Meteoritics & Planetary Science 36, A293–A322 (2001)
Available online at http://www.uark.edu/meteor

The Meteoritical Bulletin, No. 85, 2001 September

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(Received 2001 May 31)

Abstract–Meteoritical Bulletin No. 85 lists information for 1376 newly classified meteorites, comprising 658 from Antarctica, 409 from Africa, 265 from Asia (262 of which are from Oman), 31 from North America, 7 from South America, 3 from Australia, and 3 from Europe. Information is provided for 11 falls (Dergaon, Dunbogan, Gujba, Independence, Itqiy, Morávka, Oued el Hadjar, Sayama, Sologne, Valera, and Worden). Noteworthy non-Antarctic specimens include 5 martian meteorites (Dar al Gani 876, Northwest Africa 480 and 817, and Sayh al Uhaymir 051 and 094); 6 lunar meteorites (Dhofar 081, 280, and 287, and Northwest Africa 479, 482, and 773); an ungrouped enstatite-rich meteorite (Itqiy); a Bencubbin-like meteorite (Gujba); 9 iron meteorites; and a wide variety of other interesting stony meteorites, including CH, CK, CM, CO, CR, CV, R, enstatite, and unequilibrated ordinary chondrites, primitive achondrites, HED achondrites, and ureilites.

INTRODUCTION

The Meteoritical Bulletin is a compilation of announcements by the Meteoritical Society's Meteorite Nomenclature Committee of newly described and classified meteorites. Additional information about meteorites listed in the Meteoritical Bulletin and the newly revised *Guidelines for Meteorite Nomenclature* may be found at the web site: http://www.uark.edu/studorg/metsoc/metbull.htm

Several conventions are followed in this document. Shock classifications conform to the scheme of Stöffler *et al.* (1991). The scale of Wlotzka (1993) is used to describe weathering grades, except as noted. For chondrite groups, petrologic types, shock stages, and weathering grades, slashes (*e.g.*, H5/6) indicate transitional assignments. Hyphens in petrologic type assignments for chondrites (*e.g.*, H5–6) indicate the ranges of types observed in breccias. Group names such as "L(LL)" indicate uncertain assignments, with the less probable group in parentheses. The word "ungrouped" indicates that a meteorite can not be fit into existing classification schemes. The word "anomalous" is used if a meteorite can be assigned to an established class, but differs from other members of that class in a significant way. All italicized abbreviations refer to addresses tabulated at the end of this document.

NEWLY DESCRIBED METEORITES

Agoult 30°33' N, 4°54' W
Morocco
Found 2000 March
Achondrite (unbrecciated eucrite)

An 82 g stone was found by a person prospecting for meteorites. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): a crusted stone; broken surfaces show a homogeneous, sugary textured interior; many 120° contacts are present between grains; pyroxene ranges from $Fs_{58.9}Wo_{4.4}$ to $Fs_{30.6}Wo_{41.1}$; bulk composition shows a flat rare earth pattern with a small positive Eu anomaly. Specimens: 14 g plus thin section, *ENSL*; main mass with anonymous finder.

ANSMET meteorites
(657 meteorites)
Antarctica
Found 1996–2000

Appendix 1 brings up-to-date the list of officially announced meteorites from the U.S. Antarctic Meteorite (ANSMET) program. 8941 meteorites were previously listed in the *Meteoritical Bulletin (MetBull)*, nos. 76, 79, and 82–84; these meteorites bring the total to 9598. The meteorites in Appendix 1 were published in the *Antarctic Meteorite Newsletter* (AMN), issues 23(2) (2000) and 24(1) (2001). Listed are the classifications, masses, degrees of weathering, olivine and pyroxene compositions, pairing information, ice fields upon which the meteorites were found, and bibliographic information, all sorted by sample name. Note that meteorite pairings may be tentative. **New classifications:** Queen Alexandra Range (QUE) 94204, 97289, and 97348 have been reclassified by T. McCoy (*SI*) as ungrouped enstatite-rich meteorites, and are probably paired with the newly described meteorite QUE 99204 (Appendix 1). Two previously unclassified iron meteorites from ANSMET have been analyzed (J. Wasson, *UCLA*): Grosvenor Mountains (GRO) 95511 is group IAB, with Co = 0.49 wt%, Ni = 8.18 wt%, Ga = 72.8 ppm, As = 16 ppm, Ir = 1.99 ppm, Au = 1.70 ppm; GRO 95522 is group IIIAB, with Co = 0.514 wt%, Ni = 7.94 wt%, Ga = 21.2 ppm, As = 7.42 ppm, Ir = 0.650 ppm, Au = 0.871 ppm. **Erratum**: The classification of Graves Nunataks (GRA) 98032 was incorrect in *MetBull* 84; the meteorite is a ureilite.

Aoufous 31°40' N, 4°4' W
Morocco
Found 2000 March
Achondrite (monomict eucrite)

A 195 g stone was found by a person prospecting for meteorites. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): contains numerous gray, subophitic, basaltic clasts (<5 mm) in a dark matrix; clasts and matrix have the same mineral compositions; plagioclase, An_{93}; pyroxene, $Fs_{61.9}Wo_{2.5}$, $n = 10$; clinopyroxene, $Fs_{27.6}Wo_{45.0}$, $n = 7$. Specimens: 12 g plus thin section, *ENSL*; main mass with anonymous finder.

Bluewing 001 40º14.965' N, 118º56.210' W
Pershing County, Nevada, USA
Found 2000 June 14
Achondrite (eucrite)

A 6.1 g stone was found by Paul Gessler while he was searching for meteorites on Bluewing Flat. Classification and analysis (P. Warren, *UCLA*): subophitic texture; pyroxene grains are mostly <1 mm and zoned from $En_{67.5}Wo_{4.8}$ to En_6Wo_{25} to En_3Wo_{15}; plagioclase is zoned from An_{89} to An_{75}, average An_{82}; minor and trace phases include silica, ilmenite, phosphate, fayalite, K-feldspar, metal and troilite; bulk composition is similar to Stannern and Bouvante. See also Warren and Gessler (2001). Specimens: type specimen, 1.15 g, *UCLA*; main mass, *Gessler*.

Chadong 28º32' N, 109º19' E
Hunan Province, China
Fell 1998 September 17, ~19:00 local time
Ordinary chondrite (L6)

A 3.7 kg stone was recovered near Shiniu village (coordinates given above) and Chadong town in Huayuan County by a farmer who had observed the meteorite to fall. Mineralogy and classification (A. Bischoff, *Mün*): olivine, $Fa_{24.2}$; pyroxene, $Fs_{20.7}$; shock stage, S3; weathering grade, W0/1. Specimens: main mass, *Farmer*; type specimen, 3 g, *Mün*; 14 g, *Heinlein*.

Dar al Gani 172–908, see Saharan meteorites from Libya

Dar al Gani 665 27°03' N, 16°21' E
Libya
Found 1999 November
Achondrite (polymict ureilite)

A 363 g dark stone with fusion crust was found in the Dar al Gani region. Classification and mineralogy (L. Folco and C. Ferraris *MNA-SI*): a fragmental breccia, with lithic and mineral clasts embedded in a cataclastic matrix of predominantly ureilitic material; lithic clasts include mafic ureilite material (olivine + pigeonite-rich), felsic material (oligoclase + pigeonite-rich), and dark objects; possibly paired with DaG 319 (see *MetBull* 83 and Ikeda *et al.*, 2000). Specimens: main mass with anonymous finder; type specimen, 16 g, plus polished thin sections, *MNA-SI*.

Dar al Gani 669 and 671 ~27°20' N, 16°10' E
Libya
Found 1999 November
Achondrite (howardite)

DaG 669 and DaG 671 weigh 926 and 485 g, respectively, and were found in close proximity. The two are very likely paired. Classification and mineralogy (L. Folco and C. Ferraris, *MNA-SI*): cumulate eucrite, basaltic eucrite and diogenitic clasts are embedded in a fragmental matrix along with sparse cryptocrystalline spherules; cumulate eucrite clasts have medium-grained gabbroic texture, dominated by pigeonite ($En_{60–48}Wo_{5–11}$) and anorthite (An_{91}), and contain minor augite (exsolved phase $En_{37–42}Wo_{36–42}$), Ti-chromite, ilmenite and iron sulfide; basaltic eucrite clasts display fine-grained subophitic texture, containing exsolved pigeonite ($En_{42}Wo_{14}$, showing augite lamellae, $En_{37}Wo_{38}$, in an enstatitic host, $En_{45}Wo_2$) and bytownite ($An_{71–76}$), with abundant Fe-Ni metal and chromite, plus a silica phase; diogenite clasts have fine-grained fragmental texture, with abundant fragments of zoned enstatite (cores: $En_{78}Wo_1$; rims: $En_{63}Wo_1$) up to 0.5 mm in size, and minor intermediate olivine (Fo_{51}), bytownite ($An_{83}Or_2$), iron sulfide, ilmenite and chromite; lightly shocked. Specimens: main mass with anonymous finder; type specimens 9.3 g (DaG 669) and 12.5 g (DaG 671), plus polished thin sections at *MNA-SI*.

Dar al Gani 684 27°05' N, 16°23' E
Libya
Found 1999 November
Achondrite (eucrite)

A 2210 g stone with dark grey-green fusion crust was collected in the Dar al Gani region. Classification and mineralogy (L. Folco and C. Ferraris, *MNA-SI*): has a fine- to medium-grained subophitic texture (typical grain size between 0.5 and 2 mm); bytownitic plagioclase is partially embedded in ferroan pigeonite and more magnesian ferrosilite; ferroan augite resulted from pigeonite exsolution; plagioclase is zoned from An_{90} to An_{80}; contains accessory ilmenite, chromite, sulfides, silica polymorphs and zircon; sparse μm-sized granoblastic material indicates minor annealing; low shock stage. Specimens: main mass with anonymous finder; type specimen, 134.5 g plus two polished thin sections at *MNA-SI*.

Dar al Gani 868 ~28° N, ~16° E
Libya
Found 2000 spring
Achondrite (ureilite)

A 40.03 g stone was found in the spring of 2000 by an anonymous finder in the Libyan desert. Classification and mineralogy (H. Takeda, *Chiba,* and T. Ishii and M. Ohtsuki, *UTok*): has a typical ureilite texture consisting of anhedral to subhedral olivine and pigeonite (0.9–3 mm across); carbonaceous material rims some grains or, in some cases, forms veins; one plate of graphite occurs within a large pigeonite crystal; olivine grains have homogeneous cores ($Fa_{20.6}$) and reduced rims (Fa_8) with high CaO contents (0.25–0.38 wt%); pigeonite, $Fs_{16.8}Wo_{7.5}$; less shocked than most ureilites; trace metal is mostly weathered to limonite. X-ray diffraction and reflected light microscopy (T. Nakamura and T. Nakamuta, *KyuU*) confirm the presence of fine-grained diamonds in a graphite lath. Specimens: main mass with anonymous finder; type specimens, 6.33 g, *NSMT*; 1.8 g, *KyuU*.

Dar al Gani 876 27°30' N, 16°30' E
Libya
Found 1998 May 7
Martian meteorite (basaltic shergottite)

A 6.216 g stone was found by an anonymous meteorite hunter on the plateau of the upper Sarir Qattusah. Classification and mineralogy (R. Bartoschewitz, *Bart*, and D. Ackermand, *Kiel*): a basaltic shergottite with affinity to lherzolitic shergottites; texture is porphyritic, with larger olivines in a fine-grained groundmass of pyroxene and maskelynite; pigeonite, $En_{59–66}Wo_{8–14}$; augite, $En_{45–52}Wo_{33–37}$; maskelynite, $An_{56–74}Or_{0.2–1.2}$; olivine, $Fa_{37–38}$; pyrrhotite has up to 2.5 wt% Ni. Possibly paired with Dar al Gani 476, 489, 670, and 735. Specimens: main mass with anonymous finder; type specimens, 0.7 g, *NHM,* and 0.6 g and a polished thin section, *Bart.*

Daraj 145–146, see Saharan meteorites from Libya

Dergaon 26°41' N, 93°52' E
Assam, India
Fell 2001 March 2, 16:40 local time
Ordinary chondrite (H5)
Witnesses reported a fireball accompanied by two loud explosions, and felt a slight tremor. Subsequently, H. P. Bordoloi collected the meteorite from a crater in a sugarcane field. It was in three pieces, weighing 10.3, 1.4, and 0.8 kg, respectively, with a total mass of 12.5 kg. Classification and mineralogy (K. Duorah, P. Phukan, J. Laskar, A. Muzumdar, *GauU*): olivine, $Fa_{19.9}$; pyroxene, $Fs_{17.8}$ $Wo_{1.2}$. Specimens: main mass plus 150 g type specimen, Astrophysics Lab, Dept. Physics, *GauU*; 1.4 kg, Dergaon College; 0.8 kg, J. B. College.

Devri-Khera and Lohawat, confirmation of fall dates
Dr. S. Sengupta, Director, Central Petrology Lab of *GSI* confirms the information reported in *MetBull* nos. 83 and 84: Devri-Khera (L6) and Lohawat (howardite) *both* fell in Rajasthan, India, on the night of 1994 October 30, separated by several hours and ~500 km.

Dhofar 008, correction
This meteorite has been reclassified by M. Ivanova (*Vernad*) as an L3.2/3.3 chondrite. Oxygen isotopes (R. Clayton and T. Mayeda, *UChi*): $\delta^{17}O$ = +3.81‰, $\delta^{18}O$ = +5.67‰, similar to Tieschitz.

Dhofar 027–312, see Oman meteorites

Dhofar 081 19°19.32' N, 54°46.96' E
Oman
Found 1999 November 29
Lunar meteorite (feldspathic fragmental breccia)
A brownish gray stone of 174 g covered by fusion crust was found in the Dhofar region of Oman. Classification and description (A. Greshake, *MNB*): a feldspathic fragmental breccia consisting of clasts of various lithologies embedded into a devitrified fine-grained matrix; schlieren and vesicles are abundant; feldspar, $An_{96.5-99.5}$; pyroxene, $Fs_{21.9-46.2}Wo_{3.0-41.4}$; olivine, $Fa_{29.3-47.8}$; augites are more abundant than Ca-poor pyroxenes and often contain pigeonite exsolution lamellae; accessory phases are Fe-Ni metal, ilmenite, and Ti-Cr-rich spinel; crystalline fragments include large gabbroic anorthosites, high-Al highland basalts, microporphyritic impact melt breccias, dark fine-grained impact melt breccias, and large cataclastic feldspar; no regolith components (*e.g.*, glass spherules) have been identified; low bulk concentrations of MgO and FeO reflect low abundance of mafic components. Specimens: 19.8 g plus two thin sections, *MNB*; several grams, *Mün*; main mass with anonymous finder.

Dhofar 125 18°59.20' N, 54°36.03' E
Oman
Found 2000 January 26
Primitive achondrite (acapulcoite)
A 2697 g black stone entirely covered by fusion crust was found in the Dhofar region of Oman. Classification and description (A. Greshake, *MNB*): contains olivine ($Fa_{8.5}$), augite ($Fs_{3.7}Wo_{43.8}$), low-Ca pyroxene ($Fs_{7.7}Wo_{1.9}$), plagioclase ($An_{16.3}Ab_{81.4}$), Fe-Ni metal, troilite, chlorapatite, and chromite; shows a recrystallization texture with abundant 120° triple junctions; many interstices are filled with metal; shock stage, S1; weathering grade, W1/2. Oxygen isotopes (R. Clayton and T. Mayeda, *UChi*): $\delta^{17}O$ = +0.36‰, $\delta^{18}O$ = +3.57‰, plotting in the acapulcoite–lodranite field. Specimens: 30 g and one thin section, *MNB*; main mass with anonymous finder.

Dhofar 280 19°19.6' N, 54°47.0' E
Oman
Found 2001 April 14
Lunar meteorite (anorthositic fragmental breccia)
A gray, crusted stone weighing 251.2 g was found in the Dhofar region of Oman. Classification and mineralogy (M. Nazarov, *Vernad*): a fragmental breccia containing numerous mineral fragments and clasts of feldspathic rocks embedded in a glass-rich matrix; schlieren and vesicles are abundant; feldspar, An_{91-98}; pyroxene, $En_{58-75}Wo_{4-5}$; olivine, Fo_{60-77} (Fe/Mn ≈ 99 atomic); accessory minerals are Ti-rich chromite, ilmenite, troilite, and Fe-Ni metal; terrestrial weathering not significant. Dhofar 081 and Dhofar 280 are probably paired because the stones were found close to one another and are similar in texture and mineral chemistry. Specimens: type specimen, 50 g plus two sections, *Vernad*; main mass with anonymous finder.

Dhofar 287 18°24.2' N, 54°08.8' E
Oman
Found 2001 January 14
Lunar meteorite (Low-Ti, olivine-pyroxene mare basalt breccia)
A dark gray, 154 g black stone without fusion crust was found in the Dhofar region of Oman, 400 m from Dhofar 025. Classification and mineralogy (M. Nazarov, *Vernad*; L. Taylor, *UTenn*): contains two adjacent lithologies, mare basalt (95 vol%) and regolith breccia (5 vol%). Basaltic portion consists of olivine (Fo_{70-45}) and minor augite (Wo_{30-40} En_{38-45}) phenocrysts (up to 1 mm) set in a subophitic, fine-grained (50–100 μm) groundmass composed of plagioclase (An_{85-75}) and pyroxene ($Wo_{10-25}En_{2-50}$), with accessory pyroxferroite, K-Ba feldspar, apatite, ilmenite, Ti-rich chromite, ulvöspinel, baddeleyite, silica, tranquillityite, troilite, Fe-Ni metal, and a fayalite + K-rich glass mesostasis; shock veins and impact melt pockets are present; plagioclase is totally converted to maskelynite; mineral modes (vol%) are pyroxene = 49, maskelynite = 26, olivine = 18, opaques = 4, impact melt = 2; whole-rock TiO_2 content = 2.8 wt%; Fe/Mn = 75 g/g; a prominent negative Eu anomaly is present; similar in composition to Apollo 12 mare basalts, but distinctly higher in Na and incompatible elements. Regolith breccia portion: clast-rich, with numerous lithic and mineral grains (up to 1 mm) cemented by fine-grained mineral fragments (<100 μm) and minor impact melt; dominated by low-Ti and VLT mare basalt lithologies; minor highland material is probably present; lithic clasts are fine-grained, vitrophyric, granular to ophitic, basaltic rocks and impact melt breccias; mineral fragments are dominated by pyroxene, olivine, and plagioclase; glass fragments and spherules also occur; plagioclase, An_{98-66}; olivine, Fo_{80-25}; pyroxenes are highly variable, $Wo_{5-40}En_{2-80}$; main accessories are silica, fayalite, pyroxferroite, K-rich glass, apatite, ilmenite, Ti-rich chromite, ulvöspinel, troilite, and FeNi metal. Specimens: 32 g and two thin sections, *Vernad*; main mass with anonymous finder.

Dhofar 300 18º24.2' N, 54º8.6' E
Oman
Found 2001 January 14
Achondrite (eucrite)
A 624 g partly crusted stone was found in the desert. Classification

and mineralogy (D. Badjukov, C. Lorenz, *Vernad*; F. Brandstätter, *NHMV*): a metamorphosed breccia of millimeter- to centimeter-sized lithic clasts (~70 vol%) with fine-grained matrix; clasts have ophitic texture and consist mainly of plagioclase ($An_{85.6\pm4.0}$) and very finely exsolved pyroxene (bulk composition is $Fs_{48\pm5}Wo_{20\pm6}$ with 0.5–1.5 wt% Cr_2O_3), with minor low-Ca pyroxene ($Fs_{61\pm1}Wo_{3\pm1}$); matrix consists mainly of subhedral grains of plagioclase ($An_{84.3\pm3.4}$), Cr-bearing augite ($Fs_{30\pm3}Wo_{41\pm3}$) and low-Ca pyroxene ($Fs_{62.7\pm1.0}Wo_{2.2\pm0.5}$); minor minerals are tridymite, ilmenite, and troilite; shock features include mechanical twinning in pyroxenes and rare planar deformation features in plagioclase. Specimens: 124 g, *Vernad*; main mass with anonymous finder.

Dhofar 312 18°59.3' N, 54°36.3' E
Oman
Found 2001 January 11
Primitive achondrite (acapulcoite)
A 354 g stone without fusion crust was found in the desert. Mineralogy and classification (D. Badjukov and C. Lorenz, *Vernad*; F. Brandstätter, *NHMV*): consists mostly of euhedral silicate grains (0.05–0.4 mm) with interstices filled by Ni-containing iron oxides; approximate mineral modes (vol%) are low-Ca pyroxene = 35, olivine = 25, plagioclase = 15, augite = 5, opaques = 5 (chromite and rare inclusions of troilite and metal in silicates), terrestrial weathering products = 15, accessory chlorapatite; olivine, $Fa_{8.6\pm0.5}$; orthopyroxene, $Fs_{7.6\pm0.4}Wo_{1.8\pm0.2}$; augite $Fs_{3.4\pm0.5}Wo_{40.2\pm2}$, containing 1.5 wt% Cr_2O_3; plagioclase, $An_{15.8\pm1.4}Ab_{81.5\pm2.7}Or_{2.6\pm0.3}$; many pyroxene and olivine grains contain rounded inclusions (1–20 μm) of troilite, kamacite (6 wt% Ni), and rare taenite (26 wt% Ni); low shock stage; weathering grade, W3. Dhofar 312 may be paired with Dhofar 125. Specimens: type specimen, 70 g and thin section, *Vernad*; main mass with anonymous finder.

D'Orbigny 37°40' S, 61°39' W
Buenos Aires, Argentina
Found 1979 July
Angrite
A 16.55 kg stone, mostly covered with dark gray fusion crust, was found in a corn field after a farmer hit it with a plow. Classification and mineralogy (F. Brandstätter and G. Kurat, *NHMV*): has a subophitic texture, exhibiting laths of plagioclase ($An_{>99}$, up to 2 mm) with subhedral to euhedral augite and anhedral to subhedral olivine; augite shows marked optical zoning, with cores containing 1.6 wt% TiO_2, 7.8 wt% Al_2O_3, X_{Mg} [Mg/(Mg + Fe + Ca)] = 26.8 mol%, X_{Fe} = 21.9 mol%, and X_{Ca} = 51.2 mol%, and reddish-brown rims with 4.0 wt% TiO_2, 8.0 wt% Al_2O_3, X_{Mg} = 0.6 mol%, X_{Fe} = 46.7 mol%, and X_{Ca} = 52.6 mol%; olivine is zoned, with cores having $Fa_{39.7}La_{1.3}$ (La = larnite), 0.9 wt% CaO, 0.13 wt% Cr_2O_3, 0.45 wt% MnO, and rims having $Fa_{75.9}La_{11.5}$, 6.6 wt% CaO, 0.12 wt% Cr_2O_3, 0.93 wt% MnO; in places, anhedral kirschsteinite ($Fa_{62.0}La_{34.0}$, 20.0 wt% CaO, 0.11 wt% Cr_2O_3, 0.75 wt% MnO) is intergrown with olivine; in places, abundant ultrabasic glass fills pore spaces ($SiO_2 \approx$ 40 wt%); minor to accessory phases include transparent brownish spinel (up to 500 μm), ulvöspinel, troilite, and a silicophosphate; contains abundant round vugs, up to 2.3 cm in diameter, and druses containing augite and rare centimeter-sized green olivine crystals (Fa_{9-11}); rock is fresh, but pores contain variable amounts of caliche. Specimens: main mass with finder; type specimen, 184 g, *NHMV*.

Dunbogan 31°40' S, 152°50' E
Macquarie County, New South Wales, Australia
Fell 1999 December 14
Ordinary chondrite (L6)
Appoximately 30 g of meteorite fragments were recovered by Paul Hancox after a stone crashed through his roof and the ceiling of his living room, and broke into many pieces, none over 0.5 g. Classification and mineralogy (P. Flood and P. Ashley, *UNE*; R. Pogson, *AMS*): olivine, $Fa_{24.9}$; pyroxene, $Fs_{20.9}$. Specimens: main mass with finder; type specimen, ~4 g plus polished mount, *AMS*.

El Gouanem 30°6' N, 6°51' W
Morocco
Found 2000 April
Achondrite (ureilite)
A 2100 g stone was found by a person prospecting for meteorites. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): has typical ureilitic texture and fabric; olivine cores, Fo_{76-77}; graphite and diamond were observed by Raman spectrometry. Specimens: 22 g plus thin section, *ENSL*; main mass with anonymous finder.

Fengzhen, classification
The Fengzhen iron from China has been classified as group IIIAB by R. Bartoschewitz (*Bart*) and B. Spettel (*MPI*): bulk metal composition, Ni = 7.5 wt%, Cu = 117 ppm, Ga = 44 ppm, Ir = 0.61 ppm, Au = 0.79 ppm. Based on compositional data and similar find locations, it seems likely that Fengzhen is paired with the Liangcheng IIIAB iron.

Gahanna ~40°1' N, 82°52' W
Franklin County, Ohio, USA
Found ~1950; recognized 1995 February
Iron, coarse octahedrite (IAB)
A 1201 g iron meteorite was found "40–50 years ago" outside of Columbus near Flint Ridge, according to Stephen Holowach, a relative of the finder, although the exact location is not known. Description and classification (G. Huss, *ASU*; J. Wasson, *UCLA*): a highly weathered mass, with only the central one-third remaining metallic; moderately shocked, with deformed Widmanstätten pattern; contains numerous schreibersite plates ~1 mm thick and up to ~1 cm in length; kamacite bandwidth is 2–3 mm; bulk metal has Ni = 7.06 wt%, Ga = 85.6 ppm, Ge = 329 ppm, Ir = 1.81 ppm. Specimens: type specimen, 5 g, *UCLA*; main mass, *ASU*.

Great Sand Sea 020 26°1' N, 25°44' E
Al Wadi al Jadid, Egypt
Found 2000 November 14
Ordinary chondrite (H melt rock)
A 5.42 kg stone was found by Dr. Marcus Zelezny while he was on vacation in the Gilf Kebir region. A zazora bird was buried beneath the meteorite, indicating probable human transport of the stone. Mineralogy and classification (F. Brandstätter, *NHMV*): more than 50 vol% of the meteorite is a melt rock composed of fine-grained, recrystallized glass (in places clear and isotropic) with embedded <0.1 mm euhedral olivine and pyroxene crystals; chondrule preservation extremely poor; contains numerous pores up to millimeter size; contains millimeter-sized metal grains; olivine, relic grains, $Fa_{18.0}$; low-Ca pyroxene, relic grains, $Fs_{15.1}Wo_{1.6}$; kamacite contains 0.44–0.48 wt% Co; weathering grade, W1. See also Brandstätter *et al.* (2001). Specimens: main mass, M. Zelezny; type specimen, 396 g, *NHMV*.

Griffith ~33°43' N, 102°49' W

Cochran County, Texas, USA
Found 1985, summer
Iron, ataxite (ungrouped)

A ~6 kg (~13 pound) iron meteorite was found by Daniel de los Santos while he was hoeing in a cotton field. Description (T. McCoy and R. Clarke, *SI*) and classification (J. Wasson, *UCLA*): bulk metal composition, Co = 0.73 wt%, Ni = 14.3 wt%, Ga = 0.3 ppm, As = 0.2 ppm, Ir = 10 ppm, Au = 0.06 ppm; composition is similar to group IVB. Specimens: main mass, O. Barrera, 609 SW 2nd St., Morton, Texas 79346, USA; type specimen, 120 g, contact M. Gower, *TTech*; 83 g plus polished section, *SI*.

Gujba 11°29'30" N, 11°39'30" E

Yobe, Nigeria
Fell 1984 April 3, 18:30 local time
Bencubbin-like meteorite

A conical meteorite fell in a corn field near the village of Bogga Dingare after a bright fireball was witnessed moving west to east and an explosion was heard. The local people hammered the meteorite into many pieces, and most of the material was dispersed. The original mass is unknown, although secondhand reports indicate that it had a volume of ~20 000 cm^3, and thus a mass of ~100 kg. Material that almost certainly came from this fall has been sold in the last few years elsewhere in Nigeria, with claims that the specimens were new finds. A preliminary description of the meteorite appears in Islam and Ostaficzuk (1988). Description (L. Karwowski, *USil*, based on the original mass): contains metal nodules, 1.5–8 mm in diameter, and silicate nodules 1–15 mm in diameter with fan-like aggregates of pyroxene; 60% of nodules are metal. Description and classification (A. Rubin and G. Kallemeyn, *UCLA,* based on a 282 g fragment purchased in 2000 near the village of Gidan Wire in Kaduna state): consists of large metal nodules containing variable amounts of troilite, and cryptocrystalline silicate spheroids; silicates include pyroxene ($Fs_{1-2}Wo_{1-3}$) and rare olivine (Fa_3); siderophile abundance pattern in metal is similar to that of Bencubbin; shock stage, S2; weathering grade, W0. Oxygen isotopes (R. Clayton, *UChi*): light-colored silicates, $\delta^{17}O$ = –2.19‰, $\delta^{18}O$ = +0.53‰; dark-colored silicates, $\delta^{17}O$ = –1.78‰, $\delta^{18}O$ = +0.98‰. Specimens: 12.2 kg, mostly disintegrated, *UMaid*; 815 g, *MZ*; type specimen, 64 g, *UCLA*; remainder of 282 g mass, *Twelker*.

Hamadat Murzùq 001–002, see Saharan meteorites from Libya

Hammadah al Hamra 238–290, see Saharan meteorites from Libya

Igdi 29°14' N, 8°22' W

Morocco
Found 2000 February
Achondrite (monomict eucrite)

A 1470 g stone in several pieces was found by a person prospecting for meteorites. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): a monomict breccia; contains plagioclase (An_{90}), pigeonite ($Fs_{63.5}Wo_{6.9}$, n = 8) with exsolved clinopyroxene ($Fs_{33.2}Wo_{41.9}$, n = 1), silica, ilmenite, chromite, and troilite. Specimens: 23 g plus thin section, *ENSL*; main mass with anonymous finder.

Independence 39°5' N, 94°24' W

Jackson County, Missouri, USA
Fell 1917 or 1918, summer
Ordinary chondrite (L6)

Edward Keesling heard a hissing/buzzing sound, and then observed a dark object falling to the ground on the side of a dirt road. The 880 g stone was kept by him until his death. Mineralogy and classification (G. Holland, *UMan*): olivine, $Fa_{24.5}$; pyroxene, $Fs_{20.8}$ $Wo_{1.3}$; shock stage, S3; weathering grade, W1. Specimens: 21.2 g, *UArk*; main mass, *AShaw*.

Itqiy 26°35.45' N, 12°57.13' W

Saguia el Hamra, Western Sahara
Fell ~1990
Ungrouped enstatite-rich meteorite

In the year 1990 (±1 year), after a detonation and the appearance of light, one stone of 410 g was recovered near Itqiy by a nomad. A larger stone weighing 4310 g was recovered by Marc, Luc, and Jim Labenne while searching for meteorites in the same place in 2000 July. The larger stone has a black fusion crust exhibiting flow lines. Classification and mineralogy (D. Hill and A. Patzer, *UAz*): has an equigranular texture showing numerous triple junctions; enstatite (grain size 0.5–4 mm), 78 vol%, has $Fs_{0.2}Wo_{3.0}$; metal (grain size 0.2–2 mm), 22 vol%, is kamacite with Fe = 90.4 wt%, Ni = 5.77 wt%, Si = 3.13 wt%, in the EH compositional range; troilite is nearly absent; Mg-Mn-Fe sulfides with compositions intermediate between typical E-chondrite niningerite and alabandite, plus unusual Fe-Cr sulfides are heterogeneously distributed in intergranular regions (0.2–1 mm in diameter); bulk Mg/Si = 0.82 mol/mol, in the lower EL range (slightly higher than EH); bulk Fe/Si = 1.13 mol/mol, in the high EH range; no relic chondrules are observed; shock stage, S5, weathering grade W1–2. For further details see Patzer *et al.* (2001). Specimens: main mass with *Labenne*; type specimen, 22.17 g, includes two thin sections, *UAz*.

Jiddat al Harasis 011–028, see Oman meteorites

Kharga 31°7.952' N, 25°2.829' E

Marsa Matruh, Egypt
Found 2000 May 8
Iron, fine octahedrite (IVA)

A 1.04 kg iron meteorite was found by a meteorite hunter on a limestone plateau. Description and classification (G. Weckwerth, *Köln*; J. Otto, *Frei*; R. Bartoschewitz, *Bart*; A. Gehler, Wolfsburg, Germany): kamacite bandwidth 0.3 ± 0.2 mm; bulk metal has Ni = 11.0 wt%, Ga = 1.6 ppm, Ge < 2 ppm, Ir = 0.24 ppm. Specimens: main mass, 989 g, A. Gehler, Reichenberger Ring 3, D-38440 Wolfsburg, Germany; 22.5 g, *Bart*; type specimen, 18.7 g, *Frei*.

Korra Korrabes 25°12' S, 18°5' E

Namaland, Namibia
Found 1996 November
Ordinary chondrite (H3)

A 22 kg stone plus 11 smaller pieces totaling ~18 kg were found in 1996 November in a dry river bed by a farmer who was searching for Gibeon irons. People searching with metal detectors recovered hundreds of additional buried, more weathered pieces within 50 m of the original material since 2000 November, bringing the total mass to ~120–130 kg. The largest specimen was used in a garden wall until 2000 August. Classification and mineralogy (L. Ashwal, *RAU*): a breccia with ~10–20 vol% angular to irregular, relatively light-colored clasts, varying in size up to ~3 cm across; olivine, $Fa_{13.8-27.2}$

($n = 152$); low-Ca pyroxene, $Fs_{8.4–27.8}$ ($n = 68$); excellent preservation of glass in chondrules; shock stage, S1; weathering grade, W2. Specimens: main mass owned by Dr. R. McKenzie, WRP, Pty. Ltd, Pretoria, 0001 South Africa; type specimens, four pieces totaling 192.7 g, *TM*.

Lucerne Valley 013, classification
Lucerne Valley (LV) 013 has now been classified by A. Rubin (*UCLA*) as L5, shock stage S2, weathering grade W3. LV 013 is probably paired with LV 014 and LV 016.

Morávka ~49°36' N, 18°32' E
North Moravia, Czech Republic
Fell 2000 May 6, 11:51:52 U.T.
Ordinary chondrite (H5)
After a bright fireball was observed in the Czech Republic, Poland, and Slovakia, and a sonic boom was heard in northern Moravia, a 214 g stone that had passed through a spruce tree and landed in a garden was collected. Two other pieces weighing 329 and 90 g were collected later in May and in June. The fall was videotaped, allowing the calculation of orbital parameters (P. Spurný, J. Borovička, Z. Ceplecha, *CAS*): $a = 1.85 \pm 0.10$ AU, $e = 0.47 \pm 0.03$, $q = 0.9823 \pm 0.0012$ AU, $Q = 2.7 \pm 0.2$ AU, $\Omega = 46.2580°$, $\omega = 203.5° \pm 1.0$, $i = 32.2° \pm 0.8$. Mineralogy and classification (P. Jakeš and J. Frýda, *CUP*): olivine, $Fa_{19.2}$; low-Ca pyroxene, $Fs_{16.9}$; high-Ca pyroxene, $Fs_{6.2}Wo_{44.3}$; see also Borovicka *et al.* (2000). Specimens: main mass, *CAS*.

Northwest Africa 002 and 014–018, corrections and additions
The masses of these meteorites were reported incorrectly in *MetBull* 84. The correct masses are NWA 002 = 234.4 g, NWA 014 = 4 g, NWA 015 = 5 g, NWA 016 = 22 g, NWA 017 = 78 g, and NWA 018 = 86 g. The mean and range of Fa of olivine in NWA 014 and 016 were also stated incorrectly. The correct data are: NWA 014, $Fa_{20.4(18.2–25.8)}$; NWA 016, $Fa_{19.9(15.1–30.3)}$. M. Ivanova (*Vernad*) reports that NWA 002 is a partly melted EL6, shock stage S5, with 0.97 wt% Si in kamacite, pyroxene composition of $Fs_{0.63}$, and plagioclase composition of $An_{10.6}$.

Northwest Africa 033–820, see Saharan meteorites from Morocco and surrounding countries

Northwest Africa 047
Northwest Africa
Purchased 2000 April
Achondrite (monomict eucrite)
A 5200 g stone was purchased in the town of Erfoud. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): a breccia containing numerous clasts of subophitic basalt in a gray, medium-grained, recrystallized matrix; contains plagioclase ($An_{85–88}$), pigeonite ($Fs_{60.0}Wo_{5.6}$, $n = 13$) with exolved clinopyroxene ($Fs_{30}Wo_{42}$, $n = 8$), tridymite (determined by Raman spectrometry), ilmenite, and chromite; phases identical in composition in matrix and clasts. Specimens: 53 g plus polished section, *ENSL*; main mass, *Carion*.

Northwest Africa 049
Northwest Africa
Purchased 2000
Achondrite (eucrite)
A 276 g stone was purchased in Morocco. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): contains centimeter-sized ophitic clasts in a brecciated matrix; pyroxenes in clasts are zoned with Mg-rich cores, $Fs_{32.3}Wo_{5.9}$ to $Fs_{52.7}Wo_{7.3}$; clasts contain numerous veinlets of olivine, $Fa_{78–82}$; matrix contains pyroxene with variable thicknesses of exsolution lamellae, with or without olivine; this eucrite is probably polymict. Specimens: 23 g plus two thin sections, *ENSL*; main mass, *Carion*.

Northwest Africa 176
Possibly near Morocco/Algeria Border
Found 1999
Iron meteorite with silicate inclusions (ungrouped)
A 2 kg stone was purchased in Morocco by Geoffrey Cintron. Classification and mineralogy (K. Keil, E. Scott and M. Liu, *UHaw*): a fresh iron with lightly shocked (S1) greenish-yellow polymineralic silicate inclusions (40 vol%) 1–10 mm in size; olivine, $Fa_{11.4\pm0.3}$; orthopyroxene, $En_{85.9\pm0.8}Fs_{11.4\pm0.6}Wo_{2.7\pm0.4}$; clinopyroxene, $En_{51.8\pm1.9}Fs_{5.9\pm0.7}Wo_{42.2\pm2.4}$; plagioclase, $An_{49.9\pm2.7}Ab_{46.5\pm2.2}Or_{3.6\pm0.7}$; weathering grade, W0. Metal composition (J. Wasson, *UCLA*): Co = 0.413 wt%, Ni = 8.66 wt%, Cu = 318 ppm, Ga = 17.7 ppm, Ge ≈160 ppm, As = 9.12 ppm, Ir = 3.56 ppm, Au = 0.853 ppm. Oxygen isotopes (R. Clayton and T. Mayeda, *UChi*): silicate inclusions, $\delta^{17}O = –6.5‰$, $\delta^{18}O = –2.5‰$. Oxygen isotopes and bulk chemistry show that this is an ungrouped iron closely related to the Bocaiuva iron with silicate inclusions. Specimens: main mass with G. Cintron, 164 Scooter Lane, Hicksville, NY 11801, USA; type specimen, 68 g, *UHaw*.

Northwest Africa 468
Northwest Africa
Year of find unknown
Iron meteorite with silicate inclusions (ungrouped)
A 6100 g meteorite was purchased in Tucson, Arizona, in 2000 January by David Gregory from a Moroccan dealer who had bought it originally in Alnif, Morocco. Classification and mineralogy (J. Wasson and A. Rubin, *UCLA*): an ungrouped iron with chemical affinities to IAB irons and possibly related to the Antarctic iron Grove Mountains 98003; bulk metal composition, Cr = 2300 ppm, Co = 0.719 wt%, Ni = 11.85 wt%, Cu = 263 ppm, Ga = 31.0 ppm, As = 22.8 ppm, Sb = 0.431 ppm, W = 0.65 ppm, Ir = 2.75 , Pt = 4.0 ppm, Au = 2.21 ppm; contains massive silicate inclusions, with average mineral compositions of olivine, $Fa_{4–7}$, low-Ca pyroxene, $Fs_{8.6–9.4}$, high-Ca pyroxene, $Fs_{3.7}Wo_{45.4}$, plagioclase, $An_{78.7}Or_{2.6}$. Oxygen isotopes (R. N. Clayton and T. Mayeda, *UChi*): silicate inclusions, $\delta^{17}O = +0.18‰$, $\delta^{18}O = +3.01‰$, $\Delta^{17}O = –1.39‰$. Specimens: main mass with D. Gregory, 230 First Avenue, Suite 108, St. Thomas, Ontario, Canada; type specimen, 61.6 g, *UCLA;* 185 g, *ROM.*

Northwest Africa 470 31°59.0' N, 4°11.2' W
Morocco
Found 1999
Carbonaceous chondrite (CH)
A meteorite weighing 62.9 g was purchased from nomads by S. Afanasiev during an expedition to the Er Rachidia region of the Moroccan Sahara in 2000 April. Mineralogy and classification (M. Ivanova and M. Nazarov, *Vernad;* M. Petaev, *CfA*): fusion crust is blackish-brown; there are two populations of chondrules, one with cryptocrystalline textures, 20–50 μm in size, the other with porphyritic olivine-pyroxene or barred olivine textures, >50 μm in size; matrix

is absent; contains ~20 vol% metal with a solar Ni/Co ratio; olivine, $Fa_{2.0}$; pyroxene, $Fs_{2.8}$; contains CAIs of different types, many grossite-rich. Oxygen isotopes (R. Clayton and T. Mayeda, *UChi*): $\delta^{17}O = -0.40‰$, $\delta^{18}O = +2.20‰$, indicating CH-CR clan. Specimens: type specimen, 7.2 g, and thin section, *Vernad;* main mass with purchaser, S. Afanasiev.

Northwest Africa 479

Possibly Khter n'Aït Khebbach, Morocco
Found 2000 November
Lunar meteorite (mare basalt)

A 156 g stone was collected in Morocco in the area of Khter n'Aït Khebbach, however, the exact location is unknown. Classification and mineralogy (J-A. Barrat, *UAng*; A. Jambon, *UPVI*; Violaine Sautter, *MNHNP*; Ph. Gillet, *ENSL*): consists of phenocrysts of olivine, pyroxene and chromite in a groundmass of pyroxene and calcic plagioclase; texture closely resembles that of NWA 032; mineral compositions are identical to those reported for NWA 032 (see *MetBull* 84). Specimens: main mass with anonymous finder; type specimen, 8 g and 1 thin section, *ENSL*; 3.6 g, *NHMV*.

Northwest Africa 480

Northwest Africa
Found 2000 November
Martian meteorite (basaltic shergottite)

A 28 g stone almost completely covered with fusion crust was found in Morocco. Classification and mineralogy (J-A. Barrat, *UAng*; A. Jambon, *UPVI*; Violaine Sautter, *MNHNP*; Ph. Gillet, *ENSL*): has a coarse-grained basaltic texture consisting predominately of subhedral to euhedral pyroxene (up to 3 mm) and interstitial, lath-shaped maskelynite; accessory minerals include merrilite, chlorapatite, pyrrhotite, Fe-oxides, fayalite and silica; pyroxenes show complex zonation with Mg-rich pigeonite cores ($Fs_{26}Wo_4$), followed by augite ($Fs_{29}Wo_{30}$), and mantled by Fe-rich pigeonite ($Fs_{84}Wo_{11}$); no pyroxferroite has been detected; maskelynites are homogeneous, $An_{46-50}Ab_{52-48}Or_{\sim 2}$; merrilite forms rounded grains (up to 100 μm) and is Fe-rich (~5 wt% FeO), commonly with 6–40 μm thick rims of fayalite ($Fa_{\sim 95}$), silica, Fe-Ti oxides, and pyrrhotite; silica (stishovite) occurs as irregular grains in maskelynite or at grain boundaries to pyroxene and is surrounded by radiating cracks. Oxygen isotopes (M. Javoy and E. Petit, *IPGP*): $\delta^{17}O = +2.91‰$, $\delta^{18}O = +4.78‰$, and $\Delta^{17}O = +0.42‰$. Specimens: main mass, 25 g, *CNES*.

Northwest Africa 482

Algeria?
Found 2000?
Lunar meteorite (impact melt breccia)

A 1015 g stone was purchased on 2001 January 10 in Alnif, Morocco, by Michael Farmer. The exact location of find is unknown but it is possibly in Algeria. The stone is complete, oriented, and appears relatively unweathered. Classification and mineralogy (A. Rubin and P. Warren, *UCLA*; D. Kring and I. Daubar, *UAz*): texture is typical of a crystalline impact melt breccia (polymict) with highland affinities; glassy and vesicular melt veins and melt pockets indicate shock subsequent to compaction by an impact event; plagioclase, $An_{95.7}Ab_{4.09}Or_{0.17}$ (*n* = 136, *UAz*); olivine, Fo_{65-68} (average Fo_{66}) with FeO/MnO = 88 ± 7 g/g (*UCLA*); olivine $Fo_{68.4}$ with FeO/MnO = 93.9 ± 7.7 g/g (range: 78.7 to 111) (*n* = 51, *UAz*); pyroxene, $Fs_{25}Wo_{17}$ with nearly uniform Mg/(Mg + Fe) = 67–68 mol% and FeO/MnO = 51 ± 6 g/g (*n* = 10, *UCLA*); pyroxene, $Wo_{10.3-51}En_{32.6-63.9}Fs_{42.6-14.2}$, mean Mg/(Mg + Fe) = 68 mol%, FeO/MnO = 52 ± 8 g/g (*n* = 28, *UAz*); glassy melt veins occur in both *UCLA* and *UAz* samples; a 0.1 mm vein (*UCLA*) has SiO_2 = 44.3 wt%, Na_2O = 0.3 wt%, Al_2O_3 = 30.0 wt%, FeO = 3.6 wt%, MgO = 3.9 wt%, CaO = 17.3 wt%, and TiO_2 = 0.3 wt%, which may approximate the bulk meteorite composition. Specimens: half of the main mass is with *Farmer*; 74 g, *DPitt*; type specimens, 24 g, *UCLA*, and 18 g, *UAz*.

Northwest Africa 753

Northwest Africa
Found 2000
Rumuruti chondrite (R3.9)

12 kg of this meteorite in many pieces was purchased in Rissani in 2001 January. It was probably found in the Kem Kem region. Classification and mineralogy (A. Sokol and A. Bischoff, *Mün*): the sample appears to be unbrecciated in thin section; olivine, $Fa_{38.6\pm3.2}$ (range Fa_{20-41}, *n* = 36); Ca-poor pyroxene, $Fs_{20.3\pm4.0}$ (range Fs_{8-30}, *n* = 24); Ca-pyroxene, $Fs_{9.1\pm0.5}Wo_{47.6\pm1.8}$; plagioclase, $An_{11.4\pm1.7}$; shock stage, S2; weathering grade, W2, making it one of the freshest R chondrites besides Rumuruti; sulfides are well preserved. See also Bischoff *et al.* (2001). Main mass with purchaser; type specimen, 52 g, and thin section, *Mün*.

Northwest Africa 755

Northwest Africa
Found 2000
Rumuruti chondrite (R3.7)

A 352 g stone was purchased in Rissani in 2001 January. It was probably found in the Kem Kem region. Classification and mineralogy (A. Sokol and A. Bischoff, *Mün*): one of the most unequilibrated Rumuruti samples; the sample appears to be unbrecciated in thin section; olivine, $Fa_{36.8\pm7.8}$ (range Fa_{10-44}, *n* = 30); Ca-poor pyroxene, $Fs_{19.7\pm7.8}$ (range Fs_{1-34}, *n* = 18); Ca-pyroxene, $Fs_{10.3\pm1.2}$ $Wo_{47.8\pm1.4}$; plagioclase, $An_{11.9\pm1.5}$; shock stage, S2; weathering grade, W4, with most sulfides destroyed. See also Bischoff *et al.* (2001). Main mass with purchaser; type specimen, 21 g, and thin section, *Mün*.

Northwest Africa 770 20°20.80' N, 11°50.03' W

Morocco
Found 2000 June
Carbonaceous chondrite (CH)

An 18.1 g crusted stone was found north of Legaaida by a person prospecting for meteorites. Mineralogy and classification (T. Bunch and J. Wittke, *NAU*): similar to Allan Hills 85085 in texture, mineral modes (pyroxene/olivine = 3:1, Fe-Ni metal = 27 vol%), and chondrule size (mean diameter = 23 μm), but with few "matrix lumps"; contains small, subrounded CAIs with pure gehlenite (MgO = 0.3 wt%) and micron-sized perovskite; 80% of chondrules are cryptocrystalline, and consist of stoichiometric enstatite (FeO = 0.24 wt%) and forsterite (FeO = 1.1 wt%); rare refractory chondrules have Al-rich diopside cores with spinel inclusions and forsterite rims (FeO = 0.45 wt%); metal grains average Ni = 6.1 wt% and Cr = 0.47 wt%; shock stage, S2; weathering grade, W1. Specimens: 3.2 g plus thin section, *NAU*; main mass with finder.

Northwest Africa 771 26º33.60' N, 11º33.33' W

Morocco
Found 2000 June
Achondrite (ureilite)

A 313 g stone was found near Nebca, Morocco, by a person prospecting for meteorites. Mineralogy and classification (T. Bunch and J. Wittke, *NAU*): has typical ureilite texture; contains reversely zoned olivine ($Fa_{12–17}$; Cr = 0.7 wt%) and pigeonite ($Fs_{17}Wo_{10}$); average metal composition, Ni = 3.3 wt%, Si = 1.6 wt%, Cr = 0.25 wt%; troilite contains up to 9 wt% Cr and 1 wt% Ni; shock stage, S2; weathering grade, W1. Specimens: 21.2 g plus thin section, *NAU*; main mass with anonymous finder.

Northwest Africa 772 26°26.96' N, 11°41.61' W
Morocco
Found 2000 October
Carbonaceous chondrite (CK3)
A 71 g, 90% crusted stone was found southwest of Raudat Haua by a person prospecting for meteorites. Mineralogy and classification (T. Bunch and J. Wittke, *NAU*): modes (vol%) are matrix = 58, chondrules = 32, sulfides = 7, Cr-magnetite = 2, refractory inclusions = 1; chondrule sizes range from 50 μm to > 1 mm; chondrule type modes (vol%) are porphyritic olivine = 21, porphyritic olivine-pyroxene = 4, cryptocrystalline = 3, granular olivine = 3, other = 1; matrix is mostly unrecrystallized; fine-grained olivine, Fa_{35}, NiO = 0.25 wt%; plagioclase, An_{80}; Ca-rich pyroxene, $Wo_{46}Fs_{9}$; Ca-poor pyroxene, $Fs_{19.6}$; contains Ni-rich sulfides and Cr-rich magnetite (Cr_2O_3 = up to 13.9 wt%); weathering grade, W0/1. Specimens: 13.8 g plus thin section, *NAU*; main mass with finder.

Northwest Africa 773 ~26°46' N, ~12°49' W
Western Sahara
Found 2000 September
Lunar Meteorite (cumulate olivine norite with regolith breccia)
Three stones of 359, 224 and 50 g, totaling 633 g were sold to Marvin Killgore (*SWML*) by nomads who showed him the place of find on a flat dry desert plain near Dchira, Western Sahara. Mineralogy and classification (T. Fagan, *UHaw*; M. Killgore, *SWML*; J. Wittke and T. Bunch, *NAU*): consists of two distinct lithologies, cumulate rock and regolith breccia; shock stage, S2; weathering grade, W1. Cumulate portion: modes (vol%) are olivine = 54.7, pigeonite = 24.2, augite = 5, feldspar (including minor K-feldspar) = 15.6, opaques (troilite, chromite, Fe-metal, ilmenite) = 0.5; olivine, $Fa_{28–34}$, mean Fa_{31}, FeO/MnO = 99 ± 11 g/g; pigeonite, $En_{64}Wo_{11}$, FeO/MnO = 53 ± 6 g/g; augite, $En_{49}Wo_{36}$, FeO/MnO = 46 ± 6 g/g; plagioclase, $An_{88–91}$; Ba-rich K-feldspar, $An_3Ab_4Or_{93}$ with average BaO = 2.2 wt%. Breccia portion: contains fragments of cumulate portion as well as silica glass, hedenbergitic pyroxene, volcanic rocks, and unusual lithic clasts with fayalite + Ba-rich K-feldspar + silica + plagioclase; olivine and pyroxene in the breccia have a slightly wider compositional range towards lower Mg/(Mg + Fe) than in the cumulate portion of the rock. Chemical composition (D. Mittlefehldt, *JSC*): KREEP-rich with strong negative Eu-anomaly. Noble gases (O. Eugster, Physikalisches Institut, *Bern*): high solar wind component, $^{4}He/^{20}Ne$ = 9, indicative of regolith material. Specimens: type specimen, 15 g, *NHM*; main mass *SWML*.

Northwest Africa 776
Morocco
Purchased 2000
Achondrite (howardite)
A 49 g crusted stone was purchased in Morocco. Mineralogy and classification (T. Bunch and J. Wittke, *NAU*): a polymict breccia; contains large orthopyroxene fragments ($Fs_{29}Wo_2$) and clasts of eucrites, diogenites, gabbroic and glassy fragments; matrix divided into gray and very dark flow segregations; plagioclase, An_{87}; shock stage, S3; weathering grade, W1. Specimens, 10.1 g and a thin section, *NAU*; main mass with buyer.

Northwest Africa 817
Morocco
Found 2000 December
Martian meteorite (nakhlite)
A 104 g stone was found in the desert of Morocco. Classification and analysis (V. Sautter, *MNHNP*; J. Barrat and M. Lesourd, *UAng*; A. Jambon, *UPVI*; P. Gillet, *ENSL*; C. Göpel and J. Joron, *IPGP*): an unbrecciated, medium-grained, olivine-bearing clinopyroxenite with cumulate texture; consists of zoned, euhedral, subcalcic augite ($Wo_{38–40}En_{38–27}Fs_{24–34}$ and Fe/Mn = 39–31), olivine (zoned from Fa_{57} in cores to Fa_{86} in rims, with Fe/Mn = 54–43) with crystallized magmatic inclusions, and a three-component intercumulus mesostasis (glass including minute amounts of sulfide droplets, Ti-magnetite with unusual skeletal morphology containing ilmenite exsolution, and acicular pyroxene); mineral modes (vol%), pyroxene = 69, olivine = 15, mesostasis = 15, and Fe-Ti oxides = 1; alteration (probably pre-terrestrial) produced a hydrous ferrous silicate both in olivine and in the glassy mesostasis; bulk major-element composition similar to other nakhlites; element ratios confirm martian origin (FeO*/MnO = 37 mol/mol, Na/Al = 0.40, K/La = 449, Ga/Al = 3.9 × 10^{-4}); has a higher proportion of mesostasis than other nakhlites; displays the highest Th, U and rare earth elements (REE) concentrations ever reported for a nakhlite (*e.g.*, Th = 0.6 ppm); REE pattern characterized by a strong light REE enrichment (La_n/Yb_n = 4.89), and Eu/Eu* = 0.90. Oxygen isotopes (M. Javoy and E. Petit, *IPGP*): $\Delta^{17}O$ = +0.4‰. Specimens: 10 g, *ENSL*; main mass, *Fectay*.

Northwest Africa 820 31°25' N, 4°11' W
Hassi Labyade, Er Rachidia, Morocco
Possibly fell 1999 June, 23 hrs local time
Ordinary chondrite (L3–5)
A. Pani purchased ~2 kg of a meteorite broken into several fragments from an anonymous finder who claims to have recovered it after observing it fall. Mineralogy and classification (F. Brandstätter, *NHMV*): a brecciated meteorite covered by black fresh fusion crust; interior is light-grey, with white-grey and dark-grey angular fragments (<1 cm up to several centimeters in size); main part has type 3 texture with well-defined chondrules, some with brownish glass; chondrules in some clasts are slightly deformed and matrix is recrystallized, typical of petrologic type 4 or 5; unequilibrated clast mineralogy includes olivine ($Fa_{0.6–22.8}$), pyroxene ($Fs_{1.6–19.5}$), low Ni-metal (Ni = 7.4–7.6 wt%, Co = 0.73–1.06 wt%); equilibrated clast mineralogy includes olivine ($Fa_{23.4–24.8}$), pyroxene ($Fs_{19.1–23.3}$), low-Ni metal (Ni = 7.4–7.6 wt%, Co = 0.85–0.97 wt%); weathering grade, W0. Specimens: type specimen, 560 g, *NHMV*, main mass, *Pani*.

Oman Meteorites
(262 meteorites)
Oman
Found 1999–2001
Two-hundred-and-sixty-two meteorites (Table 1) were found during

TABLE 1. Meteorites from Oman.

Name	Latitude (N)	Longitude (E)	Mass (g)	Found (mm/dd/yy)	Pieces	Class	Shock stage	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Type spec (g)	Info‡
Dhofar (Dho)														
Dho 027	19°15.80'	54°43.24'	623	1999	1	L6	S2	W2	24.2	20.6	–	–	37.8	Be1
Dho 028	18°4.55'	54°4.03'	34	1999	1	H5–6	S2	W3	19	16.7	–	br	8.2	Be1
Dho 029	19°6.03'	54°49.41'	2792	1999	2	H6	S2	W4	19.4	17	–	br	35	Be1
Dho 030	19°6.90'	54°49.41'	255	1999	12	H6	S4	W2/3	18.6	17.1	–	–	28.7	Be1
Dho 031	19°7.15'	54°48.60'	444	1999	1	L6	S6	W2	24.1	20.5	–	sv, rw	34.6	Be1
Dho 032	19°7.32'	54°47.68'	4002	1999	1	L6	S5	W2	24.7	20.9	–	–	28	Be1
Dho 033	19°10.16'	54°42.19'	218	1999	1	L5	S2	W3	25	20.7	–	–	36.6	Be1
Dho 034	19°14.23'	54°29.40'	61	1999	1	H5	S2	W3/4	18.1	15.9	–	–	10.1	Be1
Dho 035	19°9.80'	54°38.20'	326	1999	1	H6	S3	W3	19.6	16.7	–	–	25.7	Be1
Dho 036	19°7.65'	54°48.87'	1587	1999	1	L6	S4	W2	25	22.3	–	–	35.5	Be1
Dho 037	19°7.04'	54°47.81'	1024	1999	1	H5	S4	W1	18.4	16.4	–	mp, sv	33.7	Be1
Dho 038	19°6.70'	54°49.17'	126	1999	1	H5	S2	W4	18.8	16.7	–	–	23.4	Be1
Dho 039	19°6.90'	54°49.42'	111	1999	1	H6	S3	W3	18.4	15.8	–	–	25.6	Be1
Dho 040	19°7.10'	54°49.67'	147	1999	1	H6	S4	W4	18.4	16.5	–	–	22.4	Be1
Dho 041	19°6.04'	54°49.20'	2356	1999	1	H5	S3	W3	19.1	17.1	–	–	29.9	Be1
Dho 042	19°6.12'	54°49.12'	148	1999	1	L6	S5	W2	23.7	20.5	–	–	31.5	Be1
Dho 043	19°6.32'	54°48.77'	1491	1999	2	H5	S2	W3	18.7	16	–	–	26.3	Be1
Dho 044	19°7.16'	54°47.70'	784	1999	1	L5	S3	W3	25.3	19.6	–	–	28.1	Be1
Dho 045	19°7.74'	54°47.17'	264	1999	1	H6	S3	W3	19.1	16.2	–	–	34.1	Be1
Dho 046	19°9.45'	54°49.18'	1177	1999	1	H4	S1	W3	17.9	15.9	–	–	29.6	Be1
Dho 047	19°13.31'	54°41.56'	102	1999	1	L5/6	S4	W2	25.7	23.8	–	–	20.7	Be1
Dho 048	19°8.97'	54°45.33'	203	1999	1	H5	S2	W2	18.9	16.4	–	–	27.8	Be1
Dho 049	19°10.56'	54°50.72'	2164	1999	several	L4/5	S4	W3	22.7	20.5	–	–	37	Be1
Dho 050	19°10.56'	54°52.61'	300	1999	several	L5	S3	W4	23	19.1	–	–	30.9	Be1
Dho 051	19°10.02'	54°51.98'	67	1999	1	L5	S3	W3	22	19.4	–	–	10.9	Be1
Dho 052	19°9.38'	54°49.45'	108	1999	1	L6	S5	W4	23.9	20.1	–	–	15.4	Be1
Dho 053	19°12.65'	54°43.17'	90	1999	1	H5	S2	W4	19.1	16.3	–	–	16.8	Be1
Dho 054	19°8.53'	54°47.21'	985	1999	1	H4	S2	W3	17.4	15.2	–	–	31.4	Be1
Dho 055	19°8.86'	54°46.58'	235	1999	1	Eucrite	–	W1	–	43.4	–	An_{93}, br	24.9	Be1
Dho 056	19°8.87'	54°46.51'	37	1999	1	H6	S3	W3	18.3	16	–	–	6.1	Be1
Dho 057	19°9.73'	54°45.99'	4588	1999	1	L6	S4	W3	23.8	20.4	–	–	35.5	Be1
Dho 058	19°10.24'	54°45.58'	8852	1999	several	H4	S2	W4	18.1	15.9	–	–	30.4	Be1
Dho 059	19°12.11'	54°44.31'	495	1999	1	L6	S3	W2	24.9	20.7	–	–	32.2	Be1
Dho 060	19°7.65'	54°50.14'	33	1999	1	H5	S3	W4	18.8	17.7	–	–	5.4	Be1
Dho 061	19°10.69'	54°52.50'	186	1999	1	L5	S4	W3	22.7	18.4	–	–	25.7	Be1
Dho 062	19°10.70'	54°52.44'	275	1999	1	L4/5	S3	W3	23.5	19.7	–	–	31.4	Be1
Dho 063	19°10.72'	54°52.45'	160	1999	1	H5	S4	W4	21.4	18.3	–	–	26.5	Be1
Dho 064	19°8.11'	54°51.39'	14	1999	1	H6	S3	W4	18.5	17	–	–	2.5	Be1
Dho 065	19°7.03'	54°49.56'	565	1999	1	H5	S2	W3	18.4	16.7	–	–	34	Be1
Dho 066	19°11.08'	54°40.35'	1001	1999	2	H5/6	S3	W3	18.7	16.4	–	–	30.4	Be1
Dho 067	19°10.93'	54°38.67'	229	1999	1	H4	S3	W2	19.2	16.6	–	–	26.9	Be1
Dho 068	19°11.68'	54°34.88'	250	1999	1	L6	S4	W3	24.5	20.9	–	–	28.8	Be1
Dho 069	19°9.52'	54°43.86'	10083	1999	several	H4	S2	W3	18.4	16.4	–	–	38.9	Be1
Dho 070	19°9.98'	54°44.60'	89	1999	2	L6	S3	W2	24.1	20.7	–	–	15.8	Be1
Dho 071	19°9.22'	54°51.22'	135	1999	1	L6	S5	W3	24.2	21.2	–	sv	20.6	Be1
Dho 072	19°9.44'	54°51.99'	112	1999	2	H5	S3	W4	16.2	14.8	–	–	18.8	Be1
Dho 073	19°8.92'	54°50.84'	161	1999	1	H5	S2	W3	17.3	16	–	–	32	Be1
Dho 074	19°10.03'	54°46.86'	2005	1999	1	H4	S2	W4	17.6	15.4	–	–	30.3	Be1
Dho 075	19°6.38'	54°49.13'	70	1999	1	H5/6	S4	W4	18.1	16.8	–	–	14	Be1
Dho 076	19°13.06'	54°34.04'	2876	1999	1	H6	S3	W3	19.8	17.6	–	–	35	Be1
Dho 077	19°9.61'	54°48.21'	580	1999	1	H4	S2	W2	18.5	16.3	–	–	34.8	Be1
Dho 078	19°10.03'	54°47.32'	68	1999	1	H6	S5	W4	19	16.1	–	lots of mv and mp	11.3	Be1
Dho 079	19°11.02'	54°45.19'	130	1999	1	H3	S2	W2	14.9	8.5	–	–	22.3	Be1
									0.7–29.5	2.1–19.1				
Dho 080	19°14.25'	54°43.20'	112	1999	1	H4	S2	W4	17.1	15.2	–	–	17.7	Be1
Dho 081	19°19.32'	54°46.96'	174	11/29/99	1	Lunar	–	–	–	–	–	*See separate entry*	–	–
Dho 082	19°12.31'	54°33.46'	90	1999	1	H6	S4	W2	19.8	17.5	–	–	14	Be1
Dho 083	19°14.79'	54°40.07'	192	1999	2	L4	S3	W3	22.8	18.4	–	–	34.6	Be1
Dho 084	19°15.95'	54°41.86'	38	1999	1	L6	S4	W2	25.1	20.7	–	–	6	Be1
Dho 085	19°12.74'	54°50.85'	78	1999	1	H4	S2	W2	16.9	14.7	–	–	12.8	Be1
Dho 086	19°13.94'	54°48.67'	664	1999	1	H4	S2	W2	17.3	15.6	–	–	31.7	Be1
Dho 087	19°17.68'	54°42.67'	340	1999	1	L6	S4	W2	25	21.1	–	–	27.9	Be1
Dho 088	19°18.24'	54°41.73'	36	1999	1	L6	S3	W3	24	21.8	–	–	5.5	Be1
Dho 089	19°13.42'	54°48.66'	152	1999	2	H6	S3	W4	19	17	–	–	31.4	Be1
Dho 090	18°15.67'	54°19.49'	690	1999	1	H4	S2	W3	19	16.7	–	–	30.2	Be1
Dho 091	18°19.78'	54°28.83'	946	1999	1	H5	S2	W4	19.2	17.2	–	–	31.6	Be1
Dho 092	18°38.37'	54°32.40'	54	1999	1	L6	S3	W4	26.5	22.1	–	–	9.8	Be1
Dho 093	18°38.55'	54°32.52'	220	1999	1	L6	S5	W3	25.3	23	–	–	30.8	Be1
Dho 094	18°39.90'	54°34.00'	4395	1999	1	L5	S4	W1	23.3	20.2	–	sv	36.8	Be1
Dho 095	18°40.75'	54°35.27'	1095	1999	1	H3	S2	W2	14.0	16.7	–	–	31.4	Be1
									4.0–23.0	3.5–19.9				
Dho 096	18°39.91'	54°33.81'	640	1999	1	L5	S4	W2	23.3	20.2	–	sv	26.4	Be1

TABLE 1. *Continued*.

Name	Latitude (N)	Longitude (E)	Mass (g)	Found (mm/dd/yy)	Pieces	Class	Shock stage	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Type spec (g)	Info‡
Dho 097	18°44.21'	54°30.68'	44	1999	1	H4	S2	W4	18	15.6	–	–	9.4	Be1
Dho 098	18°45.30'	54°30.50'	1185	1999	1	H5	S3	W4	19	17	–	–	29.2	Be1
Dho 099	18°51.42'	54°29.12'	504	1999	1	L5	S4	W3	26.2	22.4	–	–	28.7	Be1
Dho 100	18°54.58'	54°28.59'	2551	1999	2	L5	S3	W2	25.3	21.3	–	–	30.3	Be1
Dho 101	18°55.35'	54°28.47'	386	1999	1	L6	S4	W2	24.2	20	–	–	32	Be1
Dho 102	18°55.78'	54°28.27'	394	1999	1	L6	S4	W3	24.7	20.6	–	–	30.5	Be1
Dho 103	18°58.75'	54°27.87'	188	1999	1	L4	S2	W1	22.2	19.2	–	–	32.2	Be1
Dho 104	19°17.68'	54°42.79'	654	1999	1	L6	S4	W3	26.7	22.6	–	br	34	Be1
Dho 105	19°20.11'	54°47.51'	2984	1999	1	H5	S3	W2	18.1	16.3	–	–	33.2	Be1
Dho 106	19°10.38'	54°45.47'	725	2000	1	H6	S3	W3	18.2	16.7	–	sv	34.3	Be1
Dho 107	19°15.71'	54°44.45'	50	2000	1	L6	S4	W2	24.9	21.3	–	–	9.3	Be1
Dho 108	18°52.44'	54°16.09'	913	2000	1	L4/5	S4	W1	24.3	20.7	–	–	30	Be1
Dho 109	18°44.31'	54°28.69'	2209	2000	1	L6	S4	W2	24.5	21.1	–	–	32.3	Be1
Dho 110	18°26.21'	54°27.29'	1287	2000	1	H6	S3	W2	20.5	16.8	–	–	37.1	Be1
Dho 111	18°9.45'	54°5.60'	114	2000	several	L5	S3	W3	24.8	21.1	–	–	18.9	Be1
Dho 112	18°10.68'	54°6.28'	201	2000	1	L6	S4	W3	24.8	21.9	–	–	24	Be1
Dho 113	18°11.49'	54°6.75'	356	2000	1	L6	S5	W1	24.9	21.2	–	sv	32.7	Be1
Dho 114	18°22.76'	54°13.65'	184	2000	1	L6	S5	W4	25.2	21.6	–	sv	27.1	Be1
Dho 115	18°36.50'	54°33.10'	487	2000	1	H4	S2	W4	18.4	16.3	–	–	35.8	Be1
Dho 116	18°44.61'	54°34.77'	403	2000	several	L5	S4	W3	24.7	21.2	–	–	29.5	Be1
Dho 117	18°42.07'	54°11.81'	385	2000	several	H5	S2	W3	19.8	17.5	–	–	39.6	Be1
Dho 118	18°44.31'	54°16.07'	598	2000	1	H6	S3	W3	18.4	16.4	–	–	30.6	Be1
Dho 119	18°52.58'	54°28.56'	586	2000	1	L5	S4	W3	26.2	22.5	–	–	33.5	Be1
Dho 120	18°58.69'	54°37.00'	240	2000	1	H4	S2	W3	18.4	16.9	–	–	28.8	Be1
Dho 121	18°58.96'	54°37.31'	220	2000	1	L6	S2	W2	24.7	21.3	–	br	36.2	Be1
Dho 122	18°59.13'	54°37.48'	1556	2000	1	L6	S4	W2	25.5	22.6	–	contains melt fragments	29.1	Be1
Dho 123	19°0.87'	54°36.26'	1159	2000	1	H6	S2	W3	18.9	17.4	–	–	38.2	Be1
Dho 124	19°3.56'	54°32.76'	63	2000	1	H6	S3	W4	19.7	16.8	–	–	11.3	Be1
Dho 125	18°59.20'	54°36.03'	2697	1/26/00	1	Acapulcoite	–	–	–	–	–	*See separate entry*	–	–
Dho 126	19°8.62'	54°50.27'	132	2000	1	LL6	S3	W2	28.6	23.9	–	br	25.2	Be1
Dho 127	19°17.48'	54°50.07'	1349	2000	1	H4	S2	W3	17.4	14.2	–	–	28.7	Be1
Dho 128	19°17.10'	54°42.64'	30	2000	1	H6	S3	W4	20	18.7	–	–	4.8	Be1
Dho 129	19°17.75'	54°43.91'	1240	2000	1	L6	S4	W3	25.4	20.5	–	sv	33.2	Be1
Dho 130	19°10.77'	54°53.24'	206	2000	1	L5	S3	W4	22.8	19.6	–	–	29.1	Be1
Dho 131	19°8.16'	54°49.36'	9680	2000	1	H5/6	S2	W0/1	18.7	16.6	–	–	26.9	Be1
Dho 132	19°9.00'	54°34.84'	5010	2000	1	Ureilite	S3	W3	15.2	12.7	12.0	–	29.7	Be1
									rr 3.7	rr 9.8				
Dho 133	19°4.32'	54°39.16'	224	2000	1	L4	S2	W4	23	19.6	–	–	27.2	Be1
Dho 134	19°2.94'	54°34.98'	868	2000	1	H6	S3	W3	20.5	18.4	–	–	27.9	Be1
Dho 135	18°19.94'	54°15.69'	1495	2000	1	H4	S2	W2	19.5	17.5	–	–	29.8	Be1
Dho 136	18°42.07'	54°17.45'	324	2000	1	L6	S4	W2	25.3	20.9	–	–	27.6	Be1
Dho 137	19°18.08'	54°49.42'	236	2000	1	L6	S3	W3	24.5	21.1	–	–	32.5	Be1
Dho 138	18°18.68'	54°22.16'	5640	2000	1	L6	S4	W2	24.6	20.9	–	–	33.1	Be1
Dho 139	18°20.26'	54°27.13'	1815	2000	1	L6	S4	W3	23.7	21.8	–	–	28	Be1
Dho 140	18°20.15'	54°30.72'	3170	2000	1	L5	S4	W3	22.9	20.1	–	–	32.4	Be1
Dho 141	18°21.45'	54°21.21'	160	2000	1	LL4	S2	W4	28.5	23.7	–	–	30.8	Be1
Dho 142	18°22.94'	54°14.17'	1835	2000	1	L4	S2	W3	23	18.9	–	–	27.5	Be1
Dho 143	18°24.72'	54°10.07'	1785	2000	1	H5	S3	W3	19.1	16.8	–	–	30.3	Be1
Dho 144	18°24.92'	54°10.94'	630	2000	1	H5	S3	W2	18.2	16.6	–	–	31.3	Be1
Dho 145	18°24.24'	54°14.49'	666	2000	1	H5	S2	W1	18.8	16.9	–	–	31.2	Be1
Dho 146	18°20.62'	54°24.94'	8795	2000	several	L6	S4	W3	25.4	21.8	–	–	33.1	Be1
Dho 147	18°26.15'	54°14.13'	200	2000	1	L4	S2	W2	24.1	20.6	–	–	35.1	Be1
Dho 148	18°19.30'	54°28.86'	5432	2000	1	L6	S4	W2	25.2	21.6	–	sv	28.1	Be1
Dho 149	18°18.99'	54°19.16'	216	2000	1	L4	S2	W2	22.8	19.6	–	–	29.7	Be1
Dho 150	19°14.78'	54°42.40'	356	2000	1	H4	S1	W3	19	16.8	–	–	31	Be1
Dho 151	19°6.07'	54°49.68'	79	2000	1	LL5–6	S2	W2	29.8	24.2	–	br	12.8	Be1
Dho 152	19°6.65'	54°48.61'	554	2000	1	H6	S3	W4	19	17.4	–	–	31.9	Be1
Dho 153	19°6.64'	54°48.98'	1025	2000	1	H6	S4	W4	19.6	16.8	–	–	31.2	Be1
Dho 154	19°7.05'	54°49.61'	1045	2000	3	H5	S3	W4	19.1	16.9	–	–	30.5	Be1
Dho 155	19°7.65'	54°46.52'	552	2000	1	L6	S6	W2	24.3	21	–	sv, rw	28	Be1
Dho 156	19°8.79'	54°38.87'	1780	2000	1	L5	S2	W4	25.4	21.9	–	–	34	Be1
Dho 157	19°5.30'	54°47.56'	5300	2000	several	H5	S3	W4	19.4	17.6	–	–	32.2	Be1
Dho 158	19°22'23"	54°45'45"	70	2/00	3	H4	S3	W4	17.9	16.8	0.9	–	22.6	Fr1
Dho 159	19°15'52"	54°49'07"	315	2/00	1	L6	S5	W4	24.2	21.2	1.8	–	20.9	Fr1
Dho 160	19°15'32"	54°50'18"	654	2/00	1	H3	S2	W3	16.5	13.1	0.8	–	23.9	Fr1
									0.2–30.8	2.8–36.8	0.1–2.2			
Dho 161	19°16'17"	54°50'50"	2506	2/00	many	L4	S4	W4	22.6	19.8	0.9	–	45.6	Fr1
Dho 162	19°07'46"	54°22'07"	1967	2/00	many	L6	S3	W4	23.9	21.6	1.7	–	31.6	Fr1
Dho 163	19°08'46"	54°24'04"	208	2/00	1	LL5	S3	W2	26.5	22.8	1.6	–	20.2	Fr1
Dho 164	19°01'39"	54°40'51"	911	2/00	1	H6	S2	W2	18.9	17.3	1.4	–	27.0	Fr1
Dho 165	19°03'18"	54°34'44"	92	2/00	1	H6	S4	W4	18.5	17.1	1.7	–	20.3	Fr1
Dho 166	19°02'51"	54°35'31"	97	2/00	2	H6	S3	W3	18.9	17.3	1.4	–	22.5	Fr1
Dho 167	19°03'32"	54°36'54"	3636	2/00	1	H6	S3	W3	18.9	17.4	1.4	–	24.5	Fr1

TABLE 1. *Continued*.

Name	Latitude (N)	Longitude (E)	Mass (g)	Found (mm/dd/yy)	Pieces	Class	Shock stage	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Type spec (g)	Info‡
Dho 168	19°02'26"	54°34'54"	1452	2/00	1	LL3/4	S4	W1	24.3	19.4	1.2	sv, kam:1.52 wt% Co	21.8	Fr1
									peak 27	peak 23				
Dho 169	19°03'05"	54°33'43"	243	2/00	1	H6	S3	W2	18.6	17.7	1.3	br	24.9	Fr1
Dho 170	19°03'14"	54°34'02"	176	2/00	1	H6	S3	W3	18.6	17.5	1.3	sv	24.3	Fr1
Dho 172	19°03'46"	54°33'34"	67	2/00	1	H6	S4	W3	18.3	16.8	1.6	§	15.1	Fr1
Dho 173	19°03'46"	54°33'36"	293	2/00	1	H6	S4	W3	18.4	17.0	1.5	§	20.8	Fr1
Dho 174	19°03'50"	54°33'50"	313	2/00	1	H6	S3	W4	18.7	17.4	1.4	§	26.8	Fr1
Dho 175	19°03'45"	54°33'08"	173	2/00	1	H6	S3	W3	19.1	18.0	1.4	§	19.8	Fr1
Dho 176	19°04'09"	54°32'05"	312	2/00	1	H4	S3	W3	18.1	16.6	1.2	–	23.3	Fr1
Dho 177	19°04'00"	54°31'57"	22	2/00	1	H6	S3	W3	18.6	17.3	1.4	–	4.3	Fr1
Dho 178	19°05'32"	54°30'14"	234	2/00	2	L6	S5	W4	23.5	21.5	1.5	–	25.2	Fr1
Dho 179	18°55'14"	54°36'59"	193	2/00	2	H5	S2	W4	17.8	16.6	1.6	–	25.9	Fr1
Dho 180	18°55'38"	54°34'47"	272	2/00	1	H5	S3	W3	18.0	16.7	1.2	–	23.8	Fr1
Dho 181	18°55'47"	54°34'17"	240	2/00	1	H5	S3	W3	18.2	16.7	1.1	–	20.8	Fr1
Dho 183	18°50'50"	54°28'23"	1606	2/00	6	L5	S3	W4	22.2	19.7	0.6	–	37.1	Fr1
Dho 184	18°51'23"	54°28'31"	67	2/00	2	L6	S3	W4	24.2	21.6	1.6	–	13.4	Fr1
Dho 185	18°52'20"	54°28'43"	516	2/00	1	L6	S3	W3	23.9	21.2	1.6	–	20.0	Fr1
Dho 186	18°52'59"	54°27'57"	146	2/00	1	L6	S4	W4	25.8	22.2	1.5	–	21.8	Fr1
Dho 187	18°51'35"	54°28'14"	3049	2/00	1	L5	S4	W3	25.6	22.5	1.4	br	20.3	Fr1
Dho 188	18°12.7'	54°8.9'	234	1/25/00	1	H4	S2	W3	17.7	17.1	–	–	19.1	Vr5
Dho 189	18°20.5'	54°11.7'	120	1/22/00	1	H3.8	S3	W4	18.3	18.1	–	PMD olivine, 16.8%	5.2	Vr5
Dho 190	18°23.3'	54°17.7'	90	1/21/00	1	H4	S3	W3	18.4	17.5	–	–	21	Vr5
Dho 191	18°24.3'	54°14.7'	226	3/4/00	1	H4	S2	W1	18.2	17.4	–	–	69.4	Vr5
Dho 192	18°15.7'	54°14.6'	4779	12/3/99	1	H4	S4	W4	18.2	16.5	–	–	169.3	Vr5
Dho 193	18°41.2'	54°25.1'	582	1/22/00	1	H4	S3	W3	19.1	17.8	–	–	52.6	Vr5
Dho 194	18°50.2'	54°16.2'	134	1/26/00	1	H4	S3	W3	18.7	17.2	–	–	3.3	Vr5
Dho 195	18°15.8'	54°14.8'	2384	12/3/99	52	H3–5	S4	W3	17.5	16.6	–	–	146.4	Vr5
Dho 196	18°11.0'	54°08.7'	584	12/3/99	1	L6	S5	W4	23.8	21	–	–	217.5	Vr5
Dho 197	18°23.3'	54°16.0'	174.5	12/4/99	10	H4	S3	W4	18.2	16.6	–	–	42.3	Vr5
Dho 198	18°42.8'	54°06.5'	828	12/4/99	1	L5	S4	W4	24.6	22.1	–	–	34.5	Vr5
Dho 199	18°23.6'	54°10.0'	160	12/5/99	1	H4	S3	W3	17.2	16.6	–	–	23.1	Vr5
Dho 200	19°18.2'	54°35.9'	1816	3/10/00	1	H4	S4	W3	18.4	17.3	–	–	350	Vr5
Dho 201	18°23.6'	54°10.0'	139	12/5/99	1	L5	S4	W3	24.6	21.0	–	–	138.1	Vr5
Dho 202	19°25.0'	54°45.4'	1178.1	1/26/00	9	H4–5	S3	W2/3	17.2	16.3	–	–	94.7	Vr5
Dho 203	18°11.0'	54°7.4'	274	3/5/00	1	H4	S1	W3	18.1	16.6	–	–	47	Vr5
Dho 205	19°23.6'	54°46.8'	20	1/26/00	1	H4–5	S3	W4	17.8	17.5	–	–	19.0	Vr5
Dho 208	18°48.1'	54°17.4'	12	1/25/00	1	H3.9	S2	W3	17.7	15.7	–	–	2.3	Vr5
								ranges:	16.5–20.7	12.3–21.7				
Dho 239	18°25.414'	54°28.796'	4950	8/5/00	1	H4	S2	W3/4	17	15.5	–	–	244	Mü4
Dho 240	19°8.88'	54°46.67'	82.6	2/4/01	1	L5	S3	W3	25	21	–	–	9.2	Mü5
Dho 243	18°37.39'	54°43.71'	185.3	2/6/01	2	H6	S3	W3/4	19.5	16.5	–	br	23.1	Mü5
Dho 245	18°39.78'	54°42.71'	1074.6	2/6/01	1	L6	S3	W4	26	22	–	–	23.9	Mü5
Dho 248	18°59.15'	54°36.04'	38.3	2/7/01	4	LL6	S2	W1	31.5	25.5	–	sv	5.5	Mü5
Dho 263	18°20.75'	54°24.04'	1698.1	2/21/01	1	LL6	S3	W4	31.5	26	–	sv, br	28.4	Mü5
Dho 280	19°19.6'	54°47.0'	251.2	4/14/01	1	Lunar	–	–	–	–	–	*See separate entry*	–	–
Dho 287	18°24.2'	54°8.8'	154	1/14/01	1	Lunar	–	–	–	–	–	*See separate entry*	–	–
Dho 300	18°24.2'	54°8.6'	624	1/14/01	1	Eucrite	–	–	–	–	–	*See separate entry*	–	–
Dho 312	18°59.3'	54°36.3'	354	1/11/01	1	Acapulcoite	S1	W3	–	–	–	*See separate entry*	–	–
Jiddat al Harasis (JaH)														
JaH 011	19°13.45'	56°7.09'	719	1999	1	H5	S2	W2	18.3	16.4	–	–	27.7	Be1
JaH 012	19°11.78'	55°46.46'	2178	1999	1	L6	S4	W3	24.8	20.7	–	–	27.8	Be1
JaH 013	19°10.27'	56°9.35'	1001	1999	several	H5	S2	W3	18.1	16.3	–	–	31.1	Be1
JaH 014	19°10.95'	56°10.13'	413	1999	several	H5	S2	W3	18.5	16.9	–	–	30.3	Be1
JaH 015	19°11.40'	56°10.48'	85	1999	1	H6	S4	W4	18.9	17.3	–	–	12.7	Be1
JaH 016	19°20.44'	56°9.20'	117	1999	1	H5	S3	W3	19	16.4	–	–	22.2	Be1
JaH 017	19°14.53'	56°7.04'	2608	1999	several	L6	S3	W3	24.6	21.2	–	–	36	Be1
JaH 018	19°17.5'	55°14.6'	202	4/26/00	2	L6	S3	W1	23.3	21.1	–	–	36.9	Vr5
JaH 019	19°33.7'	55°11.3'	150	4/00	1	H6	S4	W3	19.1	17.2	–	–	27	Vr5
JaH 020	19°49'53.0"	56°05'09.3"	1961	2/25/00	2	L6	S4	W4	25.6	22.0	–	–	115	Lo1
JaH 028	19°37.3'	55°24.5'	1060	4/00	3	H4	S1	W3	17.4	16.5	–	–	215	Vr5
Sayh al Uhaymir (SaU)														
SaU 003	20°58.74'	57°9.72'	358	1999	1	H4	S2	W4	17.9	16	–	–	31.5	Be1
SaU 004	20°47.76'	57°12.48'	358	1999	1	L6	S4	W3	25.2	21.2	–	–	33.7	Be1
SaU 006	20°55.62'	57°17.13'	620	1999	2	L6	S5	W4	24.4	21.2	–	–	27.5	Be1
SaU 007	20°57.14'	57°18.27'	726	1999	1	H4	S3	W4	17.9	16.6	–	–	34.9	Be1
SaU 009	20°59.49'	57°18.42'	1848	1999	1	H5	S3	W3	18.9	16.8	–	–	27.5	Be1
SaU 010	20°59.52'	57°18.35'	4682	1999	1	H6	S3	W3	18.4	16.7	–	–	31.8	Be1
SaU 011	21°0.20'	57°17.31'	174	1999	1	H5	S2	W3	17.6	15.4	–	–	33	Be1
SaU 012	20°58.95'	57°18.89'	808	1999	1	L6	S4	W3	25.4	22.2	–	–	31.9	Be1
SaU 013	20°57.93'	57°19.25'	5496	1999	1	H5	S2	W4	18.5	16	–	–	31.6	Be1
SaU 014	21°1.19'	57°17.89'	430	1999	1	L5	S3	W3	24.8	21.2	–	–	34.9	Be1

TABLE 1. *Continued*.

Name	Latitude (N)	Longitude (E)	Mass (g)	Found (mm/dd/yy)	Pieces	Class	Shock stage	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Type spec (g)	Info‡
SaU 015	21°2.88'	57°17.20'	132	1999	1	H5	S2	W4	18.3	17.4	–	–	30.8	Be1
SaU 016	20°58.72'	57°19.63'	7745	1999	1	H6	S4	W3	18.9	16.8	–	–	31.7	Be1
SaU 017	20°58.10'	57°19.04'	2059	1999	1	L4	S2	W3	24.7	21	–	–	31	Be1
SaU 018	20°33.06'	57°8.66'	818	1999	1	H5	S2	W3	18.8	16.6	–	–	27.2	Be1
SaU 019	20°40.96'	57°10.74'	110	1999	1	L6	S3	W3	25.3	21.1	–	–	17.4	Be1
SaU 020	20°41.66'	57°9.63'	316	1999	1	L5	S3	W2	24.6	20.9	–	–	33.1	Be1
SaU 021	21°3.14'	57°17.14'	148	1999	1	L6	S3	W2	25.6	21.6	–	–	30.2	Be1
SaU 022	21°4.31'	57°15.97'	452	1999	1	L6	S3	W3	24.4	20.2	–	–	28.1	Be1
SaU 023	21°5.42'	57°14.84'	136	1999	1	H6	S3	W4	19.1	17	–	–	30.7	Be1
SaU 024	21°6.92'	57°13.27'	268	1999	1	L6	S5	W4	24.7	21.2	–	–	27.1	Be1
SaU 025	21°1.31'	57°14.80'	952	1999	1	L6	S4	W3	25.5	21	–	–	44	Be1
SaU 026	21°3.51'	57°16.37'	78	1999	1	L6	S3	W2	25.4	21.4	–	sv	13.2	Be1
SaU 027	20°58.05'	57°19.41'	213	2000	1	H5	S3	W3	18.3	16.5	–	–	29.5	Be1
SaU 028	21°3.94'	57°13.47'	167	2000	1	L4	S1	W1	24.2	20.4	–	–	31.4	Be1
SaU 029	21°5.09'	57°3.31'	878	2000	1	H5	S3	W3	18.6	16.3	–	–	34.1	Be1
SaU 030	20°49.55'	57°11.96'	100	2000	1	L6	S3	W3	24.5	21	–	–	16.2	Be1
SaU 031	21°3.06'	57°16.59'	174	2000	1	L6	S3	W2	24.9	21.1	–	–	33.3	Be1
SaU 032	21°3.24'	57°16.61'	201	2000	2	L6	S2	W2	24.6	20.6	–	–	30.6	Be1
SaU 033	20°59.80'	57°17.47'	1868	2000	1	H6	S5	W3/4	18.2	16.6	–	contains lots of impact melt	31	Be1
SaU 034	21°3.91'	57°16.90'	215	2000	1	H5	S2	W4	19	17.2	–	–	29.5	Be1
SaU 035	20°40.42'	57°10.80'	6760	2000	1	H5	S2	W3	19	17.2	–	–	30.9	Be1
SaU 036	20°39.95'	57°11.18'	714	2000	1	H5	S3	W2	17.8	15.9	–	–	30.3	Be1
SaU 037	21°4.15'	57°17.34'	160	2000	1	L6	S3	W2	24.6	21.2	–	–	28.3	Be1
SaU 038	21°04.09'	57°16.86'	90	2000	1	L6	S3	W2	25.1	21.7	–	–	16.5	Be1
SaU 039	21°03'25"	57°16'35"	1516	2/00	25	L6	S2	W3	24.4	21.8	1.5	–	30.1	Fr1
SaU 040	21°03'49"	57°16'17"	28	2/00	1	CV3	S2	W3	7.2	3.6	1.4	reduced subgroup	3.8	Fr1
									0.3–57.1	0.5–40.2	0.5–3.8			
SaU 041	21°04'32"	57°15'26"	291	2/00	1	H5	S2	W4	18.5	17.4	1.5	–	20.9	Fr1
SaU 042	20°43'23"	57°07'31"	945	2/00	1	L6	S3	W4	24.5	21.7	1.4	–	20.9	Fr1
SaU 043	20°56'12"	57°15'40"	299	2/00	1	H3–5	S2	W4	13.5	15.5	1.2	–	21.1	Fr1
									peak 17	peak 16				
SaU 044	21°03'39"	57°16'19"	169	2/00	1	H5	S3	W3	17.9	16.6	1.1	–	21.5	Fr1
SaU 045	21°02'37"	57°01'03"	307	2/00	2	L6	S3	W1	23.7	21.0	1.7	–	21.1	Fr1
SaU 046	20°49'24"	57°05'07"	882	2/00	1	H5	S2	W3	18.9	17.2	1.5	–	22.2	Fr1
SaU 047	20°56'18"	56°52'38"	263	2/00	1	H6	S3	W4	18.7	17.4	1.3	–	20.4	Fr1
SaU 048	21°00'33"'	56°59'13"	113	2/00	1	H5	S3	W3	18.1	16.8	1.1	–	22.1	Fr1
SaU 049	20°58.840'	57°18.127'	389	8/1/00	1	H5	S2	W4/5	17	14.5	–	paired with SaU 052?	42	Mü4
SaU 050	20°58.545'	57°19.384'	132	8/1/00	1	L6	S3	W4	23	19.5	–	–	28	Mü4
SaU 051	20°58.435'	57°19.248'	436	8/1/00	1	Martian	–	–	–	–	–	*See separate entry*	–	–
SaU 052	21°00.656'	57°19.235'	399	8/2/00	1	H5	S2	W4/5	17.5	15	–	paired with SaU 049?	32	Mü4
SaU 053	21°00.899'	57°20.279'	81	8/2/00	1	H6	S2	W4	18.5	16.5	–	–	19	Mü4
SaU 054	20°58.970'	57°20.088'	139	8/2/00	1	L6	S3	W3	23	20	–	sv	20	Mü4
SaU 055	20°58.408'	57°18.297'	274	8/3/00	15	L5	S2	W4	24.5	20	–	–	22	Mü4
SaU 056	20°31.8'	56°40.3'	278	4/23/00	1	L6	S4	W3	23.9	20.4	–	–	30	Vr5
SaU 067	20°2.6'	57°16.7'	2866	1/00	12	L5–6	S1/2	W2	24.6	21.6	–	br	873	Vr5
SaU 079	21°3'6.6"	57°16'10.8"	333	5/00	1	H4	S3	W4	19.7	17.9	–	–	14.9	Lo1
SaU 080	21°3'6.6"	57°16'10.8"	441	5/00	2	H6	S4	W4	19.5	17.2	–	–	20.9	Lo1
SaU 081	21°3'6.6"	57°16'10.8"	385	5/00	1	L4	S3	W3	25.0	20.5	–	–	33.6	Lo1
SaU 082	21°3'6.6"	57°16'10.8"	98	5/00	1	L/LL4	S3	W4	25.9	21.1	–	–	8.5	Lo1
SaU 083	21°3'6.6"	57°16'10.8"	455	5/00	3	LL6	S4	W2	26.4	21.5	–	–	32.7	Lo1
SaU 084	21°3'6.6"	57°16'10.8"	128	5/00	1	LL6	S4	W3	27.1	22.3	–	–	115	Lo1
SaU 091	21°10'	56°40'	676	2000	1	LL5	–	W3	27.4	22.7	–	–	25	MP1
SaU 092	21°10.21'	56°40.97'	200	2000	1	LL5	–	W4	27.8	22.1	–	–	14	MP1
SaU 093	21°05.95'	57°05.47'	146.5	2000	3	LL5	–	W4	26.8	23.8	–	–	22	MP1
SaU 094	21°59.469'	57°20.326'	223.3	2/8/01	1	Martian	–	–	–	–	–	*See separate entry*	–	–
Shişr														
Shişr 003	18°34.17	53°54.61	234	2/8/01	1	H5	S1	W4	19	16.5	–	br	26.5	Mü5

Abbreviations: br = breccia; mp = melt pockets; mv = melt veins; plag = plagioclase; PMD = percent mean deviation of FeO content of olivine; rr = reduced rims; rw = ringwoodite; sv = shock veins.

‡See "Abbreviations for Analysts and Specimen Locations" after References.

§Probably paired (found within strewn field).

field work in the desert of Oman by people searching for meteorites. See separate entries for Dhofar 081, 280, and 287 (lunar meteorites), Dhofar 125 and 312 (acapulcoites), Dhofar 300 (eucrite) and Sayh al Uhaymir 051 and 094 (martian meteorites).

Onello 62°70' N, 137°40' E
Yakutiya, Russia
Found 1997
Iron, ataxite (ungrouped)
48 fragments totaling 164 g, the largest weighting 17 g, were found in a gold placer located on the Onello River. Description and composition (A. Kopylova, *YIGS;* M. Nazarov, *Vernad*): fragments are heavily weathered and consist of very fine plessitic intergrowths of kamacite and taenite; rare grains of troilite and phosphides are present; bulk composition, Co = 0.65 wt%, Ni = 21.7 wt%, Ga = 1.3 ppm, Ir = 0.6 ppm, Au = 4.5 ppm. See Kopylova *et al.* (1999) for more information. Specimens: main mass, 149 g (46 fragments), *YIGS*; 10 g, *Vernad*.

Ordinary chondrite finds
Earth
Found 1960–2001
(37 meteorites)
The meteorites listed in Table 2 are ordinary chondrite finds reported in the last year (exclusive of those found in the dense collection areas listed Tables 1, 3, 4, 5, and Appendix 1).

Oued el Hadjar 30º10.80' N, 6º34.63' W
Morocco
Fell 1986 March
Ordinary chondrite (LL6)
Nomads heard a loud whistle and saw a 1215.5 g stone fall 200 m from their tent. The stone was broken into many pieces (sacrificed on an altar) 15 days later during a wedding ceremony. Mineralogy and classification (A. Sexton, *OU*): olivine, $Fa_{30.0}$; pyroxene, $Fs_{22.0}$; shock stage, S2; weathering grade, W0/1. Specimens: 18.6 g, *OU*; main mass with anonymous finder.

Reid 028, correction
This meteorite was found on 1999 July 15. The date listed in *MetBull* 84 was incorrect. The finder was Stephen Kambach.

Sahara 99201–00225, see Saharan meteorites from unknown locations

Saharan meteorites from Libya
Libya
Found 1996–2001
(160 meteorites)
A number of different anonymous finders and SaharaMet (*Pelisson)* recovered these meteorites from several regions of the Libyan Sahara (Table 3). See separate entries for Dar al Gani (DaG) 665 and 868 (ureilites), DaG 669, 671, and 684 (HED achondrites), and DaG 876 (martian meteorite).

Saharan meteorites from Morocco and surrounding countries
Northwest Africa
Purchased or found 1998–2001
(218 meteorites)
Many meteorites lacking first-hand documentation of the find location are being sold by Moroccan rock and mineral dealers, and by people from other countries who have collected material in Morocco. These meteorites are all sold as Moroccan finds, but there are plausible reports that some were actually collected in Algeria or Western Sahara. Other meteorites have been reported from this region with what appear to be precise find locations. The reliability of locality information associated with these meteorites is difficult to assess due to the anonymity of all of the finders and most of the original sellers, and because the Nomenclature Committee lacks the resources to investigate. All meteorites found in this region will henceforth be numbered in a "Northwest Africa" (NWA) series. The Nomenclature Committee considers it possible that differently numbered specimens are paired with each other or with other named meteorites, and some may even be derived from the same individual object. Table 4 lists 218 specimens of this type. See separate entries for NWA 047, 049, and 776 (HED achondrites), NWA 176 and 468 (irons), NWA 470, 770, and 772 (C chondrites), NWA 479, 482, and 773 (lunar meteorites), NWA 480 and 817 (martian meteorites), NWA 753 and 755 (R chondrites), NWA 771 (ureilite), and NWA 820 (L3–5 chondrite).

Saharan meteorites from unknown locations
Sahara, country unknown
Found 1999–2000
(17 meteorites)
These meteorites (Table 5) have been collected by Marc, Luc and Jim Labenne in the Sahara. The Labennes will not disclose the exact locations of these meteorites at the present time. The secret origin (w, z) in Table 5 is identical to the origin reported last year in *MetBull* 84, and is several hundred kilometers distant from the origin (x, y) given in *MetBull* 82.

Saint Augustine ~40º43' N, 90º25' W
Knox County, Illinois, USA
Found 1974 Spring
Iron (IID)
A 22 kg (49 lb) iron meteorite and a second mass that was subsequently lost were found by Wayne Berry while he was digging fence-post holes. The meteorite was recognized in 1999 by Allen Shaw. Classification and description (J. Wasson, *UCLA*): bulk metal composition, Co = 0.67 wt%, Ni = 9.84 wt%, Ga = 75.4 ppm, As = 4.66 ppm, Ir = 19.4 ppm, Au = 0.608 ppm. Specimens: main mass, *AShaw*; type specimen, 66 g, *UCLA*.

Sayh al Uhaymir 003–094, see Oman meteorites

Sayh al Uhaymir 051 20°58.435' N, 57°19.248' E
Oman
Found 2000 August 1
Martian meteorite (basaltic shergottite)
A 436 g stone was found close to the locations of Sayh al Uhaymir 005 and 008. All three samples may be paired. Mineralogy and classification (A. Bischoff, *Mün*): has a porphyritic texture with large olivine phenocrysts ($Fo_{61–68}$) embedded in a groundmass of pyroxene ($En_{60–68}Wo_{7–12}$) and maskelynite ($An_{59–67}$); shock stage, S5; calcite veins were observed, probably due to terrestrial weathering. Specimens: type specimen, 11 g, *Mün*; main mass with anonymous finder.

TABLE 2. Ordinary chondrite finds from around the Earth (excluding dense collection areas in Antarctica, Africa, and Oman).

Name	Find site	County, state (USA) or province, country	Latitude	Longitude	Mass (g)	Found (mm/dd/yy)	Pcs	Class	Shock stage	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Cmt	Finder	Type Spec (g)	Info‡
Asab	–	Namaland, Namibia	25°26' S	17°55' E	1530	8/99	4	H5	S2	W1	19.2	–	–	–	Anon. Farmer	28	Kg2
Benjamin	–	Knox, Texas	~33°35' N	99°48' W	51.8 kg	1969	1	H4/5	S2	W1	18–20	17–19	1.3	(1)	M. and E. Parks	16	To3
Bruceville	Field	Sacramento, Calif.	38°17.7' N	121°24.3' W	83 kg	1998	1	L6	S5	W4	24.6	–	–	(2)	Ben Howard	488	AS2
Danby Dry Lake	Dry lake	San Bernardino, Calif.	37°43.61' N	114°47.19' W	131	9/17/00	1	H6	S2/3	W3	19	16.6	1.3	(3)	Bill Peters	12.7	AS3
Dry Lake Valley	Dry lake	Lincoln, Nevada	37°43.61' N	114°47.19' W	3.5	11/26/00	1	L6	S3	W2	24.9	–	–	–	Robert Verish	0.4	LA9
Floydada (b)	Rock garden	Floyd, Texas	33°59' N	101°20' W	6266	Rec. 1999	2	H5	S3	W2	18.6	16.2	1.2	(4)	–	34	AS4
Goose Creek	Field	Kingman, Kansas	37°26.1' N	98°19.1' W	2132.3	Rec. 4/99	1	H5	S1	W5	18.8	–	–	–	Leo Hawley	29.7	AS5
Great Sand Sea 020	Desert	Egypt	26°1' N	25°44' E	5420	11/14/00	1	H	–	–	–	–	–	*See separate entry*		–	–
Hualapai Wash	Gold Basin	Mohave, Arizona	35°51.8' N	114°11.6' W	240	11/18/00	1	L6	S4	W3	24.6	–	–	–	Donald O'Keeffe	20.5	LA10
Hub	Field	Parmer, Texas	34°32.4' N	102°35.66' W	6452	~1991	1	L5	S4	W2	24.9	21.1	1.5		L. Sierra and S. Maestas	47.9	AS6
Hueco Tanks (b)	–	El Paso, Texas	~31°55' N	106°9' W	100–200	1985	1	H5	–	W3	19.0	–	–	–	–	28	Ha6
Isla del Espíritu Santo	–	Baja Calif. Sur, Mexico	24°31' N	111°22' W	869	1999,2001	2	L6	S2	W2	25.0	–	–	–	Larry Johnson	22	LA14
Korra Korrabes	Dry river	Namaland, Namibia	25°12' S	18°5' E	>120 kg	11/96	many	H3	–	–	–	–	–	*See separate entry*		–	–
Little Ash Creek	–	Yavapai, Arizona	34°23'12" N	112°1'42" W	21.4	3/21/01	1	L5	S3	W2	23.6	19.7	–	An_{32}	Ted Bunch	19.2	NA2
Little Minnie Creek	Creek bed	Western Australia	24°8.3' S	115°52.3' E	357	3/97	1	L4	S2	W2	25.3	21.6	1	–	Mark Thompson	305	WA1
McCook	Field	Hitchcock, Nebraska	40°1.2' N	100°47' W	3602	late 1960s	1	L6	S2	W2	24.8	–	–	(5)	Ray Grafel	29.2	AS5
Merweville	Farm	W. Cape Prov., S. Afr.	32°45.5' S	21°41.0' E	6970	1977	1	L5	S4	W2	24.1	20.6	–	(6)	C. A. J. Marais	1141	RA1
Overland Park	Building site	Johnson, Kansas	38°58' N	94°40' W	1374	6/98	1	H4	S2	W3	17.8	15.9	1.1	–	–	22.6	Ma1
Pampa (d)	Deflation basin	Antofagasta, Chile	23°12' S	70°26' W	12.8 kg	1986	2	L5	S2	W2/3	25.0	22.9	–	–	Rodrigo Martinez	22	Jo1
Pampa (f)	Deflation basin	Antofagasta, Chile	23°11' S	70°26' W	1300	2000	1	L4/5	S2	W2	25.5	22.4	–	–	Rodrigo Martinez	30	Jo1
Pampa (g)	Deflation basin	Antofagasta, Chile	23°11' S	70°26' W	2900	2000	3	L5	S2	W3	24.5	22.4	–	–	Rodrigo Martinez	30	Jo1
Patriot Hills 99001	Moraine	Antarctica	80°17.133' S	81°48.809' W	1.73	1/20/00	6	L5	–	W1	24.8	20.6	1.2	(7)	David G. Butts	–	HA5
Pelona Mountain	Gravel bed	Catron, New Mexico	~33°40' N	108°6' W	618	10/99	1	H5	S1	W3	19.6	17.5	–	(8)	Allen Shaw	28	NM1
Rabbit Dry Lake	Dry lake	San Bernardino, Calif.	34°26.74' N	117°0.65' W	20	12/3/00	1	L6	S2	W5	24.5	–	–	–	William Fox	4	LA11
Roosevelt County 103	–	Roosevelt, New Mex.	33°44.33' N	103°39' W	10	1998	1	L6	S1	W3	25.1	20.7	1.6	rb	Ivan Wilson	1.1	AS1
Roosevelt County 104	–	Roosevelt, New Mex.	33°43.33' N	103°40.4' W	51.7	1998	1	L5	S1	W3	21.3	18.5	1.2	–	Ivan Wilson	6	AS1
Roosevelt County 105	–	Roosevelt, New Mex.	34°11.3' N	103°56.5' W	30	1998	1	H5	S1	W3	19.0	16.5	1.4	–	Ivan Wilson	2.5	AS1
Salar de Imilac	Below ground	Antofagasta, Chile	24°12.2' S	68°48.3' W	1005	7/00	1	H5	S3	W1	18.6	16.1	–	–	Meteorite hunters	32, 41	AS7
Silver Dry Lake 001	Dry lake	San Bernardino, Calif.	35°22.4' N	116°7.5' W	218.8	5/27/00	2	L4	S2	W2	24.6	–	–	–	Rob Matson	18	LA12
Talbachat n'aït Isfoul	–	Morocco	29°59' N	5°14' W	8 kg	4/99	1	LL3	–	–	27.6	–	–	–	–	29	Ly3
Tessera	–	Venice, Italy	45°30'30" N	12°18'30" E	51.3	2/26/00	10	H4	–	–	–	–	–	*See separate entry*		–	–
Tule Valley	Dry lake	Millard, Utah	38°59'55" N	113°22'54" W	17.69	2/3/01	1	L6	S4	W3	25.4	–	–	–	Daniel Morris	3	LA13
White Elephant	Gold Basin	Mohave, Arizona	35°53.4' N	114°12.2' W	10.4	1/5/97	1	L4	S3	W2	24	21	1.3	(9)	John Blennert	10.3	Az1
Willcox Playa 002	Dry lake	Cochise, Arizona	32°10.90' N	109°47.37' W	12	2/1/01	1	L6	S4	W3	25.1	–	–	–	Robert Verish	1.9	LA9

Abbreviations: cmt = comments; pcs = pieces; rb = regolith breccia; rec = recognized; WG = weathering grade.
(1) Remained in a backyard for ~29 years before it was recognized to be a meteorite by Oza Shaw. Main mass, 43.2 kg, Dirk Ross, Tokyo, Japan; 4 kg, *OShaw*; 4 kg, *AShaw*.
(2) Was buried under ~2 m silt and loam.
(3) Breccia, with rounded clasts.
(4) Purchased by Ivan Wilson. Floydada (a) will now be a recognized synonym for the Floydada IIIAB iron meteorite.
(5) The meteorite endured a house fire in the 1980s, and was recovered from the basement.
(6) For additional information see Laubscher (2000) and Tredoux *et al.* (1999).
(7) The official abbreviation for Patriot Hills shall be PTT.
(8) Main mass, 515 g, Dirk Ross, Tokyo, Japan; 75 g, *AShaw*.
(9) ^{14}C and ^{10}Be analyses (T. Jull, *UAz*) indicate that this specimen is a recent fall, whereas Gold Basin fell 15 000 years ago; kamacite contains 0.77 ± 0.1 wt% Co.
‡See "Abbreviations for Analysts and Specimen Locations" after References.

TABLE 3. Meteorites from the Libyan Sahara.

Name	Found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Info‡
Dar al Gani (DaG)													
DaG 172	10/1996	27°06.12'	16°01.21'	138	9	H6	S3	W4	20.2	18.2	–	sv, melts	Mü2
DaG 416	3/98	27°27.99'	15°54.84'	347	1	H4	S3	W3	18.1	16.7	0.9	–	MP2
DaG 418	3/98	27°35.95'	16°00.14'	65	1	H5/6	S4	W3	17.5	14.9	1.0	sv	MP2
DaG 419	3/98	27°35.68'	15°56.19'	490	many	H4	S4	W2	16.9	15.1	0.6	–	MP2
DaG 424	3/98	27°28.74'	16°02.35'	144	4	H5	S3	W3	18.4	16.3	0.9	sv	MP2
DaG 425	3/98	27°27.28'	16°05.24'	115	2	H4	S2	W3	18.3	2.5–17.2	0.2–1.3	–	MP2
DaG 426	3/98	27°22.76'	16°27.49'	206	1	H4/5	S3	W2	18.1	16.2	0.6	–	MP2
DaG 427	3/98	27°21.49'	16°25.94'	942	1	L6	S6	W2	25	20.9	1.3	sv, rw	MP2
DaG 428	3/98	27°17.62'	16°24.86'	47	1	L6	S6	W3	24.1	20	1.1	sv, rw	MP2
DaG 432	3/98	27°26.85'	15°59.10'	1555	1	H4	S2	W3	16.9	14.8	0.4	–	MP2
DaG 433	3/98	27°19.42'	16°16.61'	255	1	L6	S4	W3	24.4	20.3	0.9	–	MP2
DaG 435	3/98	27°13.31'	16°14.73'	192	1	H4–6	S4	W1	18.8	16.6	0.9	br, sv	MP2
DaG 438	5/98	27°54.01'	15°54.07'	349	1	H5/6	S1	W2	18.6	16.2	1.0	–	MP2
DaG 441	5/98	27°28.91'	16°17.24'	90	1	L6	S6	W4	24.5	20	1.2	sv, rw	MP2
DaG 442	5/98	27°28.85'	16°19.10'	188	1	H3.6	S2	W2	8.2–18.9	2.2–3.1	0.2–0.3	–	MP2
DaG 443	5/98	27°27.12'	16°01.26'	255	1	Eucrite	high	–	–	29–55	–	$An_{80–92}$; polymict	MP2
DaG 444	5/98	27°23.30'	16°09.44'	164	1	LL4–5	S2	W1/2	28	21.3	0.7	br	MP2
DaG 445	5/98	27°23.87'	16°09.79'	53	1	H4	S2	W1	17.8	16	0.5	–	MP2
DaG 446	5/98	27°28.81'	16°16.28'	481	1	L5/6	S4	W2	24.1	20.1	1.3	sv	MP2
DaG 447	5/98	27°27.64'	16°10.25'	526	2	H4/5	S2	W4	17.4	15.6	1.2	–	MP2
DaG 451	5/98	27°34.95'	15°59.00'	75	1	H4	S2	W3	17.9	15.7	0.6	–	MP2
DaG 452	5/98	27°38.77'	15°54.89'	445	1	H5	S2	W3	18.9	16.6	0.9	–	MP2
DaG 454	5/98	27°47.25'	15°51.30'	161	1	H3.9	S2	W2	16.9	13.9	0.5	–	MP2
DaG 465	5/98	28°00.89'	15°51.76'	777	1	L6	S4/5	W2	24.6	20.9	1.4	–	MP2
DaG 468	5/98	28°01.29'	15°50.55'	375	1	H5	S1	W0	19.2	16.8	1.0	–	MP2
DaG 469	5/98	27°49.89'	15°52.46'	319	1	H4	S2	W1	18.2	16	0.6	–	MP2
DaG 471	5/98	27°47.23'	15°57.07'	276	1	H5–6	S2	W5	18.5	16.1	1.2	br	MP2
DaG 473	5/98	27°46.79'	16°03.76'	333	1	H6	S2	W1/2	18.4	16.2	0.9	–	MP2
DaG 475	5/98	27°36.64'	16°13.12'	269	1	H3.4	S3	W3	3.1–25.4	1.7–17.6	0.2–1.8	–	MP2
DaG 479	5/98	27°21.35'	16°12.19'	81	1	L5	S2	W4	24.4	20.8	1.3	–	MP2
DaG 480	5/98	27°22.11'	16°10.41'	181	1	Eucrite	low	–	–	23–51	–	$An_{82–92}$; br	MP2
DaG 482	5/98	27°22.12'	16°15.83'	73	1	LL4–5	S2	W2	30.1	24.4	1.9	–	MP2
DaG 652	11/99	26°59'	16°23'	744	1	L6	S4	W1	25	22	–	–	Sn2
DaG 653	11/99	27°01'	16°22'	2125	many	H5	S2	W2/3	18	17	–	–	Sn1
DaG 654	11/99	26°48'	16°04'	2478	2	H4	S1	W1	17	16	–	–	Sn2
DaG 655	11/99	27°07'	16°11'	168	1	L6	S4	W3	24	22	–	–	Sn2
DaG 656	11/99	26°58'	16°25'	578	1	L6	S5	W3	23	20	–	–	Sn2
DaG 657	11/99	27°17'	16°06'	386	1	L6	S5	W3	26	22	–	–	Sn2
DaG 658	11/99	26°56'	16°28'	35	1	H5/6	S1	W3	19	17	–	–	Sn2
DaG 660	11/99	27°02'	16°23'	86	1	Ureilite	S3	fairly	24	20	–	typical texture	Sn1
DaG 661	11/99	27°03'	16°23'	23	1	Ureilite	S5	fairly	20	14	–	mosaicized texture	Sn1
DaG 662	11/99	27°07'	16°26'	385	1	H6	S1	W2	19	18	–	–	Sn1
DaG 663	11/99	27°07'	16°26'	532	1	L6	S3	W2	24	20	–	–	Sn1
DaG 665	11/99	27°03'	16°21'	363	3	Ureilite	–	–	–	–	–	*See separate entry*	–
DaG 666	11/99	27°03'	16°03'	33	2	L(LL)3	S3	W3	22 (13–32)	16 (7–20)	–	br	Sn1
DaG 667	11/99	27°03'	16°03'	108	1	CO3	S1	W1	0–58	0–5	–	–	Sn1
DaG 668	11/99	27°04'	16°04'	86	1	CO3	S1	W1	2–65	0–2	–	paired with DaG 667	Sn1
DaG 669	11/99	27°20'	16°10'	926	1	Howardite	–	–	–	–	–	*See separate entry*	–
DaG 671	11/99	27°21'	16°10'	485	1	Howardite	–	–	–	–	–	*See separate entry*	–
DaG 672	11/99	27°28'	16°18'	1616	1	LL5	S2	W2	28	23	–	br	Sn1
DaG 674	11/99	26°59'	16°23'	252	1	L6	S6	W2	22	19	–	–	Sn1
DaG 675	11/99	26°60'	16°24'	196	1	H5	S2	W4	18	16	–	–	Sn1
DaG 676	11/99	26°58'	16°22'	246	1	L6	S4	W1	24	21	–	–	Sn1
DaG 677	11/99	27°00'	16°08'	584	4	L6	S4	W2	22	20	–	–	Sn1
DaG 679	11/99	26°57'	16°28'	21	1	H5–6	S3	W3/4	18	16	–	br	Sn3
DaG 680	11/99	27°03'	16°24'	78	1	Ureilite	S2	low	20	17	–	typical texture	Sn1
DaG 681	11/99	27°03'	16°23'	110	1	Ureilite	S2/3	low	21	18	–	paired with DaG 680	Sn1
DaG 682	11/99	27°02'	16°11'	1998	1	H6	S1	W2	17	16	–	–	Sn1
DaG 683	11/99	26°35'	16°48'	232	1	L6	S3/4	W3	24	21	–	sv	Sn1
DaG 684	11/99	27°05'	16°23'	2210	1	Eucrite	–	–	–	–	–	*See separate entry*	–
DaG 685	11/99	27°27'	16°15'	380	2	H4–6	S1	W1	20	17	–	br	Sn1
DaG 686	11/99	27°01'	16°25'	184	1	H6	S1	W4	18	16	–	–	Sn1
DaG 687	11/99	26°57'	16°28'	30	1	H5	S2	W4	19	16	–	–	Sn1
DaG 688	11/99	26°57'	16°28'	616	1	H5/6	S1	W3	17	16	–	–	Sn1
DaG 689	11/99	27°17'	16°06'	200	1	H4–5	S1	W1	17	15	–	br	Sn1
DaG 690	11/99	26°58'	16°22'	344	1	L6	S4	W1	24	21	–	–	Sn1
DaG 691	11/99	27°09'	16°13'	96	1	L5	S2	W2	25	21	–	–	Sn1
DaG 694	11/99	26°58'	16°25'	321	1	L6	S4	W2	24	21	–	sv	Sn3
DaG 695	11/99	26°57'	16°27'	53	1	H5	S1	W3	19	17	–	–	Sn1
DaG 696	11/99	27°05'	16°05'	564	6	H4	S2	W1	17	16	–	–	Sn1
DaG 697	11/99	27°07'	16°03'	586	3	H6	S2	W2	18	17	–	–	Sn1
DaG 698	11/99	–	–	10.4 kg	many	LL5	S2	W2	27	22	–	–	Sn1

TABLE 3. *Continued*.

Name	Found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Info‡
DaG 699	11/99	27°24'	16°12'	244	1	L6	S3	W5	24	21	–	–	Sn1
DaG 700	11/99	26°58'	16°26'	81	1	L6	S5	W2	24	20	–	sv	Sn1
DaG 701	11/99	26°59'	16°25'	237	10	L6	S5	W2	24	20	–	–	Sn1
DaG 702	11/99	26°59'	16°24'	96	1	L6	S5	W2	24	22	–	–	Sn1
DaG 703	11/99	26°58'	16°23'	74	1	L6	S4	W2	22	19	–	–	Sn1
DaG 704	11/99	26°58'	16°23'	213	1	L6	S4	W2	24	21	–	–	Sn1
DaG 705	11/99	26°58'	16°24'	1120	23	H5/6	S1	W2	19	17	–	–	Sn1
DaG 706	11/99	27°00'	16°23'	108	1	L4	S1–3	W2	22	19	–	br	Sn1
DaG 707	11/99	26°58'	16°24'	45	1	L6	S5	W1	26	22	–	sv	Sn1
DaG 708	11/99	27°00'	16°23'	69	1	L6	–	W3	23	21	–	br	Sn1
DaG 709	11/99	27°01'	16°22'	96	1	L6	S5	W2	24	21	–	–	Sn1
DaG 710	11/99	27°06'	16°22'	252	1	H4	S1	W2	20	18	–	–	Sn1
DaG 711	11/99	27°10'	16°26'	15	1	L6	S4	W2	25	21	–	–	Sn1
DaG 712	11/99	26°56'	16°25'	146	1	H4	S1	W1	17	15	–	–	Sn1
DaG 713	11/99	26°58'	16°23'	183	1	L6	S5	W2	26	22	–	–	Sn1
DaG 714	11/99	26°58'	16°22'	74	1	L6	S5	W1	25	21	–	–	Sn1
DaG 715	11/99	26°58'	16°22'	98	1	L6	S4	W1	25	22	–	–	Sn1
DaG 716	11/99	27°03'	16°09'	176	3	H5	S3/4	W4	20	17	–	–	Sn1
DaG 717	11/99	27°02'	16°08'	706	5	L4	S2	W2	25	21	–	–	Sn1
DaG 718	11/99	27°04'	16°09'	91	2	H6	S1	W4	18	16	–	–	Sn1
DaG 719	11/99	27°09'	16°12'	62	1	L5/6	S4	W1	22	19	–	–	Sn1
DaG 720	11/99	26°59'	16°23'	58	–	H6	S1	W2	19	17	–	–	Sn2
DaG 721	11/99	27°04'	16°04'	43	2	L3/4	S3	W2	6–25	1.5–20	–	–	Sn1
DaG 722	11/99	27°04'	16°04'	57	1	L6	S6	W2	24	21	–	sv, rw, mjr	Sn1
DaG 723	11/99	27°08'	16°06'	37	1	H5/6	S2	W2	19	18	–	–	Sn1
DaG 724	11/99	27°15'	16°07'	187	1	L4	S1	W2/3	24	21	–	–	Sn1
DaG 725	11/99	27°17'	16°06'	114	1	L6	S5	W3	25	21	–	sv	Sn1
DaG 726	11/99	27°18'	16°06'	28	1	L6	S5	W4	25	21	–	–	Sn1
DaG 727	11/99	26°59'	16°25'	43	1	H6	S2	W2	20	17	–	sv	Sn1
DaG 728	11/99	27°00'	16°25'	21	1	H5	S2	W2	18	17	–	–	Sn1
DaG 729	11/99	27°06'	16°21'	586	1	L5/6	S1	W2	23	19	–	–	Sn1
DaG 730	11/99	27°07'	16°19'	227	1	H5	S1	W2	16	15	–	–	Sn1
DaG 731	11/99	27°19'	16°16'	144	1	CV3	S1	high	22	11	–	–	Sn1
DaG 732	11/99	27°19'	16°17'	247	1	H4	S1	W4	19	18	–	–	Sn1
DaG 733	11/99	27°15'	16°21'	185	5	H5	S3	W3	18	18	–	–	Sn1
DaG 749	1999	27°18.10'	15°45.87'	~95 kg	>2100	CO3	–	W2	23.4 (n = 98)	16.3 (n = 21)	–	prob. paired with DaG 005	Ha3
								range:	0.7–69.7	1.3–47.9			
DaG 841	10/98	27°01.60'	16°15.85'	405	2	L4	S2	W2	20.6	20	–	–	OU2
DaG 842	10/98	26°53.79'	16°34.70'	347	1	L6	S4	W2	25.6	21.4	–	–	OU2
DaG 843	10/98	27°02.10'	16°09.69'	105	1	H5	S1	W1	19.9	16.3	–	–	OU2
DaG 844	10/99	27°23.76'	16°11.43'	143	1	Eucrite	S2	W3	–	27.5–61.0	–	–	OU2
DaG 845	10/99	27°04.85'	16°03.38'	21	1	CO3	S2	W2	0.6–40.5	0.7–1.9	–	prob. paired with DaG 005	OU2
DaG 846	10/99	27°04.18'	16°05.79'	94	1	CO3	S2	W2	0.3–51.4	0.9–5.4	–	prob. paired with DaG 005	OU2
DaG 847	10/99	27°03.93'	16°04.79'	164	1	CO3	S2	W2	0.9–49.9	0.9–10.0	–	prob. paired with DaG 005	OU2
DaG 848	10/99	27°04.98'	16°03.21'	59	1	CO3	S2	W2	1.2–52.2	0.5–3.2	–	prob. paired with DaG 005	OU2
DaG 849	10/98	26°53.00'	16°41.29'	933	2	L5	S2	W1	20.1	16.9	–	–	OU2
DaG 850	10/98	27°20.42'	16°17.14'	55	1	L5	S4	W2	25.6	22	–	–	OU2
DaG 851	10/99	27°12.13'	15°53.58'	1395	1	L5	S3	W2	25.7	22	–	–	OU2
DaG 852	10/99	27°11.90'	15°54.07'	481	1	CO3	S2	W2	1.3–48.6	0.9–9.0	–	prob. paired with DaG 005	OU2
DaG 853	10/99	27°11.82'	15°54.27'	2655	3	CO3	S2	W2	0.8–44.4	0.7–4.4	–	prob. paired with DaG 005	OU2
DaG 854	10/99	27°10.39'	15°56.24'	490	1	CO3	S2	W2	0.4–47.3	0.8–11.8	–	prob. paired with DaG 005	OU2
DaG 855	10/98	26°53.38'	16°34.29'	406	1	L5	S3	W1	25.7	21.2	–	–	OU2
DaG 856	10/98	27°03.42'	16°05.75'	148	1	H6	S3	W2	18.8	16.5	–	–	OU2
DaG 857	10/99	27°02.49'	16°22.35'	72	1	Ureilite	low	W2	7.4–22.7	–	–	–	OU2
DaG 858	1999	27°12.14'	15°53.75'	3810	1	CO3	S3	W2	–	–	–	paired with DaG 601/749	Ha3
DaG 859	1998	26°58.84'	16°20.78'	2517	4	L6	S3	W2	22.7	19.1	–	–	Ha3
DaG 860	1999	26°52.36'	16°42.22'	149	1	LL4	S2	W2	28.7	23.4	–	–	Ha3
DaG 861	1998	26°52.29'	16°38.05'	495	3	H5	S2	W3	18.8	16.5	–	–	Ha3
DaG 862	1999	27°09.12'	16°18.96'	294	1	H3	S2	W2	14.4	13.1	–	–	Ha3
DaG 863	1999	26°55.17'	16°40.44'	361	1	Eucrite	W2	–	61.4	–	–	Polymict	Ha3
DaG 864	11/99	26°57'	16°21'	382	2	H4/5	S1	W3	18	17	–	–	Sn1
DaG 865	11/99	26°57'	16°21'	56	1	L6	S5	W3	26	22	–	–	Sn1
DaG 866	11/99	27°15'	16°08'	261	1	L5	S2	W2	24	20	–	–	Sn1
DaG 867	11/99	27°22'	16°11'	68	1	L6	S4	W2	24	20	–	–	Sn1
DaG 868	2000	~28°	~16°	40	1	Ureilite	–	–	–	–	–	*See separate entry*	–
DaG 869	1998	27°05.59'	16°02.96	836	1	H4/5	S1	W0	18.0	16.1	–	Type spec. 7.4 g	To2
DaG 876	5/7/98	~27°30'	~16°30'	6.2	1	Martian	–	–	–	–	–	*See separate entry*	–
DaG 898	4/27/01	27°02.07'	16°08.57'	828	1	H4	S2	W4	17.5	11.0 ± 3.5	–	–	Mü6
DaG 899	1998	27°49.96'	15°54.63'	263	1	L4	–	W0	24.9	4–21	–	–	MP1
DaG 900	1998	27° 05'	16° 03'	8	1	LL6	–	W3	29.9	24.1	–	–	MP1
DaG 901	1998	27°52.85'	16°54.81	9000	1	H4	–	W2	18.0	13.8	–	–	MP1
DaG 902	1999	27°55.59	16°54.25	462	1	L3	–	W1	2–23	–	–	Chondrules up to 2 mm	MP1
DaG 903	10/22/00	27°07.36'	16°30.37'	114	1	H3–6	S2	W3	18.5	–	–	regolith breccia	Hb1

TABLE 3. *Continued*.

Name	Found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Wo (mol%)	Comments	Info‡
DaG 904	10/22/00	27°08.21'	16°08.73'	144	1	H6	S2	W3	19.1	–	–	br, sv	Hb1
DaG 905	10/22/00	27°06.50'	16°03.50'	141	1	H6	S3	W3	19.0	–	–	sv, carb. veins	Hb1
DaG 906	10/22/00	27°05.57'	16°07.63'	112	1	L6	S3	W2	24.0	–	–	–	Hb1
DaG 907	10/22/00	27°03.23'	16°26.85'	142	1	H6	S1	W3	17.8	–	–	–	Hb1
DaG 908	10/23/00	27°03.91'	16°08.39'	204	1	H6	S4	W1	17.6	–	–	–	Hb1
Daraj													
Daraj 145	5/3/00	29°38'43"	11°39'53"	3354	73	H6	S3	W3/4	18.4	16.2	–	–	Mü6
Daraj 146	5/3/00	29°37'40"	11°42'9"	4553	15	H5	S2	W1/2	17.6	15.5	–	–	Mü6
Hamadat Murzùq (HM)													
HM 001	11/99	26°15'	13°01'	895	1	H6	S2	W2	20	17	–	–	Sn1
HM 002	11/99	26°15'	13°01'	538	1	H4	S4	W1	18	17	–	–	Sn1
Hammadah al Hamra (HaH)													
HaH 238	3/98	28°55.85'	13°07.56'	266	1	L6	S4	W4	24.1	20.1	1.3	sv	MP2
HaH 285	3/00	29°02.314'	13°12.427'	1236	1	Howardite	S2	W2	27–32	19–57	–	$An_{74–97}$; paired DaG 779?	Mü2
HaH 286	3/00	29°03.341'	13°07.162'	612	1	Eucrite	S4	–	–	55–60	–	$An_{77–92}$; CPX: $Fs_{28–38}Wo_{32–43}$	Mü2
HaH 287	3/00	28°59.415'	12°56.315'	620	1	LL6	S4	W3	32.5	26.2	–	br, sv	Mü2
HaH 288	10/99	29°04.53'	12°34.67'	2625	many	H6	S2	W2	19.9	18.6	–	–	OU2
HaH 289	1999	29°05.71'	12°33.93'	3030	many	L5	S2	W3	24.74	20.54	–	–	Ha3
HaH 290	1999	29°00.89'	12°37.65'	5205	many	H6	S3	W3	18.94	16.9	–	–	Ha3

Abbreviations: br = breccia; CPX = Ca–rich pyroxene; sv = shock veins; mjr = majorite; rw = ringwoodite; carb = carbonates.
‡See "Abbreviations for Analysts and Specimen Locations" after References.

Sayh al Uhaymir 094 20°59.469' N, 57°20.326' E

Oman

Found 2001 February 8

Martian meteorite (basaltic shergottite)

A 223.3 g partially crusted stone was found in the same area as Sayh al Uhaymir 005, 008, and 051 by Marc Hauser and Lorenz Moser (*Bern*) during a search for meteorites. All samples may be paired. Mineralogy and classification (E. Gnos, Institute for Geological Sciences, *Bern*; B. Hofmann, *NMB*): a grey-greenish rock with a gabbro-like texture; olivine phenocrysts (average maximum dimension = 1.5 mm) display shock-twinning, mosaicism, and, locally, oxidation; optically clear parts of olivines ($Fo_{65–69}$) occur in a fine-grained (average maximum grain size = 0.3 mm) groundmass consisting of maskelynite ($An_{55–64}Or_{5–9}$) and pigeonite ($En_{60–68}Wo_{7–9}$) with minor augite, chromite and pyrrhotite; partially recrystallized veins and pockets of shock-melted glass containing vescicles are abundant; x-ray tomography revealed ~0.4 vol% of pores up to 3 mm in size; shock stage, S5; weathering grade, W1; small rusty pockets are Fe-hydroxide replacements of an unknown pre-existing phase. Oxygen isotopes (I. Franchi, *OU*): $\delta^{17}O$ = +2.51‰, $\delta^{18}O$ = +4.29‰, $\Delta^{17}O$ = +0.28‰. Specimens: all in *NMB*.

Sayama 35º52' N, 139º24' E

Saitama Prefecture, Japan

Fell 1986 ~April 29, time unknown

Carbonaceous chondrite (CM2)

A 430 g stone was found one morning near the porch of the finder's house. He did not pick it up for fear of radioactivity, as news of the Chernobyl accident had just broken. Several days later it rained, and the next-door neighbor discovered a leak in his roof, apparently caused by the impact of the meteorite. At this point, the water-soaked meteorite was collected. Mineralogy and classification (A. Okada, *RIKEN*; S. Yoneda, *NSMT*; T. Nakamura, *KyuU*; M. Zolensky, *JSC)*: olivine, $Fa_{0–23}$; aqueous alteration is extensive. Bulk composition (H. Naraoka, Y. Oura and M. Ebihara, *TMU*): C = 1.99 wt%, N = 0.08 wt%, H = 1.37 wt%, Zn = 0.54 × CI, S = 0.42 × CI. Oxygen isotopes (M. Kusakabe, *OkaU*): $\delta^{17}O$ = +3.2–4.2‰, $\delta^{18}O$ = +9.9–12.0‰. Cosmic-ray exposure age (K. Nagao, *UTok*): <1 Ma. Specimens: main mass owned by finder and on loan to *NSMT*; type specimen, 23 g, *NSMT*.

Shişr 003, see Oman meteorites

Smara 26º41' N, 11º44' W

Western Sahara

Found 2000 April

Achondrite (polymict eucrite)

A 12.87 kg stone was found by a person prospecting for meteorites. Mineralogy and classification (J. Barrat, *UAng*; P. Gillet, *ENSL*): a breccia containing various types of clasts, including subophitic basalts, granular microgabbros, gabbros, and impact melt clasts, in a fine- to medium-grained matrix; impact melt clasts are numerous and up to 1 cm in diameter. Specimens: 27 g plus two thin sections, *ENSL*; main mass with anonymous finder.

Sologne 47º22' N, 1º44' E

Centre, France

Fell 1860

Ordinary chondrite (H5)

A 54 g stone was found in 1992 by Yannick Dubouloz in a box in the attic of his late grandmother, who had lived in the town of Annecy, Haute-Savoie, France. In the box was a handwritten note saying that the stone was a meteorite that fell in Sologne in 1860. Mineralogy and classification (N. Dauphas and Y. Dubouloz, *CRPG*; B. Zanda,

TABLE 4. Meteorites from Morocco.*

Name	Pseudonym#	Lat† (N)	Long† (W)	Date¥ (mm/dd/yy)	Mass (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Notes‡	Place purchased	Type spec	Info§
Northwest Africa (NWA)															
NWA 033	Taouz 003	30°54'	3°58'	1999	192	1	C3	S2	W3/4	13.5 ± 1.3	9.9 ± 2.5	(1)	–	22	Mü1
NWA 034	Bouanane 005	32°03'	3°02'	1999	3500	1	L4	S3	W3/4	24	20	–	–	20	Mü1
NWA 035	Lahmada 022	27°10'	9°30'	1999	950	1	L6	S2	W2/3	24.5	21.5	–	–	21	Mü1
NWA 036	Lahmada 023	27°10'	9°30'	1999	163	2	H5/6	S2	W1	18	17	–	–	21	Mü1
NWA 037	Lahmada 024	27°10'	9°30'	1999	775	2	L6	S2	W3	25	21.5	–	–	21	Mü1
NWA 038	Lahmada 025	27°10'	9°30'	1999	230	1	H6	S2	W4	20	17.5	–	–	20	Mü1
NWA 039	Lahmada 026	27°10'	9°30'	1999	70	1	L6	S3	W1	24.5	20.5	–	–	13	Mü1
NWA 040	Lahmada 027	27°10'	9°30'	1999	130	1	H4	S2	W3	17.5	16.5	–	–	20	Mü1
NWA 041	Lahmada 028	27°10'	9°30'	1999	215	1	L5/6	S2	W3	25	21	–	–	22	Mü1
NWA 042	Lahmada 029	27°10'	9°30'	1999	80	1	H5	S2	W3	18	17	–	–	22	Mü1
NWA 043	Lahmada 030	27°10'	9°30'	1999	78	1	L6	S4	W3	25.5	21	–	–	18	Mü1
NWA 044	Lahmada 031	27°10'	9°30'	1999	185	1	L6	S3	W3	25.5	21.5	–	–	21	Mü1
NWA 045	Lahmada 032	27°10'	9°30'	1999	52	1	H5	S3	W2	19.5	17.5	–	–	10	Mü1
NWA 046	Taouz	30°54'	3°59'	P 9/1999	422	2	H3.8	S1	W3	18.7	–	–	Denver, CO	188	LA1
NWA 047	–	–	–	–	5200	1	Eucrite	–	–	–	–	*See separate entry*	Erfoud	–	–
NWA 048	–	–	–	–	851	1	LL6	–	–	26.5	–	–	Morocco	–	An1
NWA 049	–	–	–	–	276	1	Eucrite	–	–	–	–	*See separate entry*	Rissani	–	–
NWA 050	–	29°55'	5°35'	–	1145	1	H5	S3	W2	16.9	–	–	Tagounite	10	LA2
NWA 051	–	29°55'	5°35'	–	330	1	L4	S2	W2	24	–	–	Tagounite	14	LA2
NWA 052	Kem Kem	31°7'	5°11'	P 11/1998	1088	1	L5	S3	W0/1	25.7	23.9	–	Alnif	23	OU1
NWA 053	Bouanane	32°03'	3°02'	–	390	1	R4	S2	W2	38.2	29.7	–	¶	–	Mü2
NWA 054	Bouanane	32°03'	3°02'	–	305	1	LL5	S3	W4	32	26	–	¶	–	Mü2
NWA 055	Bouanane	32°03'	3°02'	–	42 kg	several	L4	S4	W1	23.8	20.6	–	¶	–	Mü2
NWA 056	Lahmada	27°10'	9°30'	–	436	1	H5	S2	W1	19	17.2	–	¶	–	Mü2
NWA 057	Lahmada	27°10'	9°30'	–	370	1	H5	S2	W2	18.8	16.9	br	¶	–	Mü2
NWA 058	Lahmada	27°10'	9°30'	–	1091	1	L6	S4	W3/4	26.2	22.2	–	¶	–	Mü2
NWA 059	El Aouina Souatar	31°50'	2°56'	–	27 kg	several	H3.9/4	S2	W1/2	19	16.6	(2)	¶	–	Mü2
NWA 060	–	–	–	P 8/9/00	604	1	CK5	–	–	30.3	–	–	Erfoud	>20	LA3
NWA 061	–	–	–	P 8/6/00	298	1	LL4	S2	W2	31.2	–	–	M'hamid	>20	LA3
NWA 062	–	–	–	P 8/9/00	968	1	CO3.3/3.4	S1	–	22.1 ± 18.4	–	–	Erfoud	>20	LA3
NWA 063	–	–	–	P 8/6/00	128	1	H4	S2	W3	18.9	–	–	Erfoud	>20	LA3
NWA 064	–	near Algerian border		P 8/9/00	13.7 kg	several	L5	S4	W2	23.3	–	–	Erfoud	98	LA3
NWA 065	–	–	–	P 8/6/00	5094	2	H5	S2	W4	17.8	–	–	M'hamid	106	LA3
NWA 066	–	–	–	P 8/10/00	2858	1	L6	S5	W2	25.0	–	–	Erfoud	32	LA3
NWA 067	–	–	–	P 8/10/00	12.0 kg	1	L6	S2	W5	25.3	–	–	Rissani	32	LA3
NWA 069	–	–	–	P 8/11/00	3808	1	L6	S4	W2	25.1	–	–	Erfoud	main mass	LA3
NWA 070	–	–	–	P 8/11/00	8224	several	H6	S4	W2	19.0	–	–	Erfoud	114	LA3
NWA 073	–	–	–	P 8/10/00	2914	several	L6	S3	W3	25.2	–	–	Erfoud	26	LA3
NWA 074	–	West Algeria		P 8/11/00	2686	many	H6	S3	W3	18.4	–	–	Erfoud	50	LA3
NWA 078	–	–	–	P 8/9/00	1172	1	H5	S3	W3	18.9	–	–	Erfoud	main mass	LA3
NWA 079	–	–	–	P 8/11/00	2350	70	H5	S2	W2	17.5	–	–	Erfoud	22	LA3
NWA 080	–	–	–	P 8/9/00	124	1	H5	S2	W5	19.21	–	–	Erfoud	12	LA3
NWA 081	–	–	–	P 8/9/00	314	1	L6	S4	W2	24.9	–	–	Erfoud	>20	LA3
NWA 083	–	–	–	P 8/9/00	32	1	LL3.9	S5	W1	28.4 ± 5.0	–	–	Erfoud	2	LA3
NWA 085	–	–	–	P 8/9/00	1804	several	H3.8	S2	W3	17.9 ± 0.7	–	–	Erfoud	>20	LA3
NWA 091	–	–	–	P 8/11/00	370	1	L6	S4	W2	25.0	–	–	Erfoud	>20	LA3
NWA 092	–	–	–	P 8/11/00	88	1	L3.7	S5	W1	25.9 ± 7.6	–	–	Erfoud	>20	LA3
NWA 093	–	–	–	P 8/9/00	266	1	L6	S3	W5	25.5	–	–	Erfoud	>20	LA3
NWA 094	–	–	–	P 9/17/00	252	1	LL3.6	S2	W2	5.4 ± 5.6	–	–	Erfoud	56	LA3
NWA 095	–	–	–	P 9/17/00	451	1	L6	S3	W4	25.4	–	–	Erfoud	34	LA3

TABLE 4. *Continued.*

Name	Pseudonym[#]	Lat[†] (N)	Long[†] (W)	Date[¥] (mm/dd/yy)	Mass (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Notes[‡]	Place purchased	Type spec	Info[§]
NWA 096	–	–	–	P 9/17/00	2510	3	H3.8	S2	W2	18.1 ± 0.2	–	–	Erfoud	46	LA3
NWA 097	–	–	–	P 9/17/00	700	1	H5	S2	W2	18.8	–	–	Erfoud	24.7	LA3
NWA 098	–	–	–	P 9/17/00	5624	1	L6	S4	W3	24.3	–	–	Erfoud	82	LA3
NWA 099	–	–	–	P 9/17/00	16.0 kg	6	H6	S3	W1	18.9	–	–	Erfoud	206.5	LA3
NWA 100	–	–	–	P 9/17/00	7136	1	L6	S4	W1	24.4	–	–	Erfoud	36	LA3
NWA 101	–	–	–	P 9/17/00	2436	1	H4	S2	W1	19.1	–	–	Erfoud	40.5	LA3
NWA 102	–	–	–	P 9/17/00	2014	1	L5	S2	W3	24.9	–	–	Erfoud	28.3	LA3
NWA 103	–	–	–	P 9/17/00	1188	1	L6	S2	W3	25.3	–	–	Erfoud	58.3	LA3
NWA 104	–	–	–	P 9/17/00	4162	1	L6	S2	W2	25.3	–	–	Erfoud	50	LA3
NWA 105	–	–	–	P 9/17/00	1382	1	H6	S2	W2	19.9	–	–	Erfoud	64	LA3
NWA 106	–	–	–	P 9/17/00	4254	1	L4	S2	W3	25.2	–	–	Erfoud	32.4	LA3
NWA 107	–	–	–	P 9/17/00	1630	1	H3.7	S1	W5	16.4 ± 0.2	–	–	Erfoud	364	LA3
NWA 108	–	–	–	P 9/17/00	1612	1	L6	S4	W1	24.8	–	–	Erfoud	31.1	LA3
NWA 109	–	–	–	P 9/17/00	1166	1	L6	S3	W3	24.8	–	–	Erfoud	78	LA3
NWA 110	–	–	–	P 9/17/00	820	1	L6	S3	W2	24.6	–	–	Erfoud	35.1	LA3
NWA 111	–	–	–	P 9/17/00	3918	1	H6	S4	W2	18.4	–	–	Erfoud	70	LA3
NWA 112	–	–	–	P 9/17/00	144	1	L6	S3	W0	24.7	–	–	Erfoud	60	LA3
NWA 118	–	–	–	P 9/17/00	436	1	LL6	S3	W2	26.8	–	–	Erfoud	36	LA3
NWA 120	–	–	–	P 9/17/00	218	1	H6	S2	W1	19.3	–	–	Erfoud	40	LA3
NWA 124	–	–	–	P 9/17/00	2909	1	H5	S2	W1	19.1	–	–	Erfoud	55	LA3
NWA 130	–	–	–	P 9/17/00	430	1	H3.7	S2	W3	17.5 ± 0.2	–	–	Erfoud	48	LA3
NWA 134	–	–	–	P 9/17/00	104	1	L6	S2	W2	25.4	–	–	Erfoud	24.3	LA3
NWA 137	–	–	–	P 9/17/00	155	1	L6	S2	W3	25.4	–	–	Erfoud	39	LA3
NWA 138	–	–	–	P 9/15/00	848	1	H5	S3	W3	19.3	–	–	M'hamid	39	LA3
NWA 141	–	–	–	P 9/17/00	425	1	H5	S2	W1	19.4	–	–	Erfoud	22	LA3
NWA 148	–	–	–	P 9/17/00	43	1	H5	S2	W1	18.7	–	–	Erfoud	13	LA3
NWA 151	–	–	–	P 9/17/00	116	1	L6	S4	W2	24.8	–	–	Erfoud	21	LA3
NWA 155	–	–	–	P 9/17/00	170	1	H5	S3	W2	18.8	–	–	Erfoud	18	LA3
NWA 159	Zagora	30°20'	5°50	1999?	4500	1	L4	S3	W2	25.2	22.2	–	–	211	Vr1
NWA 160	Jbel Bani	30°05'	5°40'	P 2000	137	1	H4	S3	W1	17.2	16.5	–	Tagounite	13.7	Vr2
NWA 161	Hamada du Draa	29°55'	5°35'	P 2000	296	1	H4	S3	W3	17.5	16.4	paired NWA 162?	Tagounite	32.2	Vr2
NWA 162	Hamada du Draa	29°55'	5°35'	P 2000	818	1	H4	S3	W3	17	15.8	paired NWA 161?	Tagounite	100.6	Vr2
NWA 163	Tagmart	29°55'	5°35'	1999?	28.7	1	L4	S3	W1	21.7	19.4	–	Tagounite	6	Vr2
NWA 164	Tagmart	29°55'	5°35'	1999?	37	1	L4	S3	W2	22.8	20.7	–	Tagounite	7.5	Vr2
NWA 165	Tagmart	29°55'	5°35'	1999?	51.7	1	L4	S3	W2	23.8	20.1	–	Tagounite	11.1	Vr2
NWA 166	Tagmart	29°55'	5°35'	1999?	61.5	1	L4	S3	W1	22.4	21.6	–	Tagounite	12	Vr2
NWA 169	Aboud	29°55'	5°35'	1999?	38.3	1	H5	S2	W1	18.7	17.1	–	Tagounite	7.7	Vr2
NWA 170	Aboud	29°55'	5°35'	1999?	24.0	1	H5	S2	W3	18.8	17.4	–	Tagounite	7.9	Vr2
NWA 171	Aboud	29°55'	5°35'	1999?	14.1	1	L3.9	S3	W1	22.2–32.2	20.1	PMD 8.51	Tagounite	3.2	Vr2
NWA 176	–	near Algerian border		1999	2000	1	Iron Ung.	–	–	–	–	*See separate entry*	–	–	–
NWA 178	–	–	–	P 9/17/00	150	1	L6	S3	W3	25.2	–	–	Erfoud	33.8	LA3
NWA 184	–	–	–	P 9/17/00	294	1	L6	S3	W2	24.9	–	–	Erfoud	39.7	LA3
NWA 222	–	–	–	P 9/17/00	164	1	L6	S3	W3	25.2	–	–	Erfoud	32.5	LA3
NWA 224	–	–	–	P 9/17/00	148	1	H3.7	S2	W3	18.3 ± 0.4	–	–	Erfoud	12.8	LA3
NWA 230	–	–	–	P 9/17/00	1548	1	H4	S2	W5	18.6	–	–	Erfoud	98.8	LA3
NWA 233	–	–	–	P 9/17/00	143	1	L6	S4	W2	25.1	–	–	Erfoud	17.1	LA3
NWA 234	–	–	–	P 9/17/00	42	1	LL5	S2	W2	29	–	–	Erfoud	3.6	LA3
NWA 236	–	–	–	P 9/17/00	119	1	LL5	S2	W1	27.5	–	–	Erfoud	7.2	LA3
NWA 237	–	–	–	P 9/17/00	61	1	LL6	S2	W2	29.8	–	–	Erfoud	7.6	LA3
NWA 239	–	–	–	P 9/17/00	25	1	H6	S2	W2	19.3	–	–	Erfoud	3.1	LA3
NWA 240	–	–	–	P 9/17/00	2250	1	H5	S3	W1	19.5	–	–	Erfoud	94.9	LA3

TABLE 4. *Continued.*

Name	Pseudonym#	Lat† (N)	Long† (W)	Date¥ (mm/dd/yy)	Mass (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Notes‡	Place purchased	Type spec	Info§
NWA 241	–	–	–	P 9/17/00	12.4 kg	1	H4	S2	W5	18.3	–	–	Erfoud	315	LA3
NWA 242	–	–	–	P 9/17/00	1120	1	L6	S3	W1	24.3	–	–	Erfoud	31.1	LA3
NWA 243	–	–	–	P 9/17/00	3142	1	H5	S2	W3	18.2	–	–	Erfoud	25.9	LA3
NWA 244	–	–	–	P 9/17/00	932	1	L5	S4	W2	23.4	–	–	Erfoud	30	LA3
NWA 245	–	–	–	P 9/17/00	994	1	H6	S2	W2	19.3	–	–	Erfoud	33.1	LA3
NWA 246	–	–	–	P 9/17/00	1250	1	H6	S2	W6	19	–	–	Erfoud	55.1	LA3
NWA 247	–	–	–	P 9/17/00	1050	20	H5	S3	W1	18.5	–	–	Erfoud	40.1	LA3
NWA 248	–	–	–	P 9/17/00	230	1	L6	S4	W5	24.3	–	–	Erfoud	20.7	LA3
NWA 250	–	–	–	P 9/17/00	11.0 kg	1	L6	S3	W3	24.9	–	–	Erfoud	45.5	LA3
NWA 251	Tagmart	29°55'	5°35'	1999	1120	1	L5	–	W2	24.8	21.0	–	Tagounite	9.9	Ha1
NWA 252	Tagmart	29°55'	5°35'	1999	10	1	L4	–	W2	26.0	22.5	–	Tagounite	1.5	Ha1
NWA 253	Tagmart	29°55'	5°35'	1999	114	1	L5	–	W3	24.1	20.3	–	Tagounite	5.8	Ha1
NWA 254	Tagmart	29°55'	5°35'	1999	247	1	H6	–	W3	18.2	16.3	–	Tagounite	22.5	Ha1
NWA 255	Tagmart	29°55'	5°35'	1999	340	1	L4	–	W3	25.1	21.5	–	Tagounite	32.3	Ha1
NWA 256	Tagmart	29°55'	5°35'	1999	7000	1	LL5	–	W3/4	28.9	23.7	–	Tagounite	38.5	Ha1
NWA 257	Tagmart	29°55'	5°35'	1999	360	1	H6	–	W3/4	18.4	16.3	–	Tagounite	9.7	Ha1
NWA 258	Tagmart	29°55'	5°35'	1999	273	1	H6	–	W2	19.8	17.2	–	Tagounite	3.3	Ha1
NWA 265	Tagmart	35°55'	11°35'	1999?	1334	1	L6	–	W2	25.01	21.5	–	Tagounite	51.5	Ha2
NWA 267	–	–	–	P 9/00	73.9 kg	1000s	H4	S2	W2–3	17.5	17.1	–	Denver, CO	356	Vr3
NWA 467	–	near Algerian border		2000	297	1	H3	–	W2	4.1–22.6	–	(3)	–	37.8	Vn1
NWA 468	–	–	–	–	6100	1	Iron Ung.	–	–	–	–	*See separate entry*	–	–	–
NWA 469	Boudnib	–	–	1999	~7000	>350	L3	–	W1/2	5.0–37.9	–	(4)	–	12.3	Vn2
NWA 470	Er Rachidia 001	31°59.0'	4°11.2'	–	62.9	1	CH	S1	W1	–	–	*See separate entry*	–	–	–
NWA 472	Er Rachidia 003	31°58.1'	4°08.8'	P 4/00	58	1	H4	S2	W3	17.9	17.1	(5)	–	8	Vr4
NWA 473	Er Rachidia 004	31°57.6'	4°07.7'	P 4/00	45.8	1	L4	S3	W2	23.4	21.6	(5)	–	10.9	Vr4
NWA 477	Er Rachidia 008	32°02.0'	4°10.6'	P 4/00	1194	1	H5	S1	W1	18.8	18.1	(5)	–	79.4	Vr4
NWA 478	Er Rachidia 009	32°02.2'	4°11.7'	P 4/00	724	1	L4	S2	W2	24.1	21.7	(5)	–	180.4	Vr4
NWA 479	Khter n'Aït Khebbach	30°40'	4°59'	–	156	1	Lunar	–	–	–	–	*See separate entry*	–	–	–
NWA 480	–	–	–	–	28	1	Martian	–	–	–	–	*See separate entry*	–	–	–
NWA 481	–	–	–	P 9/00	8.265	1	L3.8	S2	W3	24.1 ± 0.2.	–	–	Erfoud	1.58	LA4
NWA 482	Algeria	–	–	–	1015	1	Lunar	–	–	–	–	*See separate entry*	Alnif	–	–
NWA 487	Tabassimt	–	–	P 2000	4272	1	L/LL3	S1	W1	0.4–32.7	–	Subtype ≤3.4	Erfoud	~20	Kg1
NWA 492		–	–	P 2000	23	1	Ureilite	S1	W3	10.8–22.1	–	–	Erfoud	~5	Kg1
NWA 493	–	–	–	P 2000	346	1	H3.8	–	W4/5	18.5	–	–	Erfoud	~20	Kg1
NWA 495	–	–	–	P 2000	113	1	H4	S1	W3	18.1	–	–	Erfoud	~20	Kg1
NWA 501	–	–	–	P 2000	175	1	H4	S1	W5/6	18	–	sv	Erfoud	~20	Kg1
NWA 502	Bechar	–	–	P 2000	1136	1	CO3	S1	W1	0.4–50.4	–	–	Erfoud	22	Kg1
NWA 503	–	–	–	P 2000	596	1	LL7	S2	W2	30.6	–	–	Zagora	22	Kg1
NWA 504	–	–	–	P 2000	302	1	H5	S1	W2	18.3	–	–	Erfoud	24	Kg1
NWA 505	–	–	–	P 2000	243	1	LL3	S1	W2	0.8–42.8	–	Subtype ≤3.4	Erfoud	23	Kg1
NWA 506	–	–	–	P 2000	199	1	LL5	S2	W3	29.9	–	–	Erfoud	22	Kg1
NWA 507	–	–	–	P 2000	150	1	LL4	S1	W2	31.1	–	–	Erfoud	16	Kg1
NWA 509	–	–	–	P 2000	10.8kg	1	L5	S1	W2	25.3	–	–	Erfoud	16	Kg1
NWA 512	Terhazza 001	~23°36'	~5°00'	1999	>8000	>15	L4	S3	W3/4	24	20.5	–	Rissani	91	Mü3
NWA 513	Terhazza 002	~23°36'	~5°00'	1999	>1000	>10	L4/5	S4	W1	22	17.5	–	Rissani	81	Mü3
NWA 514	M'hamid	~30°08'	~6°53'	1999	2472	1	H5	S2	W4	18	15.5	–	Agadir	94	Mü9
NWA 515	–	–	–	P 11/8/00	20.0 kg	100	L6	S3	W2	25	–	–	M'Hamid	247	LA3
NWA 516	–	–	–	P 11/8/00	68	1	Winonaite	S2	W3	1.1	–	Pontlyfni-like	M'Hamid	6	LA3
NWA 518	–	–	–	P 11/8/00	3470	75	L6	S3	W2	25.2	–	–	Tagounite	85.9	LA3
NWA 519	–	–	–	P 11/8/00	484	1	L6	S5	W1	23.8	–	–	M'Hamid	14	LA3
NWA 520	–	–	–	P 11/8/00	556	1	L5	S2	W3	24.2	–	–	M'Hamid	23.5	LA3
NWA 521	–	–	–	P 11/8/00	376	1	CK4	S2	W1	33.3	–	–	M'Hamid	17.6	LA3
NWA 522	–	–	–	P 11/8/00	522	1	H4	S2	W5	18.3	–	–	M'Hamid	24.6	LA3
NWA 526	–	–	–	P 11/8/00	100	1	L5	S3	W3	24	–	–	M'Hamid	8.5	LA3

TABLE 4. *Continued.*

Name	Pseudonym[#]	Lat[†] (N)	Long[†] (W)	Date[¥] (mm/dd/yy)	Mass (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Notes[‡]	Place purchased	Type spec	Info[§]
NWA 527	–	–	–	P 11/8/00	9452	1	L5	S2	W1	24.6	–	–	M'Hamid	187	LA3
NWA 528	–	–	–	P 11/8/00	2418	1	H4	S2	W6	18.4	–	–	M'Hamid	110	LA3
NWA 529	–	–	–	P 9/00	6.27	1	H6	S3	W1	19.0	–	–	Erfoud	6.27	LA4
NWA 530	–	–	–	P 5/2000	122	2	CR2	S1	W3	1.1–6.7	3.5–8.3	–	Rissani	9.2	Pa1
NWA 531	–	–	–	P 2000?	434	1	LL4	S1	W1	32–32.9	26–28	–	Rissani	19.4	Pa1
NWA 532	–	–	–	P 2000?	2830	1	H3.8	S2	W2	19.4–19.7	18.2–20.7	–	Rissani	48.7	Pa1
NWA 533	–	–	–	P 2000?	480	1	LL3.4/3.5	S2	W6	4.7–27.9	2.7–36.7	–	Rissani	22.1	Pa1
NWA 534	–	–	–	P 2000?	29	1	LL6	–	–	27.7	–	–	Rissani	3	Ly1
NWA 535	–	–	–	P 2000?	870	1	L5	–	–	24.8	–	–	Rissani	23	Ly1
NWA 536	–	–	–	P 2000?	292	1	H5	–	–	18.8	–	–	Rissani	22	Ly1
NWA 537	–	–	–	P 2000?	35	1	LL4/6	–	–	26.6	–	–	Rissani	4	Ly1
NWA 538	–	–	–	P 4/1999	117	1	H5	–	–	19.6	–	–	Rissani	16	Ly1
NWA 539	–	31°06'	5°11'	P 1/00	2020	1	LL3.5	S2	W1	17.8 ± 8.5	–	–	Tucson, AZ	40	LA5
NWA 540	–	31°06'	5°11'	P 1/00	3540	1	H6	S2	W1	18.4	–	melt veins	Tucson, AZ	46	LA5
NWA 541	–	31°06'	5°11'	P 1/00	174	1	H3.8	S2	W5	18.2 ± 0.3	–	–	Tucson, AZ	>20	LA5
NWA 542	–	31°06'	5°11'	P 1/00	102	1	LL6	S2	W0	29.4	–	–	Tucson, AZ	>20	LA5
NWA 543	–	31°06'	5°11'	P 1/00	105	1	LL4	S3	W1	28.6	–	–	Tucson, AZ	>20	LA5
NWA 544	–	31°06'	5°11'	P 1/00	320	1	L3.8	S2	W2	18.4 ± 7.9	–	–	Tucson, AZ	>20	LA5
NWA 706	Foum Zguid	–	–	2000	209	–	LL3.7	S2	W4	16.3	–	–	–	20	LA6
NWA 707	Foum Zguid	–	–	2000	297	–	LL3.7	S2	W4	14.6	–	–	–	20	LA6
NWA 708	Foum Zguid	–	–	2000	971	–	L6	S2	W0	25.5	–	–	–	22.2	LA6
NWA 709	Foum Zguid	–	–	2000	170	–	L6	S3	W3	24.8	–	–	–	20	LA6
NWA 710	Foum Zguid	–	–	2000	54	–	CV3	S2	W4	8.2	–	–	–	10.8	LA6
NWA 711	Foum Zguid	–	–	2000	1350	–	L3.8	S2	W4	25.3	–	–	–	20.2	LA6
NWA 712	Foum Zguid	–	–	2000	610	–	L3.8	S2	W2	25.5	–	–	–	22.6	LA6
NWA 713	Foum Zguid	–	–	2000	600	–	L5	S2	W2	24.9	–	–	–	20	LA6
NWA 714	Foum Zguid	–	–	2000	2850	–	L6	S3	W1	24.9	–	–	–	23	LA6
NWA 715	Foum Zguid	–	–	2000	1640	–	H4	S3	W3	18.3	–	–	–	20	LA6
NWA 716	Foum Zguid	–	–	2000	312	–	H3.8	S3	W3	19.3	–	–	–	20	LA6
NWA 722	El Kachla	31°09'	4°15'	4/00	1280	7	L	S4–5	W3–4	24–27	18.7–23.2	(6)	–	21.66	Pa1
NWA 723	Tinaf	29°53'	5°30'	5/00	395	1	CV3	S1–2	W2	1.41–39	3.0–36.3	–	–	17.5	Pa1
NWA 724	Amzrou	30°14'	5°52'	–	1200	1	LL3	–	–	2–39	–	–	–	42	Ly2
NWA 725	Tissemoumine	30°36'	5°03'	–	3824	11	Acapulcoite	–	–	6.1	7.5	CPX: $Wo_{46}Fs_{3.1}En_{50.9}$	–	55	Ly2
NWA 726	Khemlya	31°02'	4°00'	?	354	1	H4	–	–	19.3	–	–	–	19	Ly1
NWA 727	–	30°20'	5°45'	6/98	364	1	L4	S3	W3	23–27	19–30	An_{11}; CPX: $Fs_{7–9}Wo_{45–47}$	Zagora	35	To1
NWA 728	–	30°20'	5°45'	6/98	454	many	L4	S2	W3	22–30	11–23	An_{17}; CPX: $Fs_{11–13}Wo_{32–39}$	Zagora	42	To1
NWA 729	–	30°20'	5°45'	6/98	319	1	L5	S1	W3	23–26	18–23	$An_{10–17}$; CPX: $Fs_{7–9}Wo_{45–46}$	Zagora	33	To1
NWA 730	–	30°20'	5°45'	6/98	150	1	L4	S3	W3	23–27	19–25	$An_{13–20}$; CPX: $Fs_{9}Wo_{44}$	Zagora	15.4	To1
NWA 731	–	30°20'	5°45'	1/99	380	1	H4	S1	W3	14–21	13–19	An_{16}	Zagora	40.5	To1
NWA 732	–	30°33'	4°58'	1/99	580	1	H5	S1	W3	17–19	15–18	$An_{11–12}$; CPX: $Fs_{6–8}Wo_{44–45}$	Zagora	60	To1
NWA 733	–	32°20'	3°30'	1/99	319	1	L5	S1	W3	22–25	19–22	$An_{10–11}$; CPX: $Fs_{6–10}Wo_{44–46}$	Zagora	30.8	To1
NWA 734	–	32°20'	3°30'	1/99	1150	1	L5	S2	W3	23–27	17–21	$An_{10–11}$; CPX: $Fs_{7–11}Wo_{41–44}$	Zagora	114	To1
NWA 735	–	30°37'	4°07'	1/99	161	many	CK4	S3	W3	28–34	25–27	$An_{40–68}$; CPX: $Fs_{8–10}Wo_{46–49}$ Ol: 0.3–0.8 wt% NiO, magnetite, herzynitic spinel	Zagora	19.6	To1
NWA 740	Oglat Beraber	30°15'	4°25	12/00	1000	several	H5	S2	W2	20	17.5	sv, br	Rissani	19	Mü3
NWA 741	Oglat Beraber	30°15'	4°25'	12/01	989	7	H6	S3	W1/2	20	17.5	sv	Rissani	23	Mü6
NWA 753	Kem Kem	–	–	P 01/01	12 kg	many	R3.9	–	*See separate entry*	–	–	–	Rissani	–	–
NWA 755	Kem Kem	–	–	P 01/01	352	1	R3.7	–	*See separate entry*	–	–	–	Rissani	–	–
NWA 760	–	–	–	P 11/00	1581	many	CV3	S2	W2	0.3–53.9	2.2–18.8	–	Erfoud	24	Pa1
NWA 761	–	–	–	P 11/00	834	1	L6	S3	W0	26	22	sv, native copper	Zagora	21	Pa1
NWA 762	–	–	–	P 11/00	2242	3	L3.2	S2	W1	3.3–23.1	4.8–31.4	–	Taouz	18.5	Pa1
NWA 763	–	–	–	P 11/00	854	1	CO3	S1	W1	0.5–53.3	1.3–35	–	Erfoud	23	Pa1
NWA 764	–	–	–	P 11/00	1015	1	LL3.5	S2	W3	1.9–19.7	2.7–24.3	–	Erfoud	22	Pa1
NWA 765	Fezna	31°34'	4°31'	11/12/00	767	9	CK4/5	S2	W1	31.5	–	Ol: 0.5 wt% NiO	–	17	Pa2

TABLE 4. *Continued.*

Name	Pseudonym#	Lat† (N)	Long† (W)	Date¥ (mm/dd/yy)	Mass (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Notes‡	Place purchased	Type spec	Info§
NWA 766	–	–	–	P 11/00	309	1	Ureilite	S2	W2	24	18.7	(7)	Rissani	20	LA7
NWA 770	Legaaida	20°20.80'	11°50.03'	6/00	18.1	1	CH	–	–	–	–	*See separate entry*	–	–	–
NWA 771	Nebca	26°33.60'	11°33.33'	6/00	313	1	Ureilite	–	–	–	–	*See separate entry*	–	–	–
NWA 772	Raudat Haua	26°26.96'	11°41.61'	10//00	71	1	CK	–	–	–	–	*See separate entry*	–	–	–
NWA 773	Dchira, W. Sah.	~26°46'	~12°49'	10/6/00	633	3	Lunar	–	–	–	–	*See separate entry*	–	–	–
NWA 776	–	–	–	P 2000	49	1	Howardite	–	–	–	–	*See separate entry*	–	–	–
NWA 777	–	–	–	P 2000	145	1	LL6	S3	W1/2	30	24	Plag, An_{24}	–	22	NA1
NWA 778	El Mahbes	29°25'	5°16'	1999	9747	3	H4	–	–	17.5	–	–	–	70	Vn3
NWA 817	–	–	–	12/00	104	1	Martian	–	–	–	–	*See separate entry*	–	–	–
NWA 820	Hassi Labyade	31°25'	4°11'	–	~2000	several	L3–5	–	–	–	–	*See separate entry*	–	–	–

*Most of these were purchased from Moroccan dealers. If information was supplied by a dealer about where the specimen may have been collected, this is noted instead of the latitude and longitude. Most of the collection locations cannot be verified.

#Meteorites may have been sold under some of these names or numbers. These are NOT recognized by the Nomenclature Committee, and some are not uniquely associated with the meteorite classified in this table. Only the NWA number should be used.

¥"P" indicates a date of purchase; others are reported dates of find.

†Coordinates of place of supposed origin; not all reports may be trustworthy, and the Nomenclature Committee lacks the resources to investigate.

¶Rissani or Erfoud.

‡Notes: sv = shock veins; br = brecciated; CPX = Ca-rich pyroxene; Ol = olivine. (1) NWA 033 is unusual in that it contains almost equilibrated chondrule olivines and low matrix abundance; $\delta^{18}O$ = +1.42‰, $\delta^{17}O$ = –2.69‰ (R. Clayton and T. Mayeda, *UChi*). (2) Fragments were found in two different, unknown localities, but all of those examined are similar to each other, and all material has been mixed together. (3) Composition of low-Ni metal (6.0 wt% Ni and 0.46 wt% Co) contains a melt breccia clast (~1 cm) with euhedral olivines (~10 to 50 μm in size). (4) Composition of low-Ni metal: 5.3 wt% Ni and 0.8 wt% Co; 1025 g owned by V. Jacques. (5) Bought in April 2000 by S. V. Afanasiev from nomads who possibly found it in 1999 in Morocco. (6) Impact melt breccia. (7) Ureilite with Na (1.3 mol%) and Al (20 mol %)-rich glass rimmed by chromite. Presence of a Cr-rich silicate (SiO_2 38.95 wt%, MgO 15.9 wt%, Na_2O 0.29 wt%, Cr_2O_3 28.79 wt%, CaO 8.60 wt%).

§See "Abbreviations for Analysts and Specimen Locations" after References.

MNHNP): olivine, $Fa_{19.4}$; pyroxene, $Fs_{17.2}$; Co content of kamacite, 0.52 ± 0.02 wt%; shock stage S3; weathering grade, W1. See also Dauphas *et al.* (2000). Specimens: main mass, Y. Dubouloz; type specimen, 3 g, *CRPG*.

Tabarz, classification

The Tabarz iron, found in 1854, has been classified as group IIICD by R. Bartoschewitz (*Bart*) and B. Spettel (*MPI*): bulk metal composition, Ni = 6.33 wt%, Cu = 136 ppm, Ga = 106 ppm, Ir = 1.25 ppm, Au = 1.39 ppm. Based on compositional data, it is possible that Tabarz is paired with the Morasko and Seeläsgen IIICD irons.

Temple Bar 35°55' N, 114°26' W

Mohave County, Arizona, USA
Found 1998 autumn
Carbonaceous chondrite (CR)

A 106 g stone was found by a prospector near the road, 7 miles south of Temple Bar. Classification and mineralogy (M. Killgore, *SWML*): chondrules range from 0.4 to 4 mm, and comprise ~50 vol%; metal occurs mostly inside chondrules; brownish-yellow phyllosilicates present; olivine, $Fa_{2.3}$, range $Fa_{0.7–4.3}$, $n = 10$; probably little shocked; weathering grade, W5. Specimens: main mass, *SWML;* 23 g, *ASU*.

Tessera 45°30'30" N, 12°18'30" E

Venice Province, Italy
Found 2000 February 26
Ordinary chondrite (H4)

A brilliant fireball was observed on 2000 February 12 at 23:30 local time, but no meteorites were immediately recovered. On February 26, Matteo Chinellato found nine crusted stones (masses between 2.5 and 6.9 g) within a few meters of each other, but the amount of weathering seen casts doubt on whether these fell only two weeks before. A 10.7 g stone was found at a later date, bringing the total mass to 51.3 g. Classification and mineralogy (J. Otto, *Frei*): olivine, $Fa_{18.0–18.6}$; pyroxene, $Fs_{16.6–17.1}Wo_{0.5–1.2}$; shock stage, S2; weathering grade, W1. Specimens: 12 g, M. Chinellato*;* 2.9 g, *Frei*; 5.5 g, *IRSNB*; 6.9 g, Vatican; a few grams, Bologna U.

Thompson Brook, discredited meteorite

On the basis of its bulk composition and physical properties, and the undocumented circumstances of its discovery, J. Wasson (*UCLA*) and A. Bevan (*WAM*) conclude that the Thompson Brook iron is actually a fragment of Mundrabilla. The name "Thompson Brook" is hereby discredited.

Valera 9°19'0" N, 70°37'42" W

Trujillo, Venezuela
Fell 1972 October 15
Ordinary chondrite (L5)

On the evening of 1972 October 15, a bright light accompanied by a loud noise was witnessed near the El Tinajero farm. The next morning, Dr. Arginiro Gonzales and his guest, Juan Dionicio Delgado, discovered that a cow had apparently been killed by a falling stone. The stone had broken into three pieces weighing 38, 8, and 4 kg, respectively. The largest specimen remained outdoors for decades after the fall. Classification and mineralogy (A. Rubin, *UCLA*): olivine, $Fa_{24.2±0.3}$; shock stage, S4; weathering grade, W3. Specimens: main mass, 24 kg, *DPitt*; 6 kg, *Cott*; 4 kg, Alan Lang; type specimen, 100 g, *UCLA*.

TABLE 5. Meteorites from the Sahara, locations unknown.

Name	Found	Latitude†	Longitude†	Mass (g)	Pieces	Class	Shock	WG	Fa	Fs	Comments§	Info$
Sahara												
99201	1999	z+0°09'38"	w+0°29'23"	91	1	Ureilite	S2	W1	21.8	17.8	$Wo_{9.6}$ in pgn; type spec 35 g	OU3
99676	1999	z+0°14'12"	w+0°33'04"	6050	1	L6	S2	W2	25.6 ± 0.9	–	type spec. 100 g	LA8
99942	9/1999	z+0°09'22"	w+0°30'14"	917	1	H5	S3	W2	19	17.5	sv	Mü7
99952	9/1999	z+0°09'31"	w+0°30'16"	271	1	H5	S3	W2	19	17	sv	Mü7
99955	9/1999	z+0°10'02"	w+0°31'08"	750	1	H5	S3	W2	19	16.5	–	Mü7
99973	9/1999	z+0°09'52"	w+0°32'24"	343	1	H6	S3	W2	19	17	–	Mü7
99977	9/1999	z+0°09'48"	w+0°30'35"	791	1	H5	S3	W2	18	16.5	sv, br	Mü7
99980	9/1999	z+0°09'32"	w+0°30'26"	292	1	H5	S3	W2	18.5	16.5	sv	Mü7
99992	9/1999	z+0°09'38"	w+0°30'44"	331	1	H5	S3	W2	19	16.5	sv	Mü7
99994	9/1999	z+0°09'40"	w+0°30'20"	303	1	H5	S3	W2	18.5	16	sv	Mü7
99995	9/1999	z+0°10'02"	w+0°33'23"	61	2	H6	S3	W3	18.5	16.5	–	Mü7
99997	9/1999	z+0°10'22"	w+0°34'14"	452	4	H5	S3	W3	18.5	16	–	Mü7
00171	2000	z+0°12'11"	w+0°26'50"	89	1	L	S4	W2	25	20.5	(1); prob. paired with 00194	Mü8
00182	2000	z+0°06'13"	w+0°09'35"	70	1	C3 ung	S2	W2	7.2 ± 2.1	3.7 ± 1.2	(2)	Mü8
								ranges:	0–10	1–6		
								majority:	7–9			
00194	2000	z+0°12'25"	w+0°26'55"	56	1	L	S4	W1/2	25	21	(1); prob. paired with 00171	Mü8
00215	2000	z+0°13'10"	w+0°15'07"	742	1	L	–	W3/4	24.5	19.5	(3)	Mü8
00225	2000	z+0°13'43"	w+0°14'58"	64	1	E6	–	W1	–	0.3	(4)	Mü8

Abbreviations: br = breccia; diog = diogenite; euc = eucrite; mv = metal veins; pgn = pigeonite; rw = ringwoodite; sv = shock veins; ung = ungrouped.
†The geographic coordinates of these meteorites have not been disclosed by the finder. Listed are the offsets relative to a secret origin at (w°W longitude, z°N latitude, where w and z are integers that are **not** the same as x and y in Table 7 of *Met. Bull. 82*).
§Comments: (1) = impact breccia with melt areas; (2) = metal-rich carbonaceous chondrite with almost equilibrated chondrule olivines and pyroxene, $\delta^{18}O$ = –0.19‰, $\delta^{17}O$ = –3.89‰ (R. N. Clayton and T. K. Mayeda, *UChi*); (3) = impact melt breccia; (4) = no relic chondrules in thin section, but some in hand specimen (information from finder); fresh interior.
$See "Abbreviations for Analysts and Specimen Locations" after References.

Wallareenya 20°40' S, 118°50' E

Western Australia, Australia
Found late 1960s
Iron, medium octahedrite (IIIAB)

A 4386 g mass was found on Wallareenya Station, 55 km southeast of Pert Hedland. Classification and description (A. Bevan, *WAM*; J. Wasson, *UCLA*): kamacite bandwidth = 1 mm; bulk metal composition, Co = 0.502 wt%, Ni = 7.94 wt%, Ga = 20.9 ppm, Ge < 50 ppm, Ir = 2.75 ppm, Au = 0.619 ppm. Specimens: main mass, *WAM*.

White Hills 35°51.4' N, 114°13.4' W

Mohave County, Arizona, USA
Found 1999 December 12
Mesosiderite

An 11.7 g meteorite was found by Jim Kriegh while he was surveying the Gold Basin strewnfield with a metal detector. Classification and mineralogy (I. Daubar and D. Kring, *UAz*): metal, 37 vol%, is dominantly kamacite (6.0 wt% Ni), with some taenite (39–47 wt% Ni); silicate portion, 63 vol%, is dominantly pigeonite ($Fs_{33.4}Wo_{2.8}$) with augite exsolution ($Fs_{42.7}Wo_{42.3}$) and plagioclase ($Ab_{89.5}Or_{0.4}$), with minor olivine ($Fo_{76–91}$), tridymite, phosphate, chromite, troilite, schreibersite, and rutile; shock stage estimated at S2 from pyroxene; weathering grade, W1. Specimens: main mass with finder; type specimen, ~3 g plus two thin sections, *UAz*.

Worden 42°23.08' N, 83°36.69' W

Washtenaw County, Michigan, USA
Fell 1997 September 1, 1700–1715 E.D.T.
Ordinary chondrite (L5)

After hearing a sound like distant thunder, a boom, and a crash, Duane Foster recovered a 1551 g stone broken into three fragments (largest 1496 g) from his garage. Mineralogy and classification (M. Velbel, *MSU*; D. Matty, *CMU*; E. Essene and M. Linke, *UMich*): olivine, Fa_{24}; shock stage, S2. Specimens: type specimen, 33.5 g, *MSU*; main mass with finder.

Zag (b), correction

This meteorite was found in 1999. The date listed in *MetBull* 84 was incorrect.

Zakłodzie, correction

The proper rendition of this meteorite name, announced in *MetBull* 84, should include a diacritical slash through the lowercase L, as shown above.

Zapaliname 25°0'34" N, 100°45' W

Coahuila, Mexico
Found 1998 July 9
Iron, coarse octahedrite (IAB)

A mass of 85 kg was found by Felix A. Morales while he was prospecting in the Zapaliname Mountains. Classification and description (J. Wasson, *UCLA*; T. Palmer, El Paso, Texas): kamacite bandwidth, 2.4 ± 0.4 mm; no fusion crust or heat-altered zone is present; bulk metal composition, Co = 0.457 wt%, Ni = 6.70 wt%, Ga = 84.2 ppm, As = 12.0 ppm, Ir = 1.82 ppm, Au = 1.46 ppm; no silicate inclusions were observed in three small slabs. Specimens: type specimen, 175 g, *UCLA*; main mass with F. Morales, Orense, Spain.

Acknowledgements–This Bulletin was prepared by the Meteorite Nomenclature Committee of the Meteoritical Society under the Editorship of J. N. Grossman, with J. Zipfel editing Saharan meteorites. Members for 2001 also include A. Brearley, J. Goswami, M. Grady, R. Harvey, G. Huss, M. Kimura, J. Koblitz, D. Kring, Y. Lin, T. McCoy (Chair), M. Wadhwa, D. Weber, and B. Zanda.

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ABBREVIATIONS FOR ANALYSTS AND SPECIMEN LOCATIONS

These abbreviations are used in the "Info" columns of tables in the *Meteoritical Bulletin*. Unless specifically noted, all type specimens are at the home institution of the first listed analyst and main masses are with anonymous finders.

An1) Classified by J. Barrat (*UAng)*; type specimen, *ENSL*; main mass with anonymous buyer.
AS1-6) Classified by G. Huss (*ASU*); main mass, 1 = *IWilso*n, 2 = Ben Howard, 3 = Bill Peters, Gilbert, Arizona, 4 = *Cott*, 5 = split between *AML* and *Reed,* 6 = *AML*.
AS7) Classified by G. Huss (*ASU*); type specimens, *ASU* and *TCU*; main mass, *Farmer*.
Az1) Classified by D. Kring and D. Hill (*UAz*); main mass, *UAz*.
Be1) Classified by A. Greshake (*MNB*).
Fr1) Classified by J. Otto and A. Ruh (*Frei*).
Ha1-4) Classified by P. Sipiera (*Harper*); main mass, 1 = *Fectay*, 2 = anonymous finder, 3 = *Pelisson*, 4 = 47 kg in Libya, remainder *Pelisson*.
Ha5) Classified by P. Sipiera (*Harper*) and G. Jerman (*MSFC*); main mass, *Harper*.
Ha6) Classified by P. Sipiera (*Harper*) and C. Lewis (*ASU*); type specimen, *PSF*; main mass lost.
Hb1) Classified by J. Schlüter (*Hamb*), type specimens, *Hamb* and *MPI;* main mass, *Trip*.
Jo1) Classified by M. Zolensky (*JSC)*; main mass, R. Martinez.
Jo2) Classified by M. Zolensky (*JSC)*; type specimen, *SI*; main mass, R. Martinez.
Kg1) Classified by M. Killgore (*SWML*) and G. Huss (*UAz*), type specimen, *UHaw*, main mass *SWLM.*
Kg2) Classified by M. Killgore (*SWML*); type specimen, *UHaw*; main mass, *SWML*.
LA1) Classified by A. Rubin (*UCLA);* type specimens, *UCLA and TCU;* main mass, *Morgan*.
LA2) Classified by A. Rubin (*UCLA)*; purchased by A. Hmani and S. Hmani; main mass, *Verish*.
LA3) Classified by A. Rubin (*UCLA)*; purchased by M. Farmer and/or M. Cottingham; main mass, buyer.
LA4) Classified by A. Rubin (*UCLA)*; purchased by R. Matson; originally purchased by Michael Cottingham and Mike Farmer in 2000 Sept.
LA5) Classified by A. Rubin (*UCLA*); main mass, David Gregory or Blaine Reed.
LA6) Classified by A. Rubin (*UCLA*) and M. Skirdji (Chemin de la Touviere, 38330 St. Nazaire Les Eymes, France; main mass, M. Skirdji.
LA7) Classified by P. Warren (*UCLA*) and M. Skirdji (address above); main mass, M. Skirdji.
LA8-14) Classified by A. Rubin (*UCLA);* main mass, 8 = J. Tobin, Carson, Calif., 9 = *Verish*, 10 = D. O'Keeffe, Troy, Illinois, 11 = W. Fox, Riverside, Calif., 12 = R. Matson, 13 = D. Morris, Spring City, Utah, 14 = L. Johnson, Monument, Colo.
Lo1) Classified by M. Genge (*NHM*); main mass, A. Prokopenkov, 4 Woodrolfe Road, Tollesbury, Maldon, Essex, U.K.
Ly1) Classified by Ph. Gillet (*ENSL*) and A. Jambon (*UPVI*); main mass, anonymous buyer.
Ly2-3) Classified by Ph. Gillet (*ENSL)* and J.-A. Barrat *(UAng)*; main mass, 2 = anonymous buyer, 3 = anonymous finder.
Ma1) Classified by G. Holland (*UMan*); type specimen, *UArk*; main mass, *AShaw*.
MP1) Classified by F. Wlotzka (*MPI*) and M. Kurz, Schillerstrasse 7, D-34626 Neukirchen, Germany.
MP2) Classified by J. Zipfel and A. Patzer (*MPI*).
Mü1) Classified by A. Bischoff and T. Grund (*Mün*); main mass, *JNMC*.
Mü2) Classified by A. Bischoff and L. Niemann (*Mün*); main mass, *JNMC*.
Mü3) Classified by A. Bischoff (*Mün*) and R. Bartoschewitz (*Bart*); main mass, anonymous buyer.
Mü4) Classified by A. Bischoff (*Mün*).
Mü5) Classified by A. Sokol and A. Bischoff (*Mün*).
Mü6) Classified by A. Bischoff (*Mün*) and R. Bartoschewitz (*Bart*); main mass, *Bart*.
Mü7) Classified by A. Sokol and A. Bischoff (*Mün*); main mass, *Labenne*.
Mü8) Classified by A. Bischoff and T. Grund (*Mün*); main mass, *Labenne*.
Mü9) Classified by A. Bischoff (*Mün*) and R. Bartoschewitz (*Bart*); main mass, J. Neu.
NA1-2) Classified by T. Bunch and J. Wittke (*NAU*); main mass, 1 = anonymous buyer. 2 = *NAU*.
NM1) Classified by R. Jones (*UNM*); main mass, D. Ross, Tokyo, Japan.
OU1-2) Classified by A. Sexton (O*U)*; main mass, 1 = Z. Gabelica, address unknown, 2 = *Pelisson*.
OU3) Classified by C. Smith (O*U)*; main mass, *Labenne*.
Pa1-2) Classified by M. Denise (*MNHNP*); main mass, 1 = anonymous buyer, 2 = anonymous finder.
RA1) Classified by S. Laubscher and L. Ashwal (*RAU*); type specimen, *TM*; main mass. J. Loock, *UFS*.
Sn1-3) Classified by L. Folco and C. Ferraris (*MNA-SI*); main mass, 1 = anonymous finder, 2 = *OAM*, 3 = *MNA-SI*.
To1) Classified by T. Mikouchi (*UTok*).
To2) Classified by T. Ishi and M. Otsuki (*UTok*) and H. Takeda (*Chiba*); type specimen, *NSMT.*
To3) Classified by K. Kaneda (*UTok*); main mass, D. Ross, Tokyo, Japan.
Vn1-3) Classified by F. Brandstätter (*NHMV*); main mass, 1 = V. Jacques, 19, rue Bruyères d'Inchebroux, B-1325 Chaumont-Gistoux, Belgium, 2 = anonymous finder, 3 = *Pani*.
Vr1) Classified by S. V. Afanasiev (*Vernad*); main mass, anonymous buyer.
Vr2) Classified by S. V. Afanasiev and M. Ivanova (*Vernad*).
Vr3) Classified by M. Ivanova (*Vernad*); main mass, Dean Bessey.
Vr4) Classified by S. V. Afanasiev (*Vernad*); main mass, S. V. Afanasiev.
Vr5) Classified by M. Ivanova, M. Nazarov and S. Afanasiev (*Vernad*).
WA1) Classified by A. Bevan and P. Downes (*WAM*); main mass, *WAM.*

Appendix 1. Recently described meteorites from ANSMET.†

Name‡	Class§	Mass	Weath	%Fa	%Fs	Pairing	Ice¶	Ref
ALH 97100	L6	342.8	B	–	–	–	b	23(2)
ALH 97101	H5	222.4	B	–	–	–	b	23(2)
ALH 97102	H5	190.3	C	–	–	–	b	23(2)
ALH 97103	H6	83.3	C	–	–	–	b	23(2)
ALH 97104	H6	67.1	C	–	–	–	b	23(2)
ALH 97105	H6	17.8	C	–	–	–	b	23(2)
ALH 97106	H6	15.3	C	–	–	–	b	23(2)
ALH 97107	H5	44.1	C	–	–	–	b	23(2)
ALH 97108	H6	60.1	C	–	–	–	b	23(2)
ALH 97109	H6	33.4	C	–	–	–	b	23(2)
ALH 97110	H5	3.6	C	–	–	–	b	23(2)
ALH 97111	H5	8.9	C	–	–	–	b	23(2)
ALH 99500	CM2	13.6	B	1–47	–	83100	e	24(1)
ALH 99501	H6	20.3	C	17	15	–	a	24(1)
ALH 99502	L5	13.7	A/B	–	–	–	b	24(1)
ALH 99503	H4	36.1	C	19	8–14	–	d	24(1)
ALH 99504	H6	186.0	C	–	–	–	b	24(1)
ALH 99505	H6	453.6	C	–	–	–	b	24(1)
ALH 99506	L5	1009.2	B	–	–	–	b	24(1)
EET 99400	How	233.8	B	–	17–22	(2)	g	23(2)
EET 99401	H5	604.6	B/C	18	16	–	g	23(2)
EET 99402	Brach	180.5	B	35	–	(2)	g	23(2)
EET 99403	L6	111.8	B	25	21	–	g	23(2)
EET 99404	H4	339.6	B	18	16	–	g	23(2)
EET 99405	L5	104.3	A/B	25	21	–	g	23(2)
EET 99406	H5	112.9	B	18	16	–	g	23(2)
EET 99407	Brach	60	B	35	–	99402	g	23(2)
EET 99408	How	147.7	A/B	–	21–27	99400	g	23(2)
EET 99409	L6	400.2	A	–	–	–	g	24(1)
EET 99410	H6	205.1	B/C	–	–	–	g	24(1)
EET 99411	H6	223.8	B	–	–	–	g	24(1)
EET 99412	H5	250.0	Ce	–	–	–	g	24(1)
EET 99413	H5	172.7	A/B	–	–	–	g	24(1)
EET 99414	H5	121.0	C	–	–	–	g	24(1)
EET 99415	H5	98.2	A/B	–	–	–	g	24(1)
EET 99416	H5	187.7	C	–	–	–	g	24(1)
EET 99417	H5	89.2	B/C	–	–	–	g	24(1)
EET 99418	L5	83.2	B/C	26	22	–	g	24(1)
EET 99419	L5	54.0	B/C	–	–	–	g	24(1)
EET 99420	H5	725.8	C	–	–	–	g	24(1)
EET 99421	H5	65.7	B	–	–	–	g	24(1)
EET 99422	H5	240.0	B/C	–	–	–	g	24(1)
EET 99423	H5	169.5	A/B	–	–	–	g	24(1)
EET 99424	L5	156.6	B	25	21	–	g	24(1)
EET 99425	H5	61.9	B/Ce	–	–	–	g	24(1)
EET 99426	H5	31.6	B/C	–	–	–	g	24(1)
EET 99427	H5	38.8	B	–	–	–	g	24(1)
EET 99428	H5	63.8	A/B	–	–	–	g	24(1)
EET 99429	H5	20.9	C	–	–	–	g	24(1)
EET 99430	CK4	27.1	C	30–33	–	–	g	24(1)
EET 99431	H5	26.4	B/C	–	–	–	g	24(1)
EET 99432	H5	18.2	B/C	–	–	–	g	24(1)
EET 99433	H6	12.2	C	–	–	–	g	24(1)
EET 99434	L5	20.1	B/C	–	–	–	g	24(1)
EET 99435	H6	2.0	B/C	–	–	–	g	24(1)
EET 99436	H6	4.2	C	–	–	–	g	24(1)
EET 99437	CM2	6.0	Be	0–51	1	–	g	24(1)
EET 99438	H5	1.5	C	–	–	–	g	24(1)
EET 99439	L5	9.3	C	–	–	–	g	24(1)
EET 99440	L5	5.0	A	–	–	–	g	24(1)
EET 99441	H6	2.2	C	–	–	–	g	24(1)
EET 99442	H5	0.3	C	–	–	–	g	24(1)
EET 99443	How	2.4	A/B	–	24–52	–	g	24(1)
EET 99444	L5	15.3	A	–	–	–	g	24(1)
EET 99445	H5	4.9	A/B	–	–	–	g	24(1)
EET 99446	H5	15.1	C	–	–	–	g	24(1)
EET 99447	H6	1.0	B	–	–	–	g	24(1)
EET 99448	H5	7.0	B	–	–	–	g	24(1)
EET 99449	H5	10.9	C	–	–	–	g	24(1)
EET 99450	L5	28.0	B	24	20	–	g	24(1)
EET 99451	H5	19.3	B	–	–	–	g	24(1)
EET 99452	H5	14.6	C	–	–	–	g	24(1)
EET 99453	L5	22.0	B	–	–	–	g	24(1)
EET 99454	H5	25.0	B/C	–	–	–	g	24(1)
EET 99456	H5	41.8	C	–	–	–	g	24(1)
EET 99457	L4	9.8	A/B	–	–	–	g	24(1)
EET 99458	L6	7.4	B	–	–	–	g	24(1)
EET 99459	L4	41.3	A/B	–	–	–	g	24(1)
GDR 98400	L6	77.8	B/C	25	21	–	–	23(2)
GDR 98401	H4	5.3	C	19	17	–	–	23(2)
GEO 99100	H5	979.5	B	16	15	–	–	24(1)
GEO 99101	H4	383.9	A/B	18	13–17	–	–	24(1)
GEO 99102	H4	340.6	A/B	17	15	–	–	24(1)
GEO 99103	H4–6	119.3	B/C	18	16	–	–	24(1)
GEO 99104	L6	100.7	B	23	20	–	–	24(1)
GEO 99105	L6	51.9	B	–	–	–	–	24(1)
GEO 99106	H5	62.8	A/B	–	–	–	–	24(1)
GEO 99107	L5	50.6	B	–	–	–	–	24(1)
GEO 99108	L5	89.2	A/B	–	–	–	–	24(1)
GEO 99109	H4	129.3	B/C	18	15	–	–	24(1)
GEO 99110	L6	18.5	A/B	–	–	–	–	24(1)
GEO 99111	H5	12.4	C	–	–	–	–	24(1)
GEO 99112	L6	39.6	B/C	23	20	–	–	24(1)
GEO 99113	L6	34.8	C	–	–	–	–	24(1)
GEO 99114	L6	39.9	B/C	–	–	–	–	24(1)
GEO 99115	H6	8.9	C	–	–	–	–	24(1)
GEO 99116	H6	11.4	C	–	–	–	–	24(1)
GEO 99117	L6	4.4	B	–	–	–	–	24(1)
GEO 99118	H6	1.1	C	–	–	–	–	24(1)
GEO 99119	H6	11.4	C	–	–	–	–	24(1)
GEO 99120	How	0.5	B/Ce	–	14–58	–	–	24(1)
GEO 99121	H6	3.6	B/C	–	–	–	–	24(1)
GEO 99122	L6	0.9	B	–	–	–	–	24(1)
GEO 99123	H6	2.6	A/B	–	–	–	–	24(1)
GEO 99124	H6	3.2	B	–	–	–	–	24(1)
GEO 99125	L6	2.7	B	–	–	–	–	24(1)
GEO 99126	L6	0.3	A/B	–	–	–	–	24(1)
GEO 99127	H6	0.4	A/B	–	–	–	–	24(1)
GEO 99128	L6	5.2	B/C	–	–	–	–	24(1)
GEO 99129	L6	579.9	A	23	20	–	–	24(1)
KLE 98300	EH3	33.6	A	0–1	0–2	–	–	23(2)
LEW 97200	LL6	61.7	A/B	–	–	–	21	23(2)
LEW 97201	H5	148.2	C	–	–	–	21	23(2)
LEW 97202	L3.4	117.6	C	1–33	3–10	–	21	23(2)
LEW 97203	LL6	267.1	A/B	–	–	–	21	23(2)
LEW 97204	L6	277.7	B	–	–	–	21	23(2)
LEW 97205	L6	235	B	–	–	–	21	23(2)
LEW 97206	LL6	182.4	B/C	–	–	–	21	23(2)
LEW 97207	L6	524.4	B/C	–	–	–	21	23(2)
LEW 97208	L6	660.7	B/C	–	–	–	21	23(2)
LEW 97209	L5	340.6	B/C	–	–	–	21	23(2)
LEW 97210	L6	288.5	A/B	–	–	–	21	23(2)
LEW 97211	L6	122	A/B	–	–	–	21	23(2)
LEW 97212	L6	171.9	B	–	–	–	21	23(2)
LEW 97213	LL5	82.1	A/B	–	–	–	21	23(2)
LEW 97214	L6	35	B/C	–	–	–	21	23(2)
LEW 97215	H6	24.3	B/CE	–	–	–	p	23(2)
LEW 97216	L3.7	23	B/C	9–26	3–4	–	21	23(2)
LEW 97217	L5	25.5	B/C	–	–	–	21	23(2)
LEW 97218	H5	28.5	B/C	–	–	–	l	23(2)
LEW 97219	H5	79.6	CE	–	–	–	p	23(2)
LEW 97220	H5	5.8	C	–	–	–	21	23(2)
LEW 97221	L3	48	B/C	5–27	4–23	–	21	23(2)
LEW 97222	H6	28.9	C	–	–	–	p	23(2)
LEW 97223	H6	22.7	C	–	–	–	l	23(2)
LEW 97224	H5	4.8	C	19	17	–	21	23(2)
LEW 97225	Ur	2.1	C	11–21	8–18	–	p	23(2)
LEW 97226	H5	5.7	C	–	–	–	l	23(2)
LEW 97227	H5	8.8	C	–	–	–	p	23(2)
LEW 99200	L6	8.8	B	–	–	–	o	24(1)
LEW 99201	L6	30.2	B	–	–	–	o	24(1)
MIL 99300	H5	2419.8	B	17	15	–	–	24(1)
MIL 99301	LL6	4037.3	B	28	23	–	–	24(1)
MIL 99302	H4	1460.0	B	18	6–17	–	–	24(1)
MIL 99303	H5	613.4	C	19	16	–	–	24(1)
MIL 99304	H5	1330.6	C	18	16	–	–	24(1)

APPENDIX 1. *Continued.*

Name‡	Class§	Mass	Weath	%Fa	%Fs	Pairing	Ice¶	Ref
MIL 99305	L6	1710.1	A/B	24	21	–	–	24(1)
MIL 99306	L5	305.2	A	–	–	–	–	24(1)
MIL 99307	L3.6	291.7	C	14–37	10–22	–	–	24(1)
MIL 99308	LL6	352.7	A	29	24	–	–	24(1)
MIL 99309	L5	273.6	A	–	–	–	–	24(1)
MIL 99310	L5	315.7	B/C	–	–	–	–	24(1)
MIL 99311	L5	287.6	B	–	–	–	–	24(1)
MIL 99312	L6	142.1	A/B	–	–	–	–	24(1)
MIL 99313	H5	174.5	C	–	–	–	–	24(1)
MIL 99314	L6	150.7	A/B	–	–	–	–	24(1)
MIL 99315	H6	63.0	C	–	–	–	–	24(1)
MIL 99316	L6	66.4	A/B	–	–	–	–	24(1)
MIL 99317	L6	45.6	C	24	21	–	–	24(1)
MIL 99318	L6	475.4	B	24	21	–	–	24(1)
MIL 99319	L5	249.1	A/B	–	–	–	–	24(1)
MIL 99320	L5	400.0	B	–	–	–	–	24(1)
MIL 99321	L6	385.9	B	–	–	–	–	24(1)
MIL 99322	H6	239.1	C	–	–	–	–	24(1)
MIL 99323	L5	109.0	Be	–	–	–	–	24(1)
MIL 99324	H5	29.3	C	–	–	–	–	24(1)
MIL 99325	H5	17.8	C	–	–	–	–	24(1)
MIL 99326	L5	15.4	A/B	–	–	–	–	24(1)
MIL 99327	H6	12.6	B/C	–	–	–	–	24(1)
MIL 99328	L6	6.0	B/C	–	–	–	–	24(1)
MIL 99329	H6	46.1	C	–	–	–	–	24(1)
QUE 97640	LL5	14	B	–	–	–	S	23(2)
QUE 97641	L6	15.1	B/C	–	–	–	S	23(2)
QUE 97642	LL5	56.3	B/C	–	–	–	S	23(2)
QUE 97643	LL5	9.7	B/C	–	–	–	S	23(2)
QUE 97644	LL5	2.6	B/C	–	–	–	S	23(2)
QUE 97645	L6	1.3	B/C	–	–	–	S	23(2)
QUE 97646	LL5	3.7	B	–	–	–	S	23(2)
QUE 97647	L6	5.5	B/C	–	–	–	S	23(2)
QUE 97648	LL5	0.7	B	–	–	–	S	23(2)
QUE 97649	LL5	10.7	B/C	–	–	–	S	23(2)
QUE 97650	LL5	5	A/B	–	–	–	S	23(2)
QUE 97651	LL6	29	B	–	–	–	S	23(2)
QUE 97652	LL5	19.7	B	–	–	–	S	23(2)
QUE 97653	LL5	19.3	A/B	–	–	–	S	23(2)
QUE 97654	LL5	13.3	A/B	–	–	–	S	23(2)
QUE 97655	LL5	6.6	B	–	–	–	S	23(2)
QUE 97656	LL5	6.8	A/B	–	–	–	S	23(2)
QUE 97657	CM2	3.5	B	0–49	0–5	–	S	23(2)
QUE 97658	LL5	13.2	A/B	–	–	–	S	23(2)
QUE 97659	LL5	12.6	A/B	–	–	–	S	23(2)
QUE 97660	LL6	13.9	B	–	–	–	S	23(2)
QUE 97661	H6	16.6	B/C	–	–	–	S	23(2)
QUE 97662	LL5	18.3	B	–	–	–	S	23(2)
QUE 97663	L6	16.4	B	–	–	–	S	23(2)
QUE 97664	H6	28.4	C	–	–	–	S	23(2)
QUE 97665	LL5	50.1	B	–	–	–	S	23(2)
QUE 97666	LL5	1.9	B	–	–	–	S	23(2)
QUE 97667	LL5	1.6	B	–	–	–	S	23(2)
QUE 97668	LL5	7.2	B	–	–	–	S	23(2)
QUE 97669	LL5	41.3	B	–	–	–	F	23(2)
QUE 97680	H6	69.9	C	–	–	–	S	23(2)
QUE 97681	L4	34.3	B	–	–	–	S	23(2)
QUE 97682	L6	19.2	A/B	–	–	–	S	23(2)
QUE 97683	LL5	21.8	B	–	–	–	S	23(2)
QUE 97684	LL5	26.8	A	–	–	–	F	23(2)
QUE 97685	LL5	8.8	B	–	–	–	S	23(2)
QUE 97686	LL5	1.1	B/C	–	–	–	S	23(2)
QUE 97687	LL5	1.1	B	–	–	–	S	23(2)
QUE 97688	LL5	35.4	A/B	–	–	–	S	23(2)
QUE 97689	L6	5.5	C	–	–	–	S	23(2)
QUE 97690	LL5	55	B	–	–	–	S	23(2)
QUE 97691	LL5	24.3	B	–	–	–	S	23(2)
QUE 97692	LL5	20.1	B	–	–	–	S	23(2)
QUE 97693	LL5	6.9	B	–	–	–	S	23(2)
QUE 97694	LL5	14.2	B	–	–	–	S	23(2)
QUE 97695	H6	9.4	B/C	–	–	–	S	23(2)
QUE 97696	L6	14	C	–	–	–	S	23(2)
QUE 97697	LL5	8.9	B	–	–	–	S	23(2)
QUE 97698	LL5	3.9	B	–	–	–	S	23(2)
QUE 97699	LL5	7.7	A/B	–	–	–	F	23(2)
QUE 97700	LL5	11.6	A/B	–	–	–	S	23(2)
QUE 97701	LL5	5.7	A/B	–	–	–	F	23(2)
QUE 97702	LL5	2	A/B	–	–	–	F	23(2)
QUE 97703	LL5	3.2	A/B	–	–	–	S	23(2)
QUE 97704	LL5	3.2	A/B	–	–	–	S	23(2)
QUE 97705	LL5	6.8	A/B	–	–	–	F	23(2)
QUE 97706	LL5	6.9	B	–	–	–	S	23(2)
QUE 97707	LL5	1	B	–	–	–	F	23(2)
QUE 97708	LL5	2.9	B/C	–	–	–	S	23(2)
QUE 97709	LL5	4.7	B	–	–	–	F	23(2)
QUE 97710	LL5	0.7	B	–	–	–	S	23(2)
QUE 97711	LL5	4.2	B	–	–	–	S	23(2)
QUE 97712	LL5	1.9	A/B	–	–	–	F	23(2)
QUE 97713	LL5	6.8	B	–	–	–	F	23(2)
QUE 97714	LL5	3.3	B	–	–	–	S	23(2)
QUE 97715	LL5	4.6	B	–	–	–	F	23(2)
QUE 97716	LL5	26.7	B	–	–	–	S	23(2)
QUE 97717	LL5	3.4	CE	–	–	–	S	23(2)
QUE 97718	H6	7.4	C	19	17	–	S	23(2)
QUE 97719	LL5	0.4	A/B	–	–	–	F	23(2)
QUE 97720	L6	17.8	C	–	–	–	S	23(2)
QUE 97721	LL5	2.4	B/C	–	–	–	S	23(2)
QUE 97722	LL5	12.9	B/C	–	–	–	S	23(2)
QUE 97723	LL5	23.8	B	–	–	–	S	23(2)
QUE 97724	LL5	4	B	–	–	–	F	23(2)
QUE 97725	LL5	7	B	–	–	–	S	23(2)
QUE 97726	LL5	25.2	C	–	–	–	F	23(2)
QUE 97727	LL5	4.3	B	–	–	–	F	23(2)
QUE 97728	LL5	1.1	B/C	–	–	–	F	23(2)
QUE 97729	LL6	15.5	B/C	–	–	–	S	23(2)
QUE 97730	LL5	55.7	A	–	–	–	S	23(2)
QUE 97731	LL5	18.1	B	–	–	–	S	23(2)
QUE 97732	LL5	1.8	A	–	–	–	F	23(2)
QUE 97733	LL5	0.9	A/B	–	–	–	F	23(2)
QUE 97734	L6	0.3	B	–	–	–	F	23(2)
QUE 97735	LL5	25.6	A	–	–	–	S	23(2)
QUE 97736	LL5	48.1	A	–	–	–	F	23(2)
QUE 97737	LL5	81	B	–	–	–	S	23(2)
QUE 97738	LL5	43.7	A	–	–	–	S	23(2)
QUE 97739	H6	2.3	C	–	–	–	S	23(2)
QUE 97740	LL5	2.6	B	–	–	–	F	23(2)
QUE 97741	LL5	5.8	B/C	–	–	–	S	23(2)
QUE 97742	L6	22.4	C	–	–	–	F	23(2)
QUE 97743	L6	15.4	B	–	–	–	S	23(2)
QUE 97744	LL5	13.4	A/B	–	–	–	S	23(2)
QUE 97745	L6	45.9	C	–	–	–	F	23(2)
QUE 97746	H6	4.6	C	–	–	–	F	23(2)
QUE 97747	L6	28.6	C	–	–	–	S	23(2)
QUE 97748	L6	1.4	C	–	–	–	F	23(2)
QUE 97749	H5	20.6	C	–	–	–	F	23(2)
QUE 97750	LL5	3.8	A	–	–	–	F	23(2)
QUE 97751	LL5	26.8	A/B	–	–	–	S	23(2)
QUE 97752	LL5	77.6	A/B	–	–	–	F	23(2)
QUE 97753	LL5	150.4	B	–	–	–	F	23(2)
QUE 97754	LL5	21.1	A/B	–	–	–	S	23(2)
QUE 97755	H6	8.3	C	–	–	–	S	23(2)
QUE 97756	LL5	5.7	C	–	–	–	S	23(2)
QUE 97757	LL5	12.5	A	–	–	–	F	23(2)
QUE 97758	LL5	23.5	B	–	–	–	F	23(2)
QUE 97759	LL5	25.9	B	–	–	–	S	23(2)
QUE 97760	H6	6.2	C	–	–	–	S	23(2)
QUE 97761	L6	6.3	C	–	–	–	F	23(2)
QUE 97762	L6	69.4	B/C	–	–	–	F	23(2)
QUE 97763	L6	34.5	C	–	–	–	F	23(2)
QUE 97764	LL5	31.2	A/B	–	–	–	F	23(2)
QUE 97766	LL5	1.8	B	–	–	–	F	23(2)
QUE 97767	LL5	1.9	A/B	–	–	–	F	23(2)
QUE 97768	LL5	0.4	A/B	–	–	–	F	23(2)
QUE 97769	L6	7.1	C	–	–	–	F	23(2)
QUE 97770	LL5	11.9	B	–	–	–	S	23(2)
QUE 97771	LL5	12.7	A/B	–	–	–	F	23(2)
QUE 97772	LL5	62.9	B	–	–	–	S	23(2)
QUE 97773	LL5	21.8	A	–	–	–	S	23(2)

APPENDIX 1. *Continued*.

Name‡	Class§	Mass	Weath	%Fa	%Fs	Pairing	Ice¶	Ref
QUE 97774	LL5	3.1	A	–	–	–	S	23(2)
QUE 97775	LL5	5.9	B	–	–	–	S	23(2)
QUE 97776	LL5	3.8	B	–	–	–	S	23(2)
QUE 97777	LL5	4.3	B/C	–	–	–	S	23(2)
QUE 97778	LL5	7.8	B	–	–	–	S	23(2)
QUE 97779	LL5	7.5	B/C	–	–	–	S	23(2)
QUE 97780	H6	4.8	C	–	–	–	S	23(2)
QUE 97781	LL5	1.4	B	–	–	–	F	23(2)
QUE 97782	LL5	1.3	C	–	–	–	S	23(2)
QUE 97783	LL5	12.4	A/B	–	–	–	S	23(2)
QUE 97784	L6	0.1	A/B	–	–	–	S	23(2)
QUE 97785	LL5	1.7	C	–	–	–	S	23(2)
QUE 97786	LL5	0.2	C	–	–	–	S	23(2)
QUE 97787	LL5	4.4	C	–	–	–	S	23(2)
QUE 97788	LL5	0.6	C	–	–	–	S	23(2)
QUE 97789	LL5	0.7	C	–	–	–	S	23(2)
QUE 97790	LL5	5.3	C	27	23	–	S	23(2)
QUE 97791	LL5	6.6	B	–	–	–	S	23(2)
QUE 97792	LL5	12	B	–	–	–	S	23(2)
QUE 97793	LL5	12.2	B/C	–	–	–	S	23(2)
QUE 97794	LL5	24.1	B	–	–	–	S	23(2)
QUE 97795	LL5	30.6	A/B	–	–	–	S	23(2)
QUE 97796	LL5	10.6	A/B	–	–	–	S	23(2)
QUE 97797	LL5	42.1	A/B	–	–	–	F	23(2)
QUE 97798	LL5	22.7	A/B	–	–	–	S	23(2)
QUE 97799	LL5	9.6	A/B	–	–	–	S	23(2)
QUE 97800	H6	126.5	C	19	17	–	F	23(2)
QUE 97801	LL5	35.7	B	–	–	–	S	23(2)
QUE 97802	LL5	52	B	–	–	–	S	23(2)
QUE 97803	LL5	79.1	B	–	–	–	S	23(2)
QUE 97804	H6	100.8	C	–	–	–	F	23(2)
QUE 97805	LL5	74.7	A/B	–	–	–	S	23(2)
QUE 97806	LL5	58.7	A/B	–	–	–	F	23(2)
QUE 97807	LL5	110.9	A	–	–	–	F	23(2)
QUE 97808	LL5	38.7	B	–	–	–	S	23(2)
QUE 97809	LL5	1.7	B/C	–	–	–	S	23(2)
QUE 97810	LL5	52.1	B	–	–	–	S	23(2)
QUE 97811	LL5	167.6	A/B	–	–	–	S	23(2)
QUE 97812	LL5	70.5	A/B	–	–	–	F	23(2)
QUE 97813	LL5	11.7	A/B	–	–	–	S	23(2)
QUE 97815	LL5	4.5	B	–	–	–	S	23(2)
QUE 97816	LL5	16.2	B	–	–	–	S	23(2)
QUE 97817	LL5	10.6	B	–	–	–	S	23(2)
QUE 97818	LL5	12.2	B	–	–	–	S	23(2)
QUE 97819	LL5	10.1	B	–	–	–	S	23(2)
QUE 97820	LL5	0.7	A/B	–	–	–	F	23(2)
QUE 97821	H6	7	B	19	17	–	S	23(2)
QUE 97822	LL5	0.6	A/B	–	–	–	F	23(2)
QUE 97823	LL5	16.4	A/B	–	–	–	S	23(2)
QUE 97824	LL5	3.7	B	–	–	–	S	23(2)
QUE 97825	LL5	3.1	A/B	–	–	–	S	23(2)
QUE 97826	LL5	1.3	A/B	–	–	–	F	23(2)
QUE 97827	LL5	4.1	A/B	–	–	–	S	23(2)
QUE 97828	LL5	12.9	B	27	23	–	F	23(2)
QUE 97829	LL5	19.8	A/B	–	–	–	S	23(2)
QUE 97830	LL5	0.4	A/B	–	–	–	F	23(2)
QUE 97831	LL5	3.8	A/B	–	–	–	S	23(2)
QUE 97832	L5	1.4	B	–	–	–	S	23(2)
QUE 97833	LL5	0.5	A/B	–	–	–	S	23(2)
QUE 97834	L5	2.5	B	–	–	–	S	23(2)
QUE 97835	LL5	1.7	A/B	–	–	–	S	23(2)
QUE 97836	LL5	7.1	A/B	–	–	–	S	23(2)
QUE 97837	LL5	0.9	A/B	–	–	–	F	23(2)
QUE 97838	LL5	0.6	A/B	–	–	–	F	23(2)
QUE 97839	LL5	37.6	A/B	–	–	–	S	23(2)
QUE 97840	LL5	182.4	A/B	–	–	–	S	23(2)
QUE 97841	LL5	117	A	–	–	–	S	23(2)
QUE 97842	H5	68	C	–	–	–	F	23(2)
QUE 97843	LL5	31.9	A/B	–	–	–	S	23(2)
QUE 97844	LL5	65	A	–	–	–	S	23(2)
QUE 97845	H6	26.7	C	–	–	–	S	23(2)
QUE 97846	H6	16.7	C	–	–	–	S	23(2)
QUE 97847	LL5	14.7	B	–	–	–	F	23(2)
QUE 97848	LL5	13.8	B	–	–	–	S	23(2)

Name‡	Class§	Mass	Weath	%Fa	%Fs	Pairing	Ice¶	Ref
QUE 97849	H6	115.8	B/C	–	–	–	S	23(2)
QUE 97850	LL5	82.9	A/B	–	–	–	S	23(2)
QUE 97851	L5	46.9	B/C	–	–	–	S	23(2)
QUE 97852	LL5	121.1	A/B	–	–	–	S	23(2)
QUE 97853	LL5	38.9	A/B	–	–	–	S	23(2)
QUE 97854	H6	8.7	C	–	–	–	S	23(2)
QUE 97855	LL5	44.3	A/B	–	–	–	S	23(2)
QUE 97856	LL5	15.3	A/B	–	–	–	S	23(2)
QUE 97857	LL6	8.5	A/B	–	–	–	S	23(2)
QUE 97858	LL5	13.6	B	–	–	–	S	23(2)
QUE 97859	LL5	1.8	A/B	–	–	–	F	23(2)
QUE 97860	LL5	27.4	A/B	–	–	–	S	23(2)
QUE 97861	LL5	3.4	A/B	–	–	–	F	23(2)
QUE 97862	L6	19.6	B/C	–	–	–	S	23(2)
QUE 97863	LL5	20.5	B	–	–	–	S	23(2)
QUE 97864	LL5	1	A/B	–	–	–	F	23(2)
QUE 97865	H6	4.1	C	–	–	–	S	23(2)
QUE 97866	LL5	3.4	B/C	–	–	–	S	23(2)
QUE 97867	LL6	18.4	A/B	–	–	–	S	23(2)
QUE 97868	LL5	4.7	B	–	–	–	F	23(2)
QUE 97869	LL5	2.8	B	–	–	–	S	23(2)
QUE 97870	H6	98.1	C	–	–	–	Q	23(2)
QUE 97871	LL5	40	A/B	–	–	–	S	23(2)
QUE 97872	LL5	99.9	C	–	–	–	S	23(2)
QUE 97873	LL5	22.8	C	–	–	–	S	23(2)
QUE 97874	LL5	47.5	A	–	–	–	S	23(2)
QUE 97875	LL5	26.6	C	–	–	–	S	23(2)
QUE 97876	H6	21.5	C	–	–	–	S	23(2)
QUE 97877	LL5	13	C	–	–	–	S	23(2)
QUE 97878	LL5	31.9	A/B	–	–	–	S	23(2)
QUE 97879	H5	27.2	C	–	–	–	F	23(2)
QUE 97880	LL5	5.7	B/C	–	–	–	F	23(2)
QUE 97881	LL5	5.8	A/B	–	–	–	S	23(2)
QUE 97882	H6	4.5	C	–	–	–	S	23(2)
QUE 97883	L5	0.4	A/B	–	–	–	F	23(2)
QUE 97884	LL5	0.7	A/B	–	–	–	F	23(2)
QUE 97885	LL5	2.6	B	–	–	–	S	23(2)
QUE 97886	LL6	3.9	A/B	–	–	–	F	23(2)
QUE 97887	LL5	2.5	A/B	–	–	–	F	23(2)
QUE 97888	LL5	14.3	A/B	–	–	–	S	23(2)
QUE 97889	L5	14.5	B/C	–	–	–	F	23(2)
QUE 97890	LL5	3.2	B/C	–	–	–	F	23(2)
QUE 97891	LL5	2.9	B/C	–	–	–	S	23(2)
QUE 97892	L6	1.8	B	–	–	–	F	23(2)
QUE 97893	LL5	3.9	B	–	–	–	F	23(2)
QUE 97894	LL5	18.3	B	–	–	–	S	23(2)
QUE 97895	LL5	0.8	A/B	–	–	–	F	23(2)
QUE 97896	LL5	2.1	B	–	–	–	F	23(2)
QUE 97897	LL5	3.3	B	–	–	–	F	23(2)
QUE 97898	LL5	2.2	B	–	–	–	F	23(2)
QUE 97899	LL5	9.2	B	–	–	–	S	23(2)
QUE 97900	LL5	15.3	A/B	–	–	–	S	23(2)
QUE 97901	H6	10.4	C	–	–	–	S	23(2)
QUE 97902	LL5	31.3	C	–	–	–	S	23(2)
QUE 97903	LL5	31.4	C	–	–	–	S	23(2)
QUE 97904	H6	37.4	C	–	–	–	S	23(2)
QUE 97905	L5	15.7	C	–	–	–	S	23(2)
QUE 97906	LL5	12	B	–	–	–	S	23(2)
QUE 97907	LL5	5.1	B	–	–	–	S	23(2)
QUE 97908	LL5	1.6	B	–	–	–	F	23(2)
QUE 97909	LL5	4.8	B	–	–	–	F	23(2)
QUE 97910	LL5	29.4	B	–	–	–	F	23(2)
QUE 97911	L6	28.7	B/C	–	–	–	S	23(2)
QUE 97912	LL5	49.3	B	–	–	–	S	23(2)
QUE 97913	LL5	21	A/B	–	–	–	S	23(2)
QUE 97914	LL5	15.1	A/B	–	–	–	S	23(2)
QUE 97915	L6	11.5	B	–	–	–	S	23(2)
QUE 97916	LL5	18	B	–	–	–	S	23(2)
QUE 97917	L5	128.1	B/C	–	–	–	F	23(2)
QUE 97918	LL5	22.9	B	–	–	–	S	23(2)
QUE 97919	LL5	36.1	B	–	–	–	S	23(2)
QUE 97920	LL5	15.9	B/C	–	–	–	S	23(2)
QUE 97921	LL5	6	A	–	–	–	F	23(2)
QUE 97922	LL5	2.3	B	–	–	–	S	23(2)

APPENDIX 1. *Continued.*

Name‡	Class§	Mass	Weath	%Fa	%Fs	Pairing	Ice¶	Ref
QUE 97923	LL5	13.7	A/B	–	–	–	S	23(2)
QUE 97924	H6	2.4	C	–	–	–	S	23(2)
QUE 97925	LL5	5.7	B/C	–	–	–	S	23(2)
QUE 97926	LL5	6.9	A	–	–	–	F	23(2)
QUE 97927	LL5	8.3	A/B	–	–	–	S	23(2)
QUE 97928	LL5	1.4	B/C	–	–	–	S	23(2)
QUE 97929	LL5	14.8	B/C	–	–	–	S	23(2)
QUE 97930	LL5	3.8	B	–	–	–	S	23(2)
QUE 97931	LL5	0.8	B	–	–	–	S	23(2)
QUE 97932	LL5	9.6	B	–	–	–	S	23(2)
QUE 97933	LL5	6.7	B	–	–	–	S	23(2)
QUE 97934	L5	1.8	B/C	–	–	–	S	23(2)
QUE 97935	LL5	3.6	B/C	–	–	–	S	23(2)
QUE 97936	LL5	2.1	B	–	–	–	F	23(2)
QUE 97937	LL5	11	B	–	–	–	S	23(2)
QUE 97938	LL5	18.9	A	–	–	–	F	23(2)
QUE 97939	LL5	5.3	B/C	–	–	–	S	23(2)
QUE 97940	L5	58.4	B/C	–	–	–	F	23(2)
QUE 97941	LL5	43.6	B/C	–	–	–	S	23(2)
QUE 97942	LL6	52.9	A/B	–	–	–	S	23(2)
QUE 97943	LL5	21	B	–	–	–	S	23(2)
QUE 97944	LL5	14.5	B	–	–	–	S	23(2)
QUE 97945	LL5	51.1	B	–	–	–	S	23(2)
QUE 97946	LL5	6.5	B/C	–	–	–	S	23(2)
QUE 97947	L5	51.6	B	–	–	–	F	23(2)
QUE 97948	H5	3.4	B/C	–	–	–	S	23(2)
QUE 97949	LL5	5	B/C	–	–	–	F	23(2)
QUE 97950	LL6	7.8	B/C	–	–	–	S	23(2)
QUE 97951	LL5	2.7	C	–	–	–	S	23(2)
QUE 97952	LL5	42	C	–	–	–	F	23(2)
QUE 97953	LL5	1.7	B	–	–	–	S	23(2)
QUE 97954	LL5	12.9	A/B	–	–	–	S	23(2)
QUE 97955	LL5	8.8	B/C	–	–	–	S	23(2)
QUE 97956	H5	8.5	C	–	–	–	F	23(2)
QUE 97957	H5	3.5	C	–	–	–	S	23(2)
QUE 97958	CM2	1.8	A	0–48	–	–	F	23(2)
QUE 97959	LL5	34.8	A/B	–	–	–	S	23(2)
QUE 97960	LL5	17.6	B/C	–	–	–	S	23(2)
QUE 97961	LL5	72.7	B	–	–	–	S	23(2)
QUE 97962	LL5	10	B	–	–	–	S	23(2)
QUE 97963	L5	21.9	C	–	–	–	F	23(2)
QUE 97964	LL5	5.2	B	–	–	–	S	23(2)
QUE 97965	H5	2.4	C	–	–	–	S	23(2)
QUE 97966	L5	4.7	C	–	–	–	F	23(2)
QUE 97967	LL5	0.8	B	–	–	–	S	23(2)
QUE 97968	LL5	1.8	B	–	–	–	S	23(2)
QUE 97969	LL5	4.1	B	–	–	–	F	23(2)
QUE 97970	H6	15.2	C	–	–	–	S	23(2)
QUE 97971	LL5	81.3	B	–	–	–	S	23(2)
QUE 97972	LL5	8.2	B	–	–	–	S	23(2)
QUE 97973	L5	39.3	B/C	–	–	–	S	23(2)
QUE 97974	LL5	35.4	B	–	–	–	S	23(2)
QUE 97975	LL5	49.1	A/B	–	–	–	S	23(2)
QUE 97976	LL5	68.6	A/B	–	–	–	S	23(2)
QUE 97977	L6	43.4	C	–	–	–	F	23(2)
QUE 97978	LL5	8.4	B	–	–	–	S	23(2)
QUE 97979	LL5	20.5	B/C	–	–	–	S	23(2)
QUE 97980	H6	89.7	C	–	–	–	F	23(2)
QUE 97981	LL5	6	B	–	–	–	S	23(2)
QUE 97982	LL5	8.9	B	–	–	–	S	23(2)
QUE 97983	LL5	48.8	B	–	–	–	S	23(2)
QUE 97984	H6	20.3	C	–	–	–	S	23(2)
QUE 97985	LL5	16.2	B	–	–	–	S	23(2)
QUE 97986	LL5	31.3	B	–	–	–	F	23(2)
QUE 97987	LL5	34.7	B	–	–	–	S	23(2)
QUE 97988	LL6	9.6	B	–	–	–	S	23(2)
QUE 97989	L5	1.8	B	–	–	–	S	23(2)
QUE 97990	CM2	67.3	BE	0–61	0–1	–	S	23(2)
QUE 97991	Diog	6.8	B	–	25	–	22	23(2)
QUE 97992	LL5	21.2	B	–	–	–	S	23(2)
QUE 97993	LL5	14.2	C	–	–	–	F	23(2)
QUE 97994	LL6	9.1	B	–	–	–	S	23(2)
QUE 97995	LL5	23.1	A/B	–	–	–	S	23(2)
QUE 97996	LL5	9.6	A/B	–	–	–	S	23(2)
QUE 97997	LL5	3.1	B	–	–	–	F	23(2)
QUE 97998	LL5	3	B	28	23	–	F	23(2)
QUE 97999	LL5	1	B	28	23	–	F	23(2)
QUE 971000	LL5	0.4	C	–	–	–	F	23(2)
QUE 971001	LL5	22.2	B	–	–	–	S	23(2)
QUE 971002	H6	4.5	B/C	–	–	–	S	23(2)
QUE 971003	LL5	52.4	B	–	–	–	S	23(2)
QUE 971004	LL5	7.6	B	–	–	–	S	23(2)
QUE 971005	H6	15.5	C	–	–	–	S	23(2)
QUE 971006	H6	21	C	–	–	–	22	23(2)
QUE 971007	LL5	7.1	B	–	–	–	S	23(2)
QUE 971008	LL5	1.7	B	–	–	–	F	23(2)
QUE 971009	LL5	0.2	B	–	–	–	F	23(2)
QUE 971010	H5	2.4	C	–	–	–	22	23(2)
QUE 971011	LL5	34.4	A/B	–	–	–	F	23(2)
QUE 971012	H6	22.6	C	–	–	–	22	23(2)
QUE 971013	LL5	6.6	B	–	–	–	F	23(2)
QUE 971014	LL5	0.5	B	–	–	–	F	23(2)
QUE 971015	LL5	1	B	–	–	–	F	23(2)
QUE 971016	LL5	0.1	B	–	–	–	F	23(2)
QUE 971018	LL5	0.4	B	–	–	–	F	23(2)
QUE 971019	LL5	4.6	B	–	–	–	F	23(2)
QUE 971020	LL5	21.3	A/B	–	–	–	F	23(2)
QUE 971021	LL5	56.8	B	–	–	–	V	23(2)
QUE 971022	LL5	37.4	C	–	–	–	23	23(2)
QUE 971023	H3.5	11.4	C	6–19	5–31	–	22	23(2)
QUE 971024	LL5	3.3	A/B	–	–	–	F	23(2)
QUE 971025	LL5	26.6	B	–	–	–	F	23(2)
QUE 971026	H6	64	C	–	–	–	V	23(2)
QUE 971027	L6	69.6	B/C	–	–	–	22	23(2)
QUE 971028	LL5	58.1	B	–	–	–	S	23(2)
QUE 971029	LL5	41.5	B	–	–	–	S	23(2)
QUE 971030	LL5	4.3	B	–	–	–	F	23(2)
QUE 971031	LL5	4.6	B	–	–	–	F	23(2)
QUE 971032	LL5	2.1	B	–	–	–	F	23(2)
QUE 971033	LL5	8	B	–	–	–	S	23(2)
QUE 971034	LL5	3.3	B	–	–	–	S	23(2)
QUE 971035	LL5	8.7	B	–	–	–	S	23(2)
QUE 971036	LL5	37.1	B	–	–	–	S	23(2)
QUE 971037	LL5	27.3	B	–	–	–	S	23(2)
QUE 971038	H6	6.8	C	–	–	–	22	23(2)
QUE 971039	LL5	8.9	B/C	–	–	–	S	23(2)
QUE 971040	LL5	0.4	B	–	–	–	F	23(2)
QUE 971041	H6	4.7	C	–	–	–	22	23(2)
QUE 971042	H6	2.5	C	–	–	–	22	23(2)
QUE 971043	LL5	76	B	–	–	–	S	23(2)
QUE 971044	LL5	68.9	B	–	–	–	22	23(2)
QUE 971045	LL5	479.6	A/B	–	–	–	F	23(2)
QUE 971046	LL6	17.4	C	–	–	–	S	23(2)
QUE 971047	H6	99.1	C	–	–	–	–	23(2)
QUE 971048	LL5	313.6	A/B	–	–	–	F	23(2)
QUE 971049	L6	3.7	B	–	–	–	S	23(2)
QUE 971050	H6	16.9	C	–	–	–	S	23(2)
QUE 971051	H6	98.9	C	–	–	–	S	23(2)
QUE 99001	Iron	22000	–	–	–	–	24	23(2)
QUE 99002	H6	2749.6	C	19	17	–	F	23(2)
QUE 99003	H5	3492.1	B	19	17	–	F	23(2)
QUE 99004	H5	2369.4	B/C	19	17	–	F	23(2)
QUE 99005	Eu "br"	64	B	–	63	–	24	23(2)
QUE 99006	Eu "br"	133.1	B	–	61	–	24	23(2)
QUE 99008	H5	2228.5	B	–	–	–	20	24(1)
QUE 99009	H5	1814.3	B	–	–	–	F	24(1)
QUE 99010	L5	1293.4	C	–	–	–	20	24(1)
QUE 99011	H4	1451.9	Be	–	–	–	T	24(1)
QUE 99012	H4	2016.8	B	–	–	–	F	24(1)
QUE 99014	H5	569.5	B	–	–	–	F	24(1)
QUE 99015	H5	1460.4	B	–	–	–	F	24(1)
QUE 99018	H4	1000.2	A/B	18	–	–	F	24(1)
QUE 99019	L5	350.5	B	–	–	–	20	24(1)
QUE 99020	H5	355.4	B	–	–	–	20	24(1)
QUE 99021	H5	402.9	B	–	–	–	20	24(1)
QUE 99022	L6	548.9	C	–	–	–	24	24(1)
QUE 99026	H5	361.4	B/C	–	–	–	24	24(1)
QUE 99027	H5	298.0	A/B	–	–	–	F	24(1)

APPENDIX 1. *Continued*.

Name‡	Class§	Mass	Weath	%Fa	%Fs	Pairing	Ice¶	Ref
QUE 99028	L6	302.4	B/C	–	–	–	20	24(1)
QUE 99029	L5	482.5	A/B	–	–	–	20	24(1)
QUE 99030	L4	797.8	A/B	23	7–19	–	F	24(1)
QUE 99033	How	164.2	A/B	43	20–29	(2)	20	24(1)
QUE 99038	CM2	52.7	A/B	1–39	–	–	Y	24(1)
QUE 99040	H5	0.3	B	–	–	–	F	24(1)
QUE 99041	LL5	46.9	B	–	–	–	22	24(1)
QUE 99042	LL5	0.04	B	–	–	–	F	24(1)
QUE 99043	L6	44.8	B/C	–	–	–	24	24(1)
QUE 99044	LL5	73.2	A/B	–	–	–	F	24(1)
QUE 99045	LL5	0.3	B	–	–	–	F	24(1)
QUE 99046	LL5	0.5	B	–	–	–	F	24(1)
QUE 99047	LL5	0.2	B	–	–	–	F	24(1)
QUE 99048	LL5	0.5	B	–	–	–	F	24(1)
QUE 99049	LL5	2.4	B	–	–	–	F	24(1)
QUE 99050	Diog	2.1	A	–	21	–	S	24(1)
QUE 99051	L5	1.3	B	–	–	–	S	24(1)
QUE 99052	L5	0.9	B/C	–	–	–	F	24(1)
QUE 99053	L5	4.0	B	–	–	–	S	24(1)
QUE 99054	L5	6.3	B	–	–	–	F	24(1)
QUE 99055	H5	9.3	C	–	–	–	F	24(1)
QUE 99056	H6	23.0	C	–	–	–	22	24(1)
QUE 99057	L5	24.1	A/B	–	–	–	F	24(1)
QUE 99058	How	48.0	A/B	–	17–31	99033	20	24(1)
QUE 99059	E–ung	22.1	C	–	0–1	94204	20	24(1)
QUE 99060	LL5	2.6	B	–	–	–	F	24(1)
QUE 99061	LL5	0.7	B	–	–	–	F	24(1)
QUE 99062	LL5	0.1	B	–	–	–	F	24(1)
QUE 99063	LL5	0.1	B	–	–	–	F	24(1)
QUE 99064	L5	1.0	C	–	–	–	F	24(1)
QUE 99065	LL5	20.0	B	–	–	–	F	24(1)
QUE 99066	LL5	21.4	B/C	–	–	–	F	24(1)
QUE 99067	LL5	3.6	B/C	–	–	–	F	24(1)
QUE 99068	LL5	5.6	B	–	–	–	F	24(1)
QUE 99069	H6	2.2	C	–	–	–	22	24(1)
QUE 99070	LL5	0.7	B	–	–	–	F	24(1)
QUE 99071	L5	1.4	B	–	–	–	F	24(1)
QUE 99072	LL5	0.7	B	–	–	–	F	24(1)
QUE 99073	LL5	0.5	B	–	–	–	F	24(1)
QUE 99074	H6	2.2	C	–	–	–	22	24(1)
QUE 99075	LL5	0.9	B	–	–	–	F	24(1)
QUE 99076	LL5	0.5	B	–	–	–	F	24(1)
QUE 99077	L5	1.0	B	–	–	–	F	24(1)
QUE 99078	LL5	1.5	B	–	–	–	F	24(1)
QUE 99079	L5	11.3	B	26	22	–	F	24(1)
QUE 99080	H6	211.9	C	–	–	–	F	24(1)
QUE 99081	LL5	198.0	B/C	–	–	–	20	24(1)
QUE 99082	H6	110.3	C	18	16	–	20	24(1)
QUE 99083	LL5	118.2	B/C	–	–	–	F	24(1)
QUE 99084	LL5	113.8	B/C	–	–	–	20	24(1)
QUE 99085	H6	173.5	B/C	–	–	–	Y	24(1)
QUE 99086	H6	200.4	Ce	18	16	–	Y	24(1)
QUE 99087	H6	93.4	C	–	–	–	S	24(1)
QUE 99088	L5	134.1	C	–	–	–	20	24(1)
QUE 99100	H6	1.2	C	–	–	–	F	24(1)
QUE 99101	LL5	13.8	B	–	–	–	F	24(1)
QUE 99102	LL5	4.5	C	–	–	–	F	24(1)
QUE 99103	LL5	9.3	A/B	–	–	–	F	24(1)
QUE 99104	LL5	1.7	B	–	–	–	F	24(1)
QUE 99105	LL5	1.4	B	–	–	–	F	24(1)
QUE 99106	L5	10.2	B/C	–	–	–	F	24(1)
QUE 99107	LL5	0.9	B	–	–	–	F	24(1)
QUE 99108	LL5	1.0	B	–	–	–	F	24(1)
QUE 99109	LL5	1.9	B	–	–	–	F	24(1)
SCO 98200	L4	311.5	A/B	25	21	–	–	23(2)
SCO 98201	L6	199	B/C	25	21	–	–	23(2)
SCO 98202	L6	84.3	B	25	21	–	–	23(2)

†See "Notes to Table 2" in *Meteorite Bulletin No. 79* (Grossman and Score, 1996) for explanation of columns.

‡Abbreviations for meteorite names: ALH = Allan Hills; EET = Elephant Moraine; GDR = Gardner Ridge; GEO = Geologists Range; KLE = Klein Glacier; LEW = Lewis Cliff; MIL = Miller Range; QUE = Queen Alexandra Range; SCO = Scott Glacier.

§Abbreviations for meteorite classes: Br = brecciated; Brach = brachinite; Diog = diogenite; E–ung = ungroup enstatite–rich meteorite; Eu = eucrite; How = howardite; Ur = ureilite.

¶Ice field names: 20 = W. Tail's End Icefield; 21 = South Walcott Icefield; 22 = W. Foggy Bottom Moraine; 23 = Upper Foggy Bottom Icefield; 24 = North Tail's End Icefield; a = Main Icefield; b = Near Western; d = Middle Western Icefield; e = Far Western Icefield; F = Goodwin Nunataks Icefields; g = Elephant Moraine Main Icefield; l = Upper Ice Tongue; o = South Lewis Cliff; p = Meteorite Moraine; Q = Foggy Bottom Moraine; S = Mare Meteoriticas; T = Pwellam Icefield; V = Scoraine Moraine; Y = Tail's End Icefield; ? = unassigned.