1,100– \$1,500
45	<a href="#">Estherville*</a> MES-A3/4	May/10/1879	~320 Kg	Emmet Co., IA	A most appealing partial slice; The Natural History Museum (London) provenance	59.80 g 49 x 74 x 5	\$325 – \$500
46	<a href="#">Mount Tazerzait*</a> L5	Aug/21/1991	110 Kg	Tahoua, Niger	Complete slice with touches of fusion crust	903 g 159 x 77 x 19	\$900 – \$1,200
47	<a href="#">Campo del Cielo</a> IA	1576	~75,000 Kg	Gran Chaco, Argentina	Nearly 4000 years after it collided with Earth, Campo del Cielo ("Valley of the Sky") meteorites were first written about in 1576 by Spanish explorers — when their unearthly origins had yet to be understood. The first meteorite ever on display at the British Museum of Natural History was a Campo. With softened undulating ridges and a gunmetal luster, this is a highly decorative Campo meteorite	45 kilos [99 lbs]	\$2,000 – \$3,500
48	<a href="#">Campo del Cielo</a> IA	1576	~75,000 Kg	Gran Chaco, Argentina	Revealing the internal structure of a Campo del Cielo meteorite; a resplendent complete slice loaded with silicates and polished on both sides	52.6 g 65 x 52 x 5	\$150 – \$250
• 49	<a href="#">Campo del Cielo</a> IA	1576	~75,000 Kg	Gran Chaco, Argentina	An incomparable 1/2 ton iron meteorite from the "Valley of the Sky" strewn field in Argentina (see lot 47). Large meteorites are exceedingly rare, and aesthetically compelling sculptural examples are far rarer still. A matchless natural work of art from the Asteroid Belt; deaccessioned by the Macovich Collection, the finest collection of iron meteorites in the world. [Image was taken following excavation from four feet beneath the earth's surface; it has since been cleaned. New image to appear shortly.]	480 kilos [1,056 lbs] 46 x 20.5 x 14.5 inches	\$35,000 – \$60,000
50	<a href="#">Deport</a> H4	1944	~10 Kg	Red River County, Texas	Complete Individual with 100% crust	60.3 g 44 x 23 x 19	\$120 – \$200
51	<a href="#">Cold Bokkeveld*</a> CM2	Oct/13/1838	5.2 Kg	Cape Province, S. Africa	Fine fragment of this famous CM2 witnessed fall; features two different lithologies; The Natural History Museum (London) provenance	2.69 g 22 x 11 x 9	\$200 – \$325
52	<a href="#">Luotolax*</a> AHOW	Dec/13/1813	0.885 Kg	Viborg, Finland	Triangular fragment; an extremely rare non–Antarctic, non–Saharan howardite witnessed fall; fell the same day as Wold Cottage; low tkw and difficult to obtain; Helsinki Geological Museum provenance	1.57 g 19 x 11 x 4	\$350 – \$600
• 53	<a href="#">Wold Cottage*</a> L6	Dec/13/1795	25 Kg	Scarborough, England	Outstanding thin partial slice of one of the most historic meteorites on record; a 15–page abstract is devoted to the history of Wold Cottage in Meteoritics; extremely fresh; with one edge of fusion crust; The Natural History Museum (London) provenance	6.85 g 38 x 31 x 2	\$700 – \$1,200
• 54	<a href="#">Gujba*</a> CH-BEN	Apr/3/1984	~40 Kg	Gujba, Nigeria	A superb partial slice of the only witnessed–fall bencubbinite in the world; scientifically important and possessing among the most aesthetic internal structures of any meteorite; an exemplary specimen of an important meteorite	82.20 g 67 x 65 x 5	\$8,000 – \$11,000
55	<a href="#">El Kachla (NWA 722)</a> IMB	2000	1.280 Kg	Morocco	Attractive endpiece; similar in appearance to Cat Mountain — but superior; a quintessential example of an impact melt breccia	236 g 75 x 50 x 30	\$2,000 – \$3,000
56	<a href="#">Tenham*</a> L6 <a href="#">Sand Creek</a> H5	FELL 1879 1986	~240 Kg 2.44 Kg	S. Gregory, Queensland, Australia Graham County, Kansas	This lot is comprised of two meteorites: a partial slice of Tenham with its characteristic richly variegated and brecciated matrix and a complete slice of Sand Creek whose ebony matrix is dappled in fine metaflake and three larger iron inclusions	69.70 g 122 x 65 x 3 70.50 g 102 x 74 x 3	\$450 – \$600

57	<a href="#">Bensour</a> LL6	Feb/10/2002	~35 Kg	Morocco/Algeria	Broken individual from a fall which occurred at almost precisely the same moment as last year's Macovich auction (February 10th); the broken faces reveal Bensour's stunning brecciated structure which contrasts dramatically with its black fusion crust; obverse is streaked from its desert pavement impact; the third piece which consists of the remainder of this marvelous meteorite is in ASU's collection	733 g 119 x 80 x 79	\$2,000 – \$2,500
• 58	<a href="#">NWA 032</a> LUNAR	1999	0.300 Kg	North West Africa	Partial slice of the Moon with 30% crust on rim; very fresh specimen of lunar basalt	0.52 g 12 x 13 x 1	\$1,500 – \$2,000
• 59	<a href="#">Ensisheim*</a> LL6	Nov/07/1492	127 Kg	Alsace, France	"In the year of Our Lord 1492, the Wednesday before the feast day of Saint-Martin, the seventh day of November, a strange miracle occurred. On that day, between the eleventh and the twelfth hour of noon, came a great thunder clap, then a long noise that was heard far around, then a stone fell from the air on the village of Ensisheim ... " Thus begins a 16th Century document describing one of the other newsworthy events of 1492; Ensisheim is one of the most historic and sought-after meteorites; this is a thin partial slice from the single largest stone meteorite to have fallen in Europe — as well as the oldest documented European fall; The Natural History Museum (London) provenance	12.15 g	\$3,000 – \$4,000
60	<a href="#">Ensisheim*</a> LL6	Nov/07/1492	127 Kg	Alsace, France	Similar to the previous lot; a smaller thin partial slice of one of the most historic meteorites of all time; The Natural History Museum (London) provenance	1.94 g 23 x 21 x 2	\$300 – \$450
61	<a href="#">Valera*</a> L5	~Oct/15/1972	~50 Kg	Trujillo, Venezuela	One of the very few meteorites from Venezuela and the only meteorite ever documented to have killed an animal (cow); upon discovery of the cosmic slaughter in the morning, the meteorite was set aside as being inconsequential and the focus was on the fresh steak dinner for one and all; this is a fragment of this famous meteorite cut and polished on two faces; with a chocolate/blue-gray variegated matrix loaded with metal	232.10 g 69 x 31 x 58	\$1,000 – \$1,600
62	<a href="#">Oued El Hadjar</a> LL6	FELL 1986	1.2 Kg	Morocco	An endpiece of a meteorite documented in the Meteorite Bulletin as having been "sacrificed" on a wedding altar; while it's regrettable that a fine opportunity for a dowry was missed, this end piece escaped being sacrificed ... oh—oh, here comes Bessey	44.80 g 44 x 45 x 26	\$400 – \$600
63	<a href="#">Khor Temiki*</a> AUB	Apr/08/1932	~3.2 Kg	Kassala, Sudan	Fragment of a rarely available aubrite; small tkw; The Natural History Museum (London) provenance	3.17 g 21 x 12 x 6	\$275 – \$400
64	<a href="#">Apt*</a> L6	Oct/8/1803	3.2 Kg	Vaucluse, France	Arriving just six months after l'Aigle (see lot 86); very difficult to obtain; cut and polished thin fragment; Museum National d'Histoire Naturelle (Paris) provenance	9.29 g 33 x 23 x 11	\$350 – \$600
• 65	<a href="#">Governador Valadares</a> ANAK	1958	0.158 Kg	Minas Gerais, Brazil	For meteorite cognoscenti, an extremely notable offering; long considered a Holy Grail in meteorites, Governador Valadares is the smallest of all non-Saharan Martian meteorites and will forever be among the most desirable meteorites for all time; this is a thick partial slice; one long edge of fusion crust; extraordinarily difficult to obtain — less than 25g will ever be available to the public	2.67 g 21 x 14 x 4	\$9,000 – \$12,500
66	<a href="#">Shirokovsky*</a> PAL	Feb/01/1956	120 Kg	Perm District, Russia	Trapezoidal partial slice of the newest pallasite to hit the meteorite market; research is now being done on Shirokovsky, which may well turn out to be an anomalous pallasite given the unusual minute inclusions throughout the matrix. While Shirokovsky does not have Marjalahti's translucency, the angular crystals of this witnessed fall are visually compelling; several years were spent diving into the Shirokovsky reservoir searching for the mass from which this specimen is derived	16.80 g 53 x 31 x 3	\$400 – \$650
• 67	<a href="#">Epitome of an Oriented Meteorite</a>	2002	1.62 Kg	Morocco	Orientation refers to the unusual phenomenon of a meteorite not tumbling during its descent to earth; oriented meteorites are rather rare, and the larger the specimen, the more uncommon its occurrence. The shape of the meteorite, the distribution of its mass and the angle of entry have to be just ... perfect. Superior examples of oriented meteorites appear as if they were still kinetic. This is one such example. Vividly illustrating the monumental forces exerted on a meteorite as it melts in our atmosphere, this magnificent unclassified meteorite was recovered in the Sahara	1620 g 158 x 162 x 105	\$12,000 – \$16,000
• 68	<a href="#">Muonionalusta</a> IVA	1906	~ 65 Kg	Norrbotten, Sweden	First discovered nearly 100 years ago, Muonionalusta is found in glacial sediments in the northern climes of Sweden. Only four meteorites have been found in latitudes north of Muonionalusta — which was recovered far north of the Arctic Circle; this end piece is the most aesthetic and well-preserved specimen known to exist. The etch pattern — a mosaic of shades which range from gunmetal to platinum — is bedazzling and this singular meteorite orients as shown without any additional means of support. One of the highlights of this sale, very little Muonionalusta is privately held	6535 g 230 x 149 x 69	\$18,000 – \$22,000
• 69	<a href="#">Ogi*</a> H6	Jun/8/1741	14.2 Kg	Saga, Japan	Ogi will grace only a handful of collections; Japanese meteorites are largely unavailable — and Japanese meteorites from the 18th Century are largely never available; partial slice with one edge of fusion crust; The Natural History Museum (London) provenance	8.31 g 43 x 22 x 3	\$800 – \$1,200
70	<a href="#">Johnstown*</a> ADIO	Jul/06/1924	~40.3 Kg	Weld Co., CO	Slice with fusion crust; fine example of this sought-after meteorite	13.01 g 40 x 27 x 5	\$750 – \$1,000



71	<a href="#">Gibeon</a> "King of the Irons" IVA	1836	100,000 Kg	Great Namaland, Namibia	Highly aesthetic meteorites are rare, comprising far less than 1% of all meteorites known to exist; not only is this specimen one of the more renowned members of this select fraternity, it's also unusual in another sense: this is a large oriented meteorite — which is to say that it didn't tumble and spin like most meteorites do during their fiery plunge through earth's atmosphere (see lot 67). The face of this meteorite is covered with regmaglypts which flare away from what was the lead edge of entry; a quintessential example of an oriented iron meteorite and among the most aesthetic iron meteorites in the world	116 kilos [255 lbs] 22 x 15.5 x 10.5 inches	\$110,000 – \$135,000
72	<a href="#">Lafayette</a> ANAK	1931	0.800 Kg	Tippecanoe County, Indiana	Fragments from one of the more difficult to obtain Martian meteorites; one larger fragment and grains; Field Museum provenance	0.12 g 2 x 3 x 2	\$200 – \$450
73	<a href="#">NWA 1110</a> SNC <a href="#">NWA 1195</a> SNC	2001 2002	0.315 Kg	North West Africa North West Africa	This lot is comprised of two different Martian meteorites: 1110, a complete individual with visible shock veining as a result of the absence of crust and the removal of calcite; and a complete slice of 1195 — the most primitive Martian lava known to exist	0.58 g 3 x 10 x 10 1.25 g 31 x 20 x 1	\$1,400 – \$2,000
• 74	<a href="#">Murchison*</a> CM2	Sep/28/1969	~100 Kg	Victoria, Australia	Complete individual; 95% fusion crust; loaded with organics, Murchison contains amino acids not naturally found on earth; Murchison has been viewed as a latter-day smoking gun in the advancement of the "Panspermia Theory of Creation" — earth having been fertilized by a meteorite; Field Museum (Chicago) provenance	39 g 41 x 31 x 24	\$1,600 – \$2,200
• 75	<a href="#">Murchison*</a> CM2	Sep/28/1969	~100 Kg	Victoria, Australia	Similar to the previous lot, this is an exemplary complete individual; as a result of the Murchison event, the town of Murchison was briefly enveloped by an ether-like smell; flow lines stream across this almost entirely encrusted specimen	112 g	\$3,000 – \$4,500
76	<a href="#">Arroyo Agiar*</a> H5	FELL 1950	7.45 Kg	Santa Fe, Argentina	Fine complete slice with fusion crust — and the only complete slice in existence; 3 Kg of the tkw are missing; very little of Arroyo has been distributed — in fact this specimen represents 50% of all material available to collectors	477 g 147 x 129 x 10	\$8,000 – \$10,000
77	<a href="#">Jilin*</a> H5	Mar/08/1976	~4000 Kg	Yongji County, China	Black fusion crust on four sides contrasts starkly against the pale matrix revealed on two broken faces of this Chinese fall	418.4 g 69 x 49 x 47	\$450 – \$650
78	<a href="#">Shergotty*</a> ASHE	Aug/25/1865	~5 Kg	Bihar, India	From yet another esteemed Martian meteorite; one larger fragment and smaller grains; The Natural History Museum (London) provenance	0.40 g 5 x 4 x 4	\$500 – \$800
• 79	<a href="#">Camel Donga</a> AEUC-M	Jan/1984	~25 Kg	Nullarbor Plain, Australia	Complete teardrop-shaped specimen of this brecciated monomict eucrite; its glossy, burnt-sugar fusion crust rivals that found on the best Camel Dongas	32.1 g 45 x 29 x 16	\$800 – \$1,300
80	<a href="#">Camel Donga</a> AEUC-M	Jan/1984	~25 Kg	Nullarbor Plain, Australia	Similar to the previous lot; this partial slice reveals an approximation of the internal structure of the previous lot; with three sides of fusion crust and two noteworthy inclusions (a Mayo Belwa-like inclusion and 4mm grain of metal), this is a superior example	4.06 g 36 x 19 x 3	\$125 – \$250
• 81	<a href="#">Shallowater</a> AUB	1936	~ 4.6 Kg	Lubbock County, Texas	A partial slice with one edge of fusion crust of a rarely available aubrite; large enstatite crystals radiate throughout; it is believed that Shallowater did not originate from the aubrite parent body	50.54 g 62 x 49 x 5	\$3,000 – \$4,000
• 82	<a href="#">Glorieta</a> PAL-UNGR	1884	~148 Kg	Santa Fe Co., NM	In a treasure hunt that consumed much of his adult life, meteorite hunter Steve Schoner made dozens of trips to the rugged environs of Glorieta Mountain searching for the main pallasitic mass of this renowned meteorite. His ultimate discovery of the 20 Kg specimen became the cover story of <i>Meteorite</i> (Vol. 7 No. 1). Following material loss due to cutting, grinding and polishing, only 11 Kg of this historic meteorite exists — and the vast majority has been distributed; a rare complete slice from the storied main mass; polished on both sides; a prestigious and dazzling addition to any collection	464.3 g 219 x 169 x 3	\$11,000 – \$14,000
• 83	<a href="#">Glorieta</a> PAL-UNGR	1884	~148 Kg	Santa Fe Co., NM	Similar to the previous lot, Glorieta Mountain is classified as an anomalous pallasite; polished on one side; etched on the obverse; loaded with characteristic sulfides; a superb partial slice with one edge of crust	63.8 g 79 x 66 x 2	\$2,000 – \$2,600
84	<a href="#">Springwater</a> PAL	1931	67.6 Kg	Saskatchewan, Canada	Wedge-shaped specimen of a rightfully much-beloved Canadian meteorite; two cut and polished faces; the entire obverse is the external surface of the meteorite; featuring Springwater's distinctively rounded olivine crystals; compelling from any angle in any orientation	288.5 g 90 x 58 x 33	\$3,500 – \$5,000
• 85	<a href="#">Bilanga*</a> ADIO-M	Oct/27/1999	25 Kg	Bilanga, Burkina-Faso	Superior 1/2 individual of this recent diogenite with fresh black fusion crust; as inexpensive as a diogenite witnessed fall is ever likely to get	210 g 58 x 49 x 41	\$2,400 – \$3,000
86	<a href="#">Holbrook*</a> L6	Jul/19/1912	~220 Kg	Navajo Co., AZ	Three complete individuals (1.2g / 3.7g / 7.4g) with an average of 90% crust; American Museum of Natural History provenance	12.28 g 14 x 9 x 9	\$200 – \$375
• 87	<a href="#">L'Aigle*</a> L6	Apr/26/1803	~37 Kg	Orne, France	Yet another outstanding specimen of an important meteorite event. Says the Catalogue of Meteorites, "The detailed report of the [L'Aigle] phenomena first established beyond doubt the fact of the fall of stones from outer space." A matchless, complete specimen of L'Aigle, one of the most historic meteorites of all time; with 95% fusion crust and a British Museum of Natural History label	145 g 46 x 46 x 33	\$6,500 – \$8,500

Meteorite Auction - Macovich Collection

88	<a href="#">Zag*</a> H3-6	Aug/4/1998	200 Kg	Zag, Morocco	Fragment with fusion crust; Zag contains water inclusions within its salts	1017.5 g 128 x 79 x 49	\$1,000 – \$1,500
89	<a href="#">Lanxi*</a> L6	Jun/10/1986	1.282 Kg	Heilongjiang, China	Pristine complete slice ... and the largest slice in existence; 95% fusion crust; extremely difficult to obtain; Purple Mountain Observatory provenance	69.4 g 89 x 74 x 4	\$500 – \$700
• 90	<a href="#">Leedey*</a> L6	Nov/25/1943	50 Kg	Dewey County, Oklahoma	A complete slice of another Ninger meteorite; the lightly stained ivory matrix is stippled with flecks of metal throughout; 99% fusion crust; Monnig Collection (TCU) provenance	418.4 g 147 x 187 x 5	\$1,800 – \$2,500
91	<a href="#">NWA 482</a> LUNAR	Oct/2000	1.015 Kg	North West Africa	Partial slice of the Moon from the freshest and only oriented lunar meteorite known to exist; crystalline impact melt breccia with prominent melt veins and Lunar Highland affinities; recovered by M. Farmer & J. Strope	1.57 g 14 x 12 x 3	\$2,800 – \$3,800
92	<a href="#">Richfield</a> LL3.7	1983	40.8 Kg	Morton County, Kansas	Among the largest complete slices of an LL3 which will ever be available; multi-hued and brecciated with xenolithic clasts; a splendid, inexpensive example	679 g 329 x 138 x 3	\$4,500 – \$6,000
• 93	<a href="#">Manych*</a> LL3.4	Oct/20/1951	3.555 Kg	Stavropol, Russia	Pristine partial slice; fusion crust on one edge; an unusual opportunity to obtain a rare LL3.4 witnessed fall; Academy of Sciences (Moscow)	9.09 g 31 x 27 x 3	\$700 – \$850
94	<a href="#">Eagle*</a> EL6	FELL 1946	9.46 Kg	Cass County, Nebraska	Partial slice with one edge crust; exhibits the "dusting" of metal characteristic of enstatite chondrites; American Meteorite Laboratory provenance	7.55 g 34 x 22 x 4	\$275 – \$500
95	<a href="#">Cumberland Falls*</a> AUB	Apr/09/1919	17 Kg	Whitley Co., KY	Archetypal partial slice of this highly brecciated aubrite; small edge of fusion crust; Smithsonian Institution provenance	7.24 g 37 x 32 x 2	\$550 – \$750
• 96	<a href="#">Divnoe</a> ACUNGR	1981	12.7 Kg	Stavropol, Russia	Divnoe is a primitive anomalous achondrite, and this is a triangular wedge cut on four faces — but not the largest face, which is covered in fusion crust; Academy of Sciences (Moscow) provenance; a unique sub-type for the discriminating collector	8.27 g 21 x 15 x 9	\$700 – \$1,100
• 97	<a href="#">Morasko</a> IIICD	1914	~290 Kg	Poznan, Poland	Complete tapered slice with a beautiful crystalline structure; polished and etched on both sides	912.7 g 175 x 110 x 9	\$1,300 – \$1,800
98	<a href="#">Djati Pengilon*</a> H6	Mar/19/1884	~166 Kg	East Java, Indonesia	Partial slice; one edge fusion crust; flecks of nickel-iron blanket the olivine-tinged ebony matrix; fine representation of Indonesia's most famous meteorite	111.7 g 101 x 79 x 3	\$500 – \$750
• 99	<a href="#">Tishomingo</a> IRUNGR	1965	~260 Kg	Johnson County, Oklahoma	One of the more unusual iron meteorites on record; there is no other meteorite like Tishomingo — in composition or appearance; it has among the highest nickel contents of any meteorite (32%) making it intrinsically among the most valuable meteorites; it's exquisite crystalline pattern is beyond compare — an otherworldly mosaic punctuated by bead-like inclusions; Monnig Collection (TCU) provenance	506.9 g 158 x 272 x 3	\$3,000 – \$4,000
100	<a href="#">Murray*</a> CM2	Sep/20/1950	12.6 Kg	Calloway Co., KY	A choice fragment of this CM2; Smithsonian Institution provenance	6.29 g 25 x 13 x 13	\$500 – \$750
101	<a href="#">Tatahouine*</a> ADIO	Jun/27/1931	12 Kg	Foum Tatahouine, Tunisia	Another unusual meteorite; a handsome specimen of this diogenite recovered by Alain Carrion;	49.5 g 44 x 29 x 25	\$700 – \$1,100
102	<a href="#">Nakhla*</a> SNC	Jun/28/1911	~10 Kg	Alexandria, Egypt	From the planet Mars, this is a prototypal fragment of Nakhla; The Natural History Museum provenance	1.05 g 7 x 6 x 5	\$900 – \$1,200
103	<a href="#">Efremovka</a> CV3	1962	21 Kg	Pavlodar, Kazakhstan	Beveled trapezoidal specimen of a scientifically significant and extensively investigated meteorite; Academy of Sciences (Moscow) provenance	6.23 g 39 x 19 x 3	\$400 – \$600
104	<a href="#">Ningqiang*</a> CK-ANOM	Jun/25/1983	4.6 Kg	Shanxi, China	A choice and extremely fresh fragment of a rare and novel meteorite; researchers differ as to what constitutes the most correct classification of Ningqiang; exceedingly difficult to obtain; Purple Mountain Observatory provenance	9.58 g 28 x 11 x 13	\$750 – \$1,100
• 105	<a href="#">Ningqiang*</a> CK-ANOM	Jun/25/1983	4.6 Kg	Shanxi, China	Similar to the previous lot; chondrules protrude from the matrix which is also loaded with CAIs; a superb example of an exceedingly rare carbonaceous chondrite; Purple Mountain Observatory provenance	23.47 g 22 x 37 x 13	\$1,600 – \$2,300
106	<a href="#">Kainsaz*</a> CO3.2	Sep/13/1937	~200 Kg	Russia	Highly aesthetic polished triangular wedge; the face with the greatest surface area is covered in fusion crust; a rare CO3.2 fall; this specimen is from one of the four original large masses recovered by anxious KGB agents who didn't initially know what to make of this "bombardment"; Academy of Sciences (Kazan/Moscow) provenance	20.5 g 35 x 29 x 9	\$500 – \$600
107	<a href="#">Souslovo*</a> L4	Mar/30/1966	~19.3 Kg	Bashkortostan, Russia	The first public offering of a new meteorite. It is believed that Souslovo [name pending], which was recovered in 1997 and was identified at the end of 2002, is connected to a bright fireball observed in the same region in 1966; only the Vernadsky Institute (Academy of Sciences, Moscow) and the Macovich Collection possess small portions of this meteorite (several kilos and 500 grams, respectively); this softly triangular complete slice with fusion crust is studded with metallic clasts and a host of other inclusions	264.4 g 211 x 173 x 3	\$800 – \$1,200

• 108	<a href="#">Souslovo*</a> L4	Mar/30/1966	~19.3 Kg	Bashkortostan, Russia	If you did a little math after reading the aforementioned description, you noticed that quite a bit of Souslovo is missing — well, here it is. The main mass of Russia's newest meteorite; completely covered in fusion crust except for one cut and polished face. The thick, pie slice-shaped Souslovo meteorite is visually arresting; with chestnut crust and lavished with inclusions throughout its ebony matrix; a distinguished addition to any collection	11.91 kilos 9 x 7.5 x 6.25 inches	\$10,000 – \$14,000
• 109	<a href="#">Savtschenskoje*</a> LL4	Jul/27/1894	2.5 Kg	Tiraspol, Ukraine	An outstanding meteorite from any perspective; an LL4 — 19th Century witnessed fall — low tkw; fresh partial slice with fusion encrusted rim; Academy of Sciences (Moscow) provenance	44.4 g 68 x 49 x 5	\$800 – \$1,100
110	<a href="#">Lamont</a> MES	1940	38.6 Kg	Greenwood County, Kansas	It quite literally pays to closely look stone fences, as that's where this mesosiderite was found; less than 1% of all meteorites are mesosideritic; this is a square-ish partial slice with one edge of exterior surface; very good overall	69.9 g 70 x 73 x 3	\$500 – \$850
• 111	<a href="#">Travis County</a> H5	1889	175.4 Kg	Travis County, Texas	Complete trapezoidal slice with an unusual dark inclusion one inch in diameter; Monnig Collection (TCU) provenance	187.4 g 121 x 95 x 4	\$500 – \$750
• 112	<a href="#">Norton County*</a> AUB	Feb/18/1948	1,100 Kg	Norton County, Kansas	Buildings shook when the Norton County fireball exploded over Norton, Kansas. The main mass (~1 ton) — on display at the University of Mexico — is one of the largest stone meteorites on record. The lot offered here, flush with metal, is a quintessential fragment of this classic aubrite; University New Mexico provenance; catalog number N.15252	111.2 g 65 x 47 x 34	\$2,400 – \$3,000
113	<a href="#">Ornans*</a> CO3.3	Jul/11/1868	~6 Kg	Doubs, France	Partial slice; the "O" in the CO type; increasingly difficult to obtain; The Natural History Museum (London) provenance	3.44 g 31 x 17 x 2	\$325 – \$500
114	<a href="#">NWA 998</a> SNC	2001	0.465 Kg	North West Africa	Partial slice of unique orthopyroxene-bearing nakhlite; it is believed that all nakhlites — except NWA 998 — originate from the same locality and were part of the same ejection event; exhibiting a far younger crystallization age, 998 is the nakhlite with the new address	1.48 g 22 x 15 x 2	\$6,000 – \$8,000
• 115	<a href="#">Peña Blanca Spring*</a> AUB	Aug/02/1946	~70 Kg	Brewster Co., TX	Quarter slice with one edge with fusion crust featuring a large enstatite crystal and one half inch grain of metal; this famous aubrite plunged directly into a pond and was immediately recovered by a ranch hand picnicking nearby — it was a good thing he was quick about it as Pena Blanca is water soluble	75.33 g 90 x 89 x 3	\$1,800 – \$2,400
• 116	<a href="#">Tissemoumine</a> AACA	2000	~3.8 Kg	Morocco	Small encrusted individual of this rare acapulcoite with a cut window (for confirmation of identification as well as for analysis); the first acapulcoite individual to be made available to the public and one of the smallest acapulcoite individuals known to exist	38.2 g 30 x 22 x 20	\$1,600 – \$2,400
117	<a href="#">Tafassasset</a>	2000	~30 Kg	Tenere Desert, Niger	A very unusual meteorite, Tafassasset is related to CR chondrites as a result of the type of relic chondrules present; Tafassasset has also been classified as a primitive achondrite with a recrystallized texture; regardless of its classification, Tafassasset is a unique meteorite — with a uniquely beautiful internal structure as revealed in this slice	29.3 g 49 x 47 x 47	\$350 – \$500
• 118	<a href="#">Jonzac</a> AEUC	Jun/13/1819	5 Kg	Charente Maritime, France	A complete individual of the famed European Jonzac eucrite; ~80% fusion crust; an exemplary specimen from a historic meteorite event; Boubee Collection provenance	11.1 g 20 x 18 x 15	\$850 – \$1,100
119	<a href="#">Ahumada</a> PAL	1909	52.6 Kg	Chihuahua, Mexico	Partial slice; Field Museum (Chicago) provenance	44.1 g 69 x 55 x 3	\$750 – \$1,200
120	<a href="#">Orgueil*</a> C1	May/14/1864	14 Kg	Tarn-et-Garonne, France	Several particles, a few of which are more than 5mm in diameter. As expressed by a colleague of Darwin's, Orgueil is evidence of "God breathing on Meteors." Among the Holy Grails of meteorite science; The Natural History Museum (London) provenance	0.69 g 8 x 5 x 5	\$350 – \$700
121	<a href="#">Selakopi*</a> H5	Sep/26/1939	1.59 Kg	Bandung, Indonesia	Partial slice with one edge of crust; assured to be a rarity in any collection given the low tkw; Bandung Geological Museum provenance	28.8 g 68 x 50 x 3	\$400 – \$600
• 122	<a href="#">Selakopi*</a> H5	Sep/26/1939	1.59 Kg	Bandung, Indonesia	Another witnessed fall from an exotic locale, Selakopi is almost never available, and this is the main mass; apart from one cut and one fractured surface, this end piece is blanketed in fusion crust with a crack meandering through the matrix; Bandung Geological Museum provenance	252.8 g 81 x 51 x 32	\$2,200 – \$3,000
123	<a href="#">Shalka*</a> ADIO	Nov/30/1850	4 Kg	West Bengal, India	Partial slice of a difficult to obtain diogenite; The Natural History Museum (London) provenance	2.49 g 28 x 19 x 2	\$200 – \$300
• 124	<a href="#">Kenna</a> AURE	1972	10.9 Kg	Roosevelt Co., NM	Partial slice; Kenna is one of the very few ureilites that was not recovered from either the Sahara or Antarctica; a fine specimen of a classic meteorite	72.7 g 83 x 33 x 9	\$4,000 – \$5,500
125	<a href="#">St. Michel*</a> L6	Jul/12/1910	~17 Kg	Mikkeli, Finland	Partial slice with one polished face; as this is the first slice off a fragment, the texture of the obverse is that of a fractured face; a beautiful and increasingly difficult meteorite to acquire; with fine filigree impact veins and flecks of metal throughout; Helsinki Geological Museum provenance	80 g 85 x 55 x 4	\$550 – \$700
126	<a href="#">Tenham*</a> L6	FELL 1879	~240 Kg	S. Gregory, Queensland, Australia	Complete individual with 99% fusion crust; contains ringwoodite with heavy shocking throughout; Tenham's beautiful internal structure can be seen in the following lot	452.00 g 95 x 79 x 37	\$650 – \$1,100

• 127	<a href="#">Tenham*</a> L6	FELL 1879	~240 Kg	S. Gregory, Queensland, Australia	For those who missed the Tenham/Sandcreek plum [lot 56] and need another chance at acquiring a specimen of this unusually beautiful meteorite; this is an exceedingly large partial slice (for a Tenham) with two edges of fusion crust	255.4 g 126 x 148 x 3	\$800 – \$1,200
128	<a href="#">Howardite</a> <a href="#">Mystery</a> AHOW	Unknown		Sahara? Sydney? San Francisco?	A perfect ending? Informed this was Old Homestead (Australia), I'm dubious; nonetheless, this is an extremely fresh howardite fragment whose obverse is covered in fusion crust	4.11 g 21 x 14 x 11	\$300 – \$800