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Abstract–The Meteoritical Bulletin No. 88 lists information for 1610 newly classified meteorites, comprising 753 from Antarctica, 302 from Africa, 505 from Asia (495 of which are from Oman), 40 from North America, 5 from South America, 4 from Europe, and 1 of unknown origin. Information is provided for 9 falls (Alby sur Chéran, Al Zarnkh, Devgaon, Kamioka, Kendrapara, Maromandia, New Orleans, Sivas, and Villalbeto de la Peña). Noteworthy specimens include a eucrite fall (Alby sur Chéran), 6 martian meteorites, 13 lunar meteorites, and 12 irons including one weighing 3 metric tons (Dronino).

INTRODUCTION

The Meteoritical Bulletin is a compilation of announcements by the Meteoritical Society's Meteorite Nomenclature Committee of newly described and classified meteorites. 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 range 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

Acfer 325–363, see Saharan meteorites from Algeria

African meteorite finds
(14 meteorites)
Table 1 reports 14 meteorites from various locations in Africa. See also Northwest Africa, Saharan meteorites from Algeria, and Saharan meteorites from Libya.

Alby sur Chéran **45°49.28′N, 6°0.92′E**
Haute Savoie, France
Fell 2002 February
Achondrite (monomict basaltic eucrite)
A 252 g stone with black shiny fusion crust was found on March 22 in the roof of a building, in a hole in the insulating material. Water was first observed leaking from the ceiling inside the building at 8:30 a.m. on March 18, 2002. The stone had broken into 2 fragments (238.9 g and 13 g) upon impact. Taking into account the local amount of rainfall in the previous days, the absorption of water by the porous insulating material, and the distance between the hole in the roof and the leak in the ceiling leads to an estimate that the fall took place between February 3 and February 14. Mineralogy and classification (M. Bourot-Denise, *MNHNP*): low-Ca pyroxene $En_{36}Wo_3$ with lamellae of high-Ca pyroxene $En_{29.5}Wo_{42.5}$, and laths of plagioclase An_{90}; consists of clasts with pyroxene grain size about 100–200 μm, in a matrix of the same texture and composition but smaller grain size (~50–100 μm). Minor phases include chromite (0.3% MgO, 8%

Al_2O_3, 2.6% TiO_2, 0.6% MnO), ilmenite (0.4% MgO, 1% MnO), silica, iron sulfide, and Fe-Ni metal. Specimens: type specimen, 130 g, *MNHNP*; rest of the mass with finder.

Al Zarnkh **13°39.62′N, 28°57.60′E**
Barah, Northern Kordofan, Sudan
Fell 2001 February 8
Ordinary chondrite (LL5)
A meteorite was seen to fall on February 8, 2001 by the villagers of Al Zarnkh, about 150 km west of Barah, in the western region of Sudan. A fusion-crusted mass of 700 g was then recovered by geologist Dr. Salah Bashir. Mineralogy and classification (Abbasher M. Gismelseed, *Sultan Qaboos*): LL5, Fa_{28}, Fs_{23}. Specimens: type specimens, 20 and 75 g, *Sultan Qaboos*; main mass: Salah Bashir, Faculty of Science, Department of Geology, Khartoum University, Sudan.

Antarctic ANSMET meteorite finds
(720 meteorites)
Antarctica
Found 2000–2002
Appendix 1 brings the list of officially announced meteorites from the U.S. Antarctic Meteorite Program up-to-date. Some 10,916 ANSMET meteorites have been listed in previous editions of the Meteoritical Bulletin; these meteorites bring the total to 11,636. 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. Meteorites were recovered from MacAlpine Hills (MAC), Meteorite Hills (MET), Alexandra Range (QUE), La Paz icefield (LAP), Pecora Escarpment (PCA), and O'Dell Glacier (ODE). The meteorites in Appendix 1 were published in the Antarctic Meteorite Newsletter (AMN) issues 26(2) (2003) and 27(1) (2004). Brief descriptions of meteorites other than equilibrated ordinary chondrites are published in AMN. Note that meteorite pairings may be tentative.

Antarctic PNRA meteorite finds
(33 meteorites)
Antarctica
Found 2003–2004
Table 2 reports the classification of 33 of the 125 meteorite fragments recovered from northern Victoria Land by the Italian Programma Nazionale delle Ricerche in Antartide (PNRA) between 2003 December and 2004 January. Table 2 lists 3 meteorites found at Miller Butte, 1 at Roberts Butte, 19 at Johannessen Nunataks, 1 at Mount Walton, 1 at Mount DeWitt, and 8 of the 100 specimens returned from Frontier Mountain. Mineralogy and classification by A. Burroni and L. Folco (MNA-SI), N. Perchiazzi and M. D'Orazio (Pisa University), and P. Rochette (CEREGE). Specimens: main mass, type specimens, and thin sections at MNA-SI.

Araslanovo **55°08.5′N, 48°12′E**
Tatarstan, Russia
Found 1973 (?)
Ordinary chondrite (L/LL5)
A brownish stone weighing 132 kg was found by Vladimir Tikhonov while ploughing a field near the village of Araslanovo approximately 30 years ago. In 2003, he sent a piece of the stone to the Vernadsky Institute for identification. Classification and mineralogy (S. Teplyakova, M. Ivanova, *Vernad)*: olivine, $Fa_{26.2}$ PMD 4%, and pyroxene, $Fs_{22.4}Wo_{1.4}$, compositions are intermediate between those in L and LL chondrites, kamacite (Ni 4.8–6.6 wt%, Co 0.6–1.0 wt%) and taenite (Ni 35–47 wt%, Co 0.1–0.3 wt%) are present; some troilite grains contain Cu (up to 2 wt%), shock stage S4, weathering grade W1. Specimens: type specimen 700 g and a thin section, *Vernad*; main mass with anonymous owner.

Bensour **~30°N, 7°W**
Morocco/Algeria
Found, possible fall, 2002 February 11
Ordinary chondrite (LL6)
Eyewitness accounts from several nomads in the border region of Morocco and Algeria attest to a significant fall of many individual stones on February 11, 2002. However, these reports are not detailed. Total weight is estimated to be in excess of 45 kg. Individual stones (up to 9.2 kg) are very pale grey with a glistening black fusion crust. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): very fine-grained monomict breccia composed of olivine ($Fa_{31.6}$, FeO/MnO = 60.0), orthopyroxene ($Wo_{3.5}Fs_{24.3}$, FeO/MnO = 36.6), clinopyroxene, and sodic plagioclase with subordinate Ni-rich Fe-Ni metal, troilite, and chromite. Sparse chondrules are present. Oxygen isotopes (D. Rumble, *CIW*): analyses of two whole rock fragments by laser fluorination gave $\delta^{18}O = +5.3 \pm 0.1$, $\delta^{17}O = +4.0 \pm 0.1$, $\Delta^{17}O = +1.20 \pm 0.01$‰. Specimens: type specimen, 20 g, and one polished thin section, *UWS*; 1.5 kg, *Hupé*, main mass, 9.2 kg, *Farmer.*

Cheder **51°32′N, 94°36′E**
Tuva, Russian Federation
Found 2003 October 26
Iron IIIAB (medium octahedrite)
A fresh iron piece weighing 5.39 kg was found during field work by Valery Popov, a geologist of the Institute of Complex Exploration of Natural Resources, Kyzyl, Tuva. The meteorite was recovered on a deflated surface of aeolian sands. It is 26 × 9 × 8 cm in size and has a thin fusion crust and regmaglypts. Classification and mineralogy (L. V. Agafonov, L. N. Pospelova, *Novosibirsk*): Kamacite (5.5–6.8 wt% Ni) and taenite (22–38 wt% Ni) form the Widmanstätten pattern with 1–1.5 mm kamacite bands; schreibersite (22–48 wt% Ni) is present. INAA data (A. Lorenz, *Vernad)*: Ni 72.4, Co 4.4 (mg/g), As 3.26, Ir 16.9, Au 0.50 (μg/g) indicate the IIIA group. Specimens: 200 g, Institute of Complex Exploration of

Natural Resources, Kyzyl, Tuva; 100 g, *Novosibirsk*; main mass and type specimen, *Vernad.*

Dar al Gani 969–1038, see Saharan meteorites from Libya

Dar al Gani 1030 **27°13.30′N, 16°15.00′E**
Libya
Found 1998 December 27
Carbonaceous chondrite (CK4/5)

A single stone of 10.09 g was found 1998 December 27 by an anonymous finder in the desert of Dar al Gani. Classification and mineralogy (A. Greshake, *MNB*, and M. Kurz, *Kurz*): exhibits typical texture with fine-grained and weakly recrystallized matrix dominating over chondrules and mineral fragments; olivine, $Fa_{29.4}$, NiO up to 0.5 wt%; a low-Ca pyroxene, Fs_{25}; Ca-pyroxene $Wo_{46.5}Fs_{8.7}$; contains Cr-rich magnetite; oxygen isotopes (I. Franchi and R. C. Greenwood, *OU*): $\delta^{17}O = -3.99‰$, $\delta^{18}O = +0.39‰$, $\Delta^{17}O = -4.19‰$ are in agreement with the classification as CK chondrite; low degree of shock; low degree of weathering. Specimens: type specimen, 2.4 g, plus one polished thin section, *MNB*, main mass, anonymous finder.

Dar al Gani 1031 **27°08.81′N, 16°03.01′E**
Libya
Found 1998 March
Enstatite chondrite (EL4)

A single stone of 20.15 g was found in March 1998 in the desert of Dar al Gani. Classification and mineralogy (A. Greshake, *MNB*, and M. Kurz, *Kurz*): has abundant chondrules with a mean apparent diameter of about 450–500 μm; enstatite, $Fs_{0.4–1.4}$; Si in FeNi metal is ~0.9 wt%; contains ferroan alabandite, oldhamite, troilite, unusual Fe-Cr-sulfides, and hibonite-bearing CAIs; oxygen isotopes (I. Franchi and R. C. Greenwood, *OU*): $\delta^{17}O = +3.47‰$, $\delta^{18}O = +6.62‰$, $\Delta^{17}O = +0.03‰$ are well in the range of E chondrites; low degree of shock; moderately weathered. Specimens: type specimen, 4.6 g, plus one polished thin section, *MNB*, main mass with anonymous finder.

Dar al Gani 1037 **27°20.00′N, 16°13.00′E**
Libya
Found 1999
Martian meteorite (basaltic shergottite)

Ten stones totaling 4012.43 g were found in early 1999 in the sand desert of Dar al Gani. The biggest individual was a complete individual of 3090 g with perfect orientation and rather fresh appearance. Classification and mineralogy (A. Greshake and M. Kurz): an olivine-phyric shergottite with porphyritic texture; large chemically zoned olivine megacrysts are set into a fine-grained groundmass composed of pyroxene and maskelynite; minor phases include chromite, Ti-rich chromite, sulfides, phosphates, and small Fe-rich olivines; olivine megacrysts often contain melt inclusions and small chromites; pyroxenes are dominantly chemically zoned pigeonites, some contain orthopyroxene cores; olivine phenocrysts, $Fa_{31.4–41.1}$, Fe/Mn = 52–59; matrix olivine, $Fa_{37.4–40.6}$, Fe/Mn = 52–58; pigeonite, $Fs_{23.7–35.4}Wo_{6–18.6}$; orthopyroxene, $Fs_{20.2–24.5}Wo_{2.5–4.7}$, Fe/Mn = 34; maskelynite, $An_{58.9–65.5}$; heavily shocked with numerous melt veins and melt pockets; moderately weathered with calcites filling cracks and cavities. Oxygen isotopes (R. Clayton and T. Mayeda, *UChi*): $\delta^{17}O = +2.91$, $\delta^{18}O = +5.29$, $\Delta^{17}O = +0.16$. Possibly paired with Dar al Gani 467, 489, 670, 735, 876, and 975. Specimens: main mass with anonymous finder; type specimen 20 g plus one polished thin section, *MNB.*

Devgaon **~19°N, 81°E**
Bastar District, Chattisgarh, India
Fell 2001 February 12 16:00 IST
Ordinary chondrite (H3.8)

A single 12 kg stone that was fully fusion-crusted fell in the village of Devgaon and was quickly recovered and delivered to the district Collectorate. Classification (S. V. S. Murty, V. K. Rai, A. D. Shukla, G. Srinivasan, P. N. Shulka, K. M. Suthar, N. Bhandari, *PRL*, and A. Bischoff, *Mün*): The meteorite is an ordinary chondrite containing some CAIs and SiO_2-rich objects. Olivine composition $Fa_{17–19}$; low Ca pyroxene composition $Fs_{4–20}$. Shock stage is S2. Cosmogenic nuclides indicate a complex exposure history (Murty et al. 2004). Specimens: main fragment, Office of District Collectorate, Bastar.

Dhofar 182–1085, see meteorites from Oman

Dhofar 182 **18°56.5′N, 45°30.08′E**
Dhofar, Oman
Found 2000 February 9
Achondrite (eucrite)

Many stones with a shiny fusion crust were found within a square meter during a meteorite hunt. The largest fragments were 140.5 g, 90.1 g, and 24.5 g in mass, and they fit together into a complete individual. Classification (J. Otto, *Frei*): The meteorite is a basaltic eucrite, $Fs_{61.9}$, plagioclase $An_{88.7}$. The meteorite is low shock, weathering grade W0. Specimens: 140.5 g Koblitz, 96.3 g JNMC-Zurich, Switzerland; type specimen 2.8 g *Frei* + 18.6 g *Mün*.

Dhofar 850 **18°37.1′N, 54°097.3′E**
Oman
Found 2002 November 15
Ordinary chondrite LL3

One stone weighing 208 g was found in the Dhofar region of central Oman. Mineralogy and classification (M. Ivanova, M. Nazarov, *Vernad)*: the meteorite consists of chondrules 0.05–1.5 mm in size, of different types: PO, POP, BO, RP, CC, and their fragments embedded in a fine-grained matrix; olivine is

$Fa_{4.1–46}$, PMD 32.5%, the average is Fa_{27}; low-Ca pyroxene varies from $Fs_{0.3}En_{99}$ to $Fs_{36}En_{62}$; minor phases pigeonite, augite, chromite, kamacite, taenite, and troilite; kamacite (Ni 4.9–6.2 wt%) contains Co (up to 2.3 wt%); POP and PO chondrules are zoned and contain a glassy mesostasis. Thermoluminescence studies show petrological type 3.4/3.5 (A. I. Ivliev, *Vernad)*. The matrix contains amorphous materials and chemically resembles matrices of carbonaceous chondrites; the average matrix composition is (wt%): 33.9 SiO_2, 2.33 Al_2O_3, Cr_2O_3, 28.5 FeO, 20.8 MgO, 2.17 CaO, 0.73 Na_2O, 0.14 K_2O, 1.28 NiO, 0.22 P_2O_5, 1.59 SO_3. Weathering grade is W3; shock stage is S3. Specimens: one thin section and 42 g, *Vernad*; main mass with anonymous finder.

Dhofar 925 **19°23.8′N, 54°33.8′E**

Oman
Found 2003 February 6
Lunar meteorite (VLT basalt-bearing feldspathic impact melt breccia)

A grey stone weighing 49 g was found in the Dhofar region of Oman. Mineralogy and classification (S. Demidova, M. Nazarov, *Vernad*, G. Kurat, *NHMV*): fusion crust is absent. The meteorite is an impact melt breccia; abundant mineral fragments and lithic clasts are set within a fine-grained impact melt matrix; the lithic clast population is dominated by impact melt breccias and granulitic rocks of anorthositic, troctolitic, noritic, and gabbro-noritic compositions; the presence of VLT mare basalt clasts and rare KREEPy and granitic fragments is a characteristic feature of this meteorite; glass veins and fragments are common; feldspar, $An_{2-98}Or_{0-85}$; orthopyroxene, $Wo_{2–5}En_{49–90}$; clinopyroxene, $Wo_{5–47}En_{0.1–79}$; olivine, $Fo_{0.5–93}$ (Fe/Mn ~87 at); accessory minerals are ulvöspinel, Ti-rich chromite, pleonaste, ilmenite (0.4–7.4 wt% MgO), silica, troilite, and abundant FeNi metal (0.6–24 wt% Ni; 0.1–1.5 wt% Co); K-Ba feldspar, whitlockite, Cl-apatite, baddeleyite, zircon, Zr-armalcolite, monazite, tranquillityite, and zirconolite occur in granitic clasts. One fragment of tschermakitic amphibole was found. The stone is moderately weathered; calcite, gypsum, celestite, barite, smectite, and Fe hydroxides are present. The meteorite was found close to Dho 489 but the stones are very different in composition. Dho 489 does not contain any mare basalt material. Specimens: type specimens of 10.1 g, and two thin sections, *Vernad*; main mass with anonymous finder.

Dhofar 930 **19°23.4′N, 54°33.5′E**

Oman
Found 2003 February 11
Achondrite (polymict eucrite)

One rounded small stone of 18 g in weight, completely coated with fresh black fusion crust, was found in the desert. Mineralogy and classification (C. Lorenz, *Vernad* and F. Brandstätter, *NHMV*): the meteorite is a polymict breccia, consisting of numerous lithic clasts, embedded in light-grey, fine-grained clastic matrix. Mineral clasts are pyroxenes $En_{33–65}Wo_{1–4}$ with lamellae of augite $En_{30–45}Wo_{35–43}$, feldspar $An_{94}Ab_3$, minor orthopyroxenes $En_{65–79}Wo_{1–3}$, rare silica, chromite, troilite, and Fe-Ni metal. Rock clasts are eucrites, anorthosites ($An_{95}Ab_3$), medium- to coarse-grained recrystallized eucrites, polymict eucrite breccias, impact melts, and carbonaceous chondrite clasts. Eucrite clasts consist of pyroxene ($En_{42}Wo_2$ with lamellae of $En_{34}Wo_{40}$), feldspar $An_{86}Ab_9$ and rare olivine Fa_{18}, ilmenite, zircon, and Ca-phosphate. The meteorite is unweathered. Specimens: type specimen 3.9 g and two thin polished sections, *Vernad*; main mass with anonymous finder.

Dhofar 1015 **18°33.544′N, 54°4.897′E**

Oman
Found 2002 December 21
Enstatite chondrite (EH4)

A complete stone of 63.53 g was found by A. Al-Kathiri, E. Gnos, M. Eggimann, and S. Lorenzetti. Mineralogy and classification (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): enstatite chondrite containing dark matrix, average chondrule size of 0.4 mm. Few olivine grains range from $Fa_{0.4–0.6}$, orthopyroxenes have compositions of $Fs_{0.5–4.1}Wo_{0.4–1.6}$, and plagioclase present is anorthite-poor ($An_{0.04}$). Oxygen isotopes (average of two measurements by I. A. Franchi and R. C. Greenwood, *OU*) yielded: $\delta^{17}O$ = 3.116‰, $\delta^{18}O$ = 5.747‰, and $\Delta^{17}O$ = 0.128‰. Weathering grade is W3 and shock stage S2. Specimens: all specimens at *NMB*.

Djermaia additional mass

A single black stone weighing 2947 g was given by a nomad to Raymond Martinot, insurance broker in Fort Lamy, Chad, after 1960. Identification (Michèle Bourot-Denise, *MNHN*): it is a new individual of the Djermaia fall, determined from a comparison of sections. Specimen: *Franco*.

Dolores **19°39′S, 69°57′W**

Dolores, Provincia de Iquique, Chile
Found 2001
Iron (IIIAB)

A single stone of 4333 g was found on the site of a battlefield from the Pacific War, while hunting for historical artefacts with a metal detector. Classification (J. Wasson, *UCLA*): composition of metal is Co 4.98 mg/g; Ni 74.8 mg/g, Ga 18.6 μg/g, As 3.8 μg/g, Ir7.0 μg/g, Au 0.571 μg/g. One other South American iron, Sanclerlandia, has a composition that is the same as Dolores within experimental error. Specimens: main mass (3198 g) with Rodrigo Martinez, Santiago, Chile; type specimen 120 g, *UCLA*.

Dronino **54°44.8′N, 41°25.3′E**
Ryazan district, Russia
Found 2000 July
Iron, ataxite (ungrouped)

A 40 kg iron was found by Oleg Gus'kov, a Moscow resident, as he was returning home from collecting mushrooms near the village of Dronino in the Ryazan district. In early 2003, it was taken to Vernad and identified as meteoritic. In summer 2003, scientific expeditions and meteorite hunters collected more than 600 fragments (the largest is 250 kg) totaling about 3,000 kg and occurring at a depth of 0.2–2 m across an area of 0.5 × 1.5 km. The distribution of the fragments suggests that the meteorite formed a now-buried crater about 30 m in diameter. This crater is not reflected in the present-day topography of the site. No historical records of a meteorite fall exists, thus, it appears likely that the meteorite fell earlier than the 12th century when the area was largely unpopulated. Classification and mineralogy (D. Badyukov, M. Nazarov, *Vernad*; J. Wasson, *UCLA*): the Dronino iron is an ataxite containing sulfide inclusions (~10 vol%) and consisting of kamacite (7.0 ± 0.5 wt% Ni and 0.75 wt% Co) and rare taenite (26.5 ± 0.5 wt% Ni and 0.35 wt% Co) as elongated precipitates (1–3 μm in size) that form linear and banded textures; sulfide inclusions (up to a few mm in size) rounded and elongated along the banding; accessories are chromite and Fe phosphate (graftonite?); no phosphide was found, and P is not detectable in metal with EMP; INAA data: Ni 98.1, Co 5.54 (mg/g), Cr 37, Cu 32, Ga <0.3, As 3.52, W 0.38, Ir 1.68 ppm, Au 0.284 (μg/g); the meteorite is most close to IVA irons in Ni, Ir, and the low P, but the low Au and Ga contents distinguish the Dronino element pattern from that of all known iron meteorite groups. Dronino meteorite fragments are heavily weathered and covered with rust 1–3 cm thick. Sulfide nodules are surrounded by Fe hydroxides, which replace metal. Troilite of the nodules is commonly replaced with unknown Fe, Ni sulfides. Specimens: type specimen 700 kg including the largest 250 kg piece, *Vernad.*

Dutch Flat **34°29′N, 113°55′W**
Mohave County, Arizona
Found 2002 March 3
Iron (IIAB)

A single specimen weighing 48.80 g was found by Joshua J. Vick and Michael K. Phillips using a metal detector while searching for gold in an Arizona dry wash. Classification (J. Wasson, *UCLA*): low-iridium IIAB iron. Trace element analysis: Co 4.89 mg/g, Ni 57.8 mg/g, Cu 112 μg/g, Ga 55.5 μg/g, As 9.04 μg/g, W 0.82 μg/g, Ir 0.021 μg/g, Au 1.030 μg/g. The observed composition is very similar to that of the widely distributed Sikhote-Alin but also the Ainsworth iron. Specimens: type specimen, 12.43 g, *UCLA*; main mass, 34.75 g, R. Matson.

El Achane 010–012, see Saharan meteorites from Algeria

El Atchane 012 **30°07.596′N, 4°43.064′E**
Algeria
Found 2002 December 23
Enstatite chondrite (EL6)

Two stones, totaling 331 g, were found by A. Goueslain and J. L. Parodi while searching for meteorites. The outer part is very oxidized, with neither metal nor sulfide left, but the interior is little altered. Classification and mineralogy (M. Bourot-Denise, *MNHNP*): rare chondrule relics, metal and sulfide are heterogeneously distributed, probably due to shock effects. Enstatite, $Fs_{0.6}Wo_{1.7}$. Kamacite contains 0.9 wt% Si. Graphite rosettes and oldhamite needles are common in metal. The most abundant sulfides are troilite (1.4 wt% Cr, 0.6 wt% Ti), then alabandite; troilite contains abundant daubréelite in cleavages. Shocked, weathering grade W2. Specimens: type specimen 21.4 g, *MNHNP*; main mass with finders.

Frontier Mountain 03001–03100, see Antarctic PNRA meteorites

Frontier Mountain 03001 **72°57′13.9″S, 160°29′27.5″E**
Antarctica
Found 2003 December 27
Primitive achondrite (lodranite)

This 1.5 g stone is a square, 50% crusted fragment found by a PNRA team. Mineralogy and classification (A. Burroni and L. Folco *MNA-SI*): fine-grained (average grain size 40 μm) homeoblastic texture given by abundant crystals of compositionally homogeneous olivine, $Fa_{9.5}$, and minor orthoenstatite, $Fs_{13.2}Wo_{2.7}$, Cr-rich (Cr_2O_3 = 1.38 wt%) augite, $Fs_{5.9}Wo_{51.1}$, Fe, Ni metal and subordinate troilite and chromite. Some crystals of olivine show reduction rims. It is devoid of evidence for shock deformation, S1, and it is virtually unweathered, W0. Main mass, type specimen, and thin section at *MNA-SI.*

Hammadah al Hamra 292–329, see Saharan meteorites from Libya

Gao-Guenie (b) **~11°39′N, 2°11′W**
Burkina-Faso
Found 2002 August 15
Carbonaceous chondrite (CR)

Two stony fragments of 314.5 and 29.5 g, fitting together, were recognized by E. Twelker while examining a parcel of meteorites purchased from Burkina-Faso, which, according to the vendor, were found in the Gao-Guenie strewn-field. Mineralogy and classification (A. N. Krot, *UH*): abundant large, metal-rich porphyritic olivine, olivine-pyroxene, and pyroxene type I chondrules ($Fa_{3.1 \pm 1.7}$, n = 20; $Fs_{2.7 \pm 1.3}$, n = 18); many chondrules are layered and surrounded by silica-

rich igneous rims (Krot et al. 2003). Type II chondrules and chondrules of non-porphyritic textures are rare. Anorthite-rich chondrules (Krot and Keil 2002) are rather common. Refractory inclusions are rare and include amoeboid olivine aggregates ($Fa_{0.6 \pm 0.6}$, n = 36) and melilite-rich CAIs; melilite is commonly replaced by anorthite. Neither chondrules nor refractory inclusions show evidence for alteration. The observed characteristics of the meteorite suggest that it is a CR chondrite. Shock stage is S1. Specimens: type specimen 20 g, *UH*; main mass, *Twelker*.

Guanaco **25°06′S, 69°32′W**

El Guanaco, Provincia de Antofagasta, Chile
Found 2000
Iron (IIG)

A single stone of 13.1 kg was found by a geologist near an area where a water well was being dug at the Guanaco gold mine, Chile. Classification (J. Wasson, *UCLA*): composition of the metal is Co 5.08 mg/g; Ni 44.3 mg/g; Ga 44.7 μg/g, As 14.6 μg/g, Ir 0.013 μg/g, Au 1.19 μg/g. With the addition of this meteorite, we reach the minimum number for a new iron meteorite group, to be called IIG. Another Chilean meteorite, La Primitiva, is a member of this group. Specimens: type specimen, 280 g, *UCLA*; main mass (11 kg) with Rodrigo Martinez, Santiago, Chile.

Horh Uul **43°15′N, 104°10′E**

Horh, Omon Gobi, Mongolia
Found 2001 July 7
Iron IIIAB (medium octahedrite)

A 44 kg specimen was found on the foothills of the Horh Mountains and the meteorite then purchased by a private collector. Mineralogy and classification (P. Jakes, P. Týcová and J. Haloda, *Charles U*): the meteorite is moderately weathered. The fresh interior shows the Widmanstatten pattern with 0.8 mm kamacite bandwidths. It has a low sulphide content, irregular inclusions of shreibersite, and very low shock stage. Bulk composition (Z. Randa, *Czech Academy of Sciences*): Ni = 8.77%, Cr = 22 μg/g, Co = 0.48 wt%, Cu = 225 μg/g, Ga = 27.5 μg/g, Ge = 46.3 μg/g, As = 16.5 μg/g, Mo = 4.3 μg/g, Sb = 0.51 μg/g , Ir 0.236 μg/g, Au 1.45 μg/g. Specimens: type specimen, 95 g, *Charles U*; main mass with anonymous collector.

Jiddat al Harasis 084 **19°39.311′N, 55°45.185′E**

Oman
Found 2002 December 5
Carbonaceous chondrite (CO3)

A complete stone weighing 59.47 g was found within the Jiddat al Harasis 073 L6 chondrite strewnfield. Classification and mineralogy (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): olivine ranges from $Fa_{3.2}$ to $Fa_{39.2}$. Low-Ca pyroxene shows a compositional range from $Fs_{1.1}Wo_{2.7}$ to $Fs_{4.9}Wo_{0.9}$. Porphyritic olivine, barred olivine, and granular olivine chondrules predominate. The average chondrule size is 0.13 mm. The matrix/chondrule + aggregates ratio is 1.02. Cathode luminescence are mainly red and yellow indicating petrologic grade 3.0–3.2. The average of two oxygen isotope analyses (I.A. Franchi and R.C. Greenwood, *OU*) yielded $\delta^{17}O$ = –6.16‰, $\delta^{18}O$ = –2.67‰, and $\Delta^{17}O$ = –4.77‰. Weathering grade is W1, and the material is basically unshocked (S1). Specimens: all material at *NMBE*.

Jiddat al Harasis 089 **19°56.342′N, 56°25.685′E**

Oman
Found 2002 January 13
Ordinary L chondrite (annealed impact melt breccia)

A stone weighing 170.69 g with a black fusion crust was found in the Jiddat al Harasis area. Finding, classification, and mineralogy (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): the stone is a completely molten and recrystallized chondrite containing ~6% oriented vesicles. The shape of some completely recrystallized chondrules is still recognizable. Minerals crystallized from the melt are olivine $Fa_{23.8–26.5}$, low-Ca pyroxene $Fs_{18.8–20.6}Wo_{2.3–6.9}$, and plagioclase $An_{0.3–20.1}$. Metal-sulphide grains occur as droplets with metal in the core and sulphide along the rim. Idiomorphic-shaped spinel grains also contain inclusion droplets. Oxygen isotope composition (I. A. Franchi and R. C. Greenwood, *OU*); average of two analyses: $\delta^{17}O$ = +3.78‰, $\delta^{18}O$ = +5.17‰, and $\Delta^{17}O$ = +1.09‰). Preserved post melt crystallization shock stage is S3–4, weathering grade W3. Entire specimen *NMBE*.

Johannessen Nunataks 03001–03019, see Antarctic PNRA meteorites

Kalugalatenna **07°19′N, 80°33′E**

Peradeniya, Central Province, Sri Lanka
Found 2003 February 19
Ordinary chondrite (L6)

Villagers of Kalugalatenna found the meteorite (weighing ~4 kg) and broke it into pieces. Two fragments weighing 3.65 kg and 180 g were recovered by Mr. Bowala, Officer-in-Charge of the Peradeniya Police and handed over to Dr. A. Senaratne, Head/Department of Geology, *UPeradeniya*. Classification (L. R. K. Perera, *UPeradeniya*, T. Tomiyama, *NIPR*, Tokyo, Japan): olivine $Fa_{23.5}$; pyroxene $Fs_{19.8}$. W0, S3. Specimens: type specimen 67 g *NIPR*, Tokyo, Japan; main mass, Department of Geology, *UPeradeniya*, Sri Lanka.

Kamioka **39°31′N, 140°22′E**

Senboku, Akita, Japan
Fell between 1921 and 1949
Ordinary chondrite (H4)

A single 30 g stone was kept in a box of spindles for scroll pictures in the Konishi family, the landowners around Kamioka. It was told in the family that it fell from the sky and

was recovered by a tenant farmer who gave it to the wife of the landowner. The wife lived on the property between 1921 and 1949. The meteorite was brought to NIPR on November 1, 2002. Classification (A. Yamaguchi and H. Kojima, *NIPR*): olivine, $Fa_{17.4–22.7}$; average $Fa_{18.8}$, PMD = 4.1%. Noble gas data (Y. Miura, *UTokyo*): consistent with an H4 classification. Specimens: type specimen 7.21g, *NIPR*; main mass with owner.

Kendrapara **20°27′45″N, 86°42′10″E**

Kendrapara, Orissa, India
Fell 2003 September 27, 1830 IST
Ordinary chondrite (H4–5)

A brilliant fireball with intense greenish hue appeared in the northern sky and progressed toward the southern horizon and was observed by a large number of people in the southern part of the state of West Bengal and coastal Orissa. The event led to a multiple fall along the coastal Orissa (Dhingra et al. 2004). Three pieces of meteorite were retrieved by the Geological Survey of India (GSI) from Subarnapur village (20°32′22″N, 86°42′E), East Suniti village (20°27′30″N, 86°43′15″E) and West Suniti village (20°27′45″N, 86°42′10″E) in the Kendrapada district of Orissa; the weights of the recovered fragments are 490.2 g, 719 g, and 5460 g, respectively. The meteorite samples are dark on unbroken surfaces and light colored on broken surfaces where metals are readily visible. Rusting is conspicuous on the broken surfaces and may be attributed to the wet environment of fall (Dhingra et al. 2004). The main mass of the meteorite has an incomplete tabular polyhedral shape. Thin section study (B. K. Chattopadhyay and A. P. Thapliyal, *GSI*) shows that the Kendrapada meteorite is essentially composed of olivine, pyroxene, abundant Fe-Ni metal, troilite, and rare feldspar. Chondrules of varying shape and sizes and texture are present but are few in number and range in size from 0.15 mm to 0.5 mm. Fa content in olivine varies between 18.2 and 19.6 (n = 22) with an average Fa content of 18.8. Fs content in Opx varies from 14.4 to 17.4 (n = 17) with an average of 16.4. The matrix is fine-grained and moderately recrystallized. Shock stage is S2. Specimens: type specimen 6 kg, Geological Survey of India, Calcutta; some fragments are with Government of Orissa, Bhubaneswar, India.

Longtian **27°21′N, 108°30′E**

Cengong, Guizhou, China
Found 1991 March 5
Iron (IIIAB)

According to the owner of the iron, Mr. Feng Liang, a 350 kg iron was dug from ~1 foot underground on a hilltop by villagers Deying Wu and his wife while they were reclaiming virgin soil there from February 29 to March 5, 1991. The meteorite has a cone-like shape and is 70 cm long. Petrography and mineralogy (Y. Lin, *IGG*): Widmannstaetten structure, consisting predominantly of kamacite (6.2–7.4 wt% Ni) bands (~0.9 mm in width) with minor thin planes of taenite (<0.1 mm in width) and accessory schreibersite. The iron is structurally classified as a medium octahedrite. INAA (J. Wasson, *UCLA*): Ni 73.2 mg/g, Co 4.95 mg/g, Cr 153 mg/g, Ga 19.3 μg/g, As 3.29 μg/g, Ir 9.35 μg/g, Au 0.531 μg/g, hence low Au, high Ir IIIAB iron. Specimens: type specimen, 23g, *CAS*; main mass, Mr. Feng Liang.

Maromandia **48.1°S, 14.2°E**

Madagascar
Fell 2002 July 5, 6:30 p.m. local time
Ordinary chondrite (L5)

A local man saw the meteorite fall into a rice paddy and woods 80 km north of Antsohihy, not far from the Highway N6. Two pieces were recovered, the first weighing ~5 kg, the second ~1 kg. Classification (S. Pym, S. Russell, *NHM*): a few chondrules are well-defined, many have rims, and some contain metal/sulphide granules. Apparent chondrule size is 0.46–4 mm. The matrix is mostly fine-grained, some areas are slightly coarser-grained with larger olivine crystals. Shock stage is S3. Olivine Fa_{24}, low-Ca pyroxene $Fs_{21}Wo_{1}$. Specimens: type specimen 21 g and a thin section, *NHM*.

Miller Butte 03001–03003, see Antarctic PNRA meteorites

Miller Butte 03002 **72°41′36.9″S, 160°16′05.9″E**

Antarctica
Found 2003 December 13
Iron, medium octahedrite (IID)

This 82.7 g specimen is a complete crusted meteorite with a flat, truncated octahedron shape (and Widmanstätten pattern in relief on one side) found by a PNRA team. Mineralogy and classification (M. D'Orazio and N. Perchiazzi, *Pisa University*, and L. Folco, *MNA-SI*): the meteorite consists of kamacite lamellae and plessite fields separated by thin layers of secondary oxides enhancing the Widmanstätten pattern; kamacite bandwith 0.82 ± 0.20 mm, kamacite/plessite volume ratio = 1, crystals of schreibersite (Fe/Ni atomic ratio = 2:1) up to 2 mm in maximum dimension occur along the center of kamacite lamellae. Bulk chemical composition (ICP-MS analyses; D'Orazio and Folco 2003): Co 6.6 mg g^{-1}, Ni 103 mg g^{-1}, Cu 264 μg g^{-1}, Ga 71 μg g^{-1}, Ge 76 μg g^{-1}, Ir 11.3 μg g^{-1}, Pt 14.9 μg g^{-1}. Specimens: main mass and type specimen, *MNA-SI*.

New Orleans **29°56.8305′N, 90°6.5855′W**

New Orleans, Louisiana USA
Fell 2003 September 23, ~16:05 hrs (CST)
Ordinary chondrite (H5)

On the afternoon of September 23, 2003, a meteorite crashed through the two-story home of Ray and Judy Fausset, who were not at home at the time. Neighbors said that they heard a "terrific noise." Two observations of a fireball were recorded. The main mass of the meteorite was found in the crawl space

under the house. Powdery meteorite debris and fragments were found along the penetration path throughout the house. A total mass of 19.256 kg was recovered from the Fausset house, the three largest fragments weighing 2966 g, 1292 g, and 1001 g. Some additional material (~100 g) was also recovered in the surrounding neighborhood. Description and classification (S. Nelson, *Tulane University*; R. Jones and A. Brearley, *UNM*; T. Bunch and J. Wittke, *NAU*): the meteorite is light grey with a black fusion crust, and very friable. Abundant metal and troilite are visible on broken surfaces, as well as some thin (mm-thick) impact melt veins. Classification and mineralogy: the meteorite is very fragmented on a sub-mm scale. Mean compositions of olivine, $Fa_{17.6}$; orthopyroxene, $Fs_{15.4}Wo_{1.4}$; clinopyroxene, $Fs_{10.4}Wo_{24.8}$; plagioclase, $An_{12.8}Or_{5.6}$; metal, Ni = 6.7 wt%, Co = 0.38%. Minor chromite and phosphate are present. The meteorite broke a pipe and many fragments sat in water for several days. Because of this and the humid climate in New Orleans, light oxidation of interior metal within small fragments (<100 g) was evident within a week of the fall. Shock level, S1. Specimens: type specimens 82 g, *UNM* and 63 g, *NAU*; main mass with owner.

North American meteorite finds

(34 meteorites)

Table 3 lists 34 ordinary chondrite meteorite finds from North America.

Northwest Africa 962–3132

(208 meteorites)

Table 4 lists 208 meteorites collected from unspecified locations in Northwest Africa.

Northwest Africa 969

Morocco
Purchased 2001 June/October
Ordinary chondrite (LL6/7)

A small stone was purchased from a Moroccan dealer by A. and G. Hupé (*Hupé*) in 2001 June and, subsequently, seven more stones were purchased bringing the total weight to 463 g. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): genomict breccia consisting of angular clasts in a finer grained matrix. Mostly olivine ($Fa_{30.2–31.0}$, FeO/MnO = 57.7) exhibiting 120 grain junctions, with interstitial troilite and Fe-Ni metal (30% Ni), and accessory orthopyroxene ($Fs_{24.9–25.0}Wo_{1.5–2.3}$, CaO for two analyzed grains are 0.76 and 1.16 wt%, FeO/MnO = 37.6), chromite, chlorapatite, interstitial sodic feldspar ($Ab_{85}Or_5$), and fine-grained intergrowth patches. Silicate minerals contain trains of fluid inclusions. Rare relict chondrules are present. Oxygen isotopes (D. Rumble, *CIW*): analyses of two whole rock fragments by laser fluorination gave $\delta^{18}O$ = +5.3 ± 0.1‰, $\delta^{17}O$ = +4.0 ± 0.1‰, $\Delta^{17}O$ = +1.22 ± 0.03‰. Specimens: type specimen, 20 g, and three polished thin sections, *UWS*; main mass, *Hupé*.

Northwest Africa 1112

Morocco
Found 2001
Carbonaceous chondrite (CK5)

A 49 g complete stone was purchased in Erfoud, Morocco in October 2001. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): well-equilibrated, abundant matrix (~75 vol%). Matrix olivine, $Fa_{30.1}$ (range $Fa_{29.9–30.3}$) (0.46 wt% NiO); plagioclase, $An_{31.8}Or_{4.1}$ (range $An_{28.3–38}$); green diopside, $Fs_{9.6}Wo_{45.2}En_{45.2}$. Magnetite Cr_2O_3 and Al_2O_3 contents are lower in abundance than in less-equilibrated CKs, 3.87 wt% and 0.29%, respectively, with TiO_2, 0.27%; MnO, 0.18%; NiO, 0.31%; and CoO, 0.14%. Phosphate and Ni-, Co-rich pyrrhotite. The meteorite is very fresh. Shock level S2. Specimens: type specimen, 9.1 g, *NAU*; main mass, *Hupé*.

Northwest Africa 1284

Morocco
Found 2001
Carbonaceous chondrite (CK4/5)

A 56 g stone was purchased in Erfoud in October 2001. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): mostly recrystallized olivine-rich matrix with poorly crystallized plagioclase (mottled extinction, low birefringence, and up to 0.12 wt% NiO). Matrix olivine, $Fa_{31.5}$ (range $Fa_{31.1–32.0}$) (0.45 wt% NiO); plagioclase, $An_{51.8}Or_5$ (range $An_{44.5–63.1}$); magnetite, 4.6 wt% Cr_2O_3; 1.62% Al_2O_3; 0.31% NiO; 0.37% TiO_2; 0.25% CoO; and 0.17% MnO. Contains minor pentlandite, pyrrhotite, and phosphate. Low degree of weathering and shock level, S2. Specimens: 11.3 g, *NAU*; main mass, *Hupé*.

Northwest Africa 1465

Western Sahara
Found 2001
Carbonaceous chondrite (CV3 anomalous)

Many pieces totalling 3000 g and mostly covered with fusion crust were found in 2001 by an anonymous finder in the Western Saharan desert. Classification and mineralogy (A. Greshake, *MNB* and M. Kurz, *Kurz*): a type 3 carbonaceous chondrite with chondrules, mineral fragments, and refractory objects in a compact anhydrous matrix of Fe-rich olivine ($Fa_{43–57.6}$), Ca-rich pyroxene, enstatite, forsterite, troilite, magnetite, FeNi-metal, and weathering products; olivine, $Fa_{5.5}$ (range $Fa_{0.4–41.9}$); pyroxene, $Fs_{2.8}$ (range $Fs_{0.8–5.5}$); shows a strong foliation defined by flattened chondrules and refractory objects; the sample contains cm-sized Ca, Al-rich inclusions and large inclusions of dark material (Greshake et al. 2003); oxygen isotope composition of the bulk meteorite

(R. Clayton and T. Mayeda, *UChi*): $\delta^{18}O$ = 4.89‰, $\delta^{17}O$ = 0.71‰; oxygen isotope composition of dark material, $\delta^{18}O$ = 13.08‰, $\delta^{17}O$ = 5.83‰, is not in equilibrium with the host meteorite. Shock stage, S4; degree of weathering, W3. Specimens: type specimen, 21.8 g, and one polished thin section, *MNB*; main mass with anonymous finder.

Northwest Africa 1585, correction

The total known weight and type specimen weight were listed incorrectly in Meteoritical Bulletin 87 (2003). The correct weights are 26.5 g and ~6 g, respectively.

Northwest Africa 1617

Morocco
Purchased 2002 June
Achondrite (winonaite)

A small complete stone (23 g) was purchased in Agadir by a Moroccan dealer for N. Oakes (*Oakes*) in 2002 June. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): medium-grained, equilibrated texture with triple junctions among mineral grains. Mostly magnesian low-Ca pyroxene ($Wo_{2.2}Fs_{11.2}$, FeO/MnO = 13) and forsteritic olivine ($Fa_{11.6}$, FeO/MnO = 24) with Fe-Ni metal (5–10 wt% Ni), chromite (61–62 wt% Cr_2O_3); Cr/(Cr + Al) = 0.878–0.904; Mg/(Mg + Fe) = 0.341–0.319; associated with troilite and interstitial sodic feldspar ($Ab_{81}O_{r3}$). Limonite and minor calcite along grain boundaries presumably are products of terrestrial weathering. Oxygen isotopes (D. Rumble, *CIW*): replicate analyses of acid-washed fragments by laser fluorination gave $\delta^{18}O$ = 5.06‰, $\delta^{17}O$ = 1.85‰, $\Delta^{17}O$ = –0.86 ± 0.02‰. This sample is a FeO-rich member of the winonaite group. Specimens: type specimen, 4.5 g, and one polished thin section, *UWS*; main mass, *Oakes*.

Northwest Africa 1645

Morocco
Purchased 2002 April
Mesosiderite

A very fresh, complete stony iron meteorite of 129 g was purchased from a dealer in Rissani by M. Farmer (*Farmer*) in 2002 April. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): medium-grained, relatively homogeneous assemblage of orthopyroxene (45%), plagioclase (15%), metal (20%), troilite (12%), chromite (8%), and accessory merrillite with an unbrecciated, plutonic igneous texture. The two-phase Fe-Ni metal grains consist of rounded regions of taenite (30 wt% Ni) within kamacite (5 wt% Ni). Compositions of orthopyroxene ($Fs_{29.8–31.0}Wo_{3.1–3.5}$, FeO/MnO = 26.9–30.3) and plagioclase ($An_{89.7–90.5}Or_{0.3–0.6}$) are consistent with those in mesosiderites assigned to class B. Oxygen isotopes (D. Rumble, *CIW*): replicate analyses of acid-washed silicate material by laser fluorination gave $\delta^{18}O$ = 3.79‰, $\delta^{17}O$ = 1.76‰, $\Delta^{17}O$ = –0.25 ± 0.02‰. Specimens: type specimens, 20 g and one polished thin section, *UWS*; main mass, *Farmer*.

Northwest Africa 1649

Morocco
Purchased 2002 October
Achondrite (eucrite, polymict)

A complete fusion-crusted stone of 70.8 g was purchased from a Moroccan dealer by A. and G. Hupé (*Hupé*). Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): clasts of cumulate eucrite debris, composed of anorthite, exsolved pigeonite, silica, troilite, Ni-poor Fe metal and rare ilmenite. Sparse (<5% by volume) clasts of diogenitic orthopyroxene ($Fs_{20.1}Wo_{1.2}$, FeO/MnO = 29.2) and rare, small basaltic eucrite clasts. Unique components include a large (4 mm × 6 mm) quench-textured eucritic rock (composed of glass plus elongate, skeletal low-Ca pyroxene grains with more Fe-rich rims) and a fine-grained ferroan intergrowth (breakdown of former pyroxferroite) consisting of fayalite + hedenbergite + silica in a polygonal texture. Specimens: type specimen, 15 g, and one polished thin section, *UWS*; main mass, *Hupé*.

Northwest Africa 1650

Morocco
Purchased 2002 October
Achondrite (eucrite, polymict)

A complete fusion-crusted stone of 39 g was purchased from a Moroccan dealer by A. and G. Hupé (*Hupé*). Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): breccia composed mainly of crystal fragments of exsolved pigeonite, anorthite, chromite, ilmenite, and rare silica and one large (4 mm) orthopyroxene grain ($Fs_{46.5}Wo_{3.3}$, FeO/MnO = 36.7) in a recrystallized matrix of the same minerals. Polycrystalline clasts include sparse basaltic eucrites and a cumulate eucrite. Specimens: type specimen, 8 g, and one polished thin section, *UWS*; main mass, *Hupé*.

Northwest Africa 1668, additional data

Morocco
Purchased 2002 October
Rumuruti chondrite (R5)

Oxygen isotope analysis by D. Rumble (*CIW*) has confirmed the classification of this stone. Replicate analyses of fresh interior material by laser fluorination gave $\delta^{18}O$ = 4.85‰, $\delta^{17}O$ = 5.32‰, $\Delta^{17}O$ = 2.762 ± 0.002‰. Specimens: type specimen, 24 g, and one polished thin section, *UWS*; main mass, *ROM*.

Northwest Africa 1670

Morocco
Purchased 2001 January
Achondrite (angrite)

A single stone of 29 g mostly covered by fusion crust with mm-sized pores was purchased in Morocco by B. Fectay (*Fectay*). Classification and mineralogy (A. Jambon and O. Boudouma, *UPVI*, and J. A. Barrat, *UAng*): Phenocrysts of fassaitic pyroxenes and olivine in a finely crystallized matrix. Large zoned olivine xenocrysts (several mm in size) with

overgrown tooth-shaped rims (mg# = 0.92 to 0.85–0.55). Core to rims of pyroxene phenocrysts range from mg# 0.68 to 0.60 with FeO/MnO = 76. Matrix contains olivine, pyroxene, kirschsteinite, mg# = 0.13–0.03, anorthite, $An_{98–100}$, and accessory pyrrhotite, apatite, rhönite, Cr-spinel, ulvöspinel and metal. Oxygen isotopes (R. Greenwood and I. Franchi, *OU*): $\delta^{18}O$ = 3.887‰, $\delta^{17}O$ = 1.967‰, $\Delta^{17}O$ = –0.055‰. Specimens: type specimen, 5.8 g, *ENSL*; main mass, *Fectay.*

Northwest Africa 1694

Morocco
Found 2002
Carbonaceous chondrite (CK3)

A 47.1 g stone was purchased in Safsaf in October 2002. Mineralogy and classification (T. Bunch and J. Wittke, *NAU*): fresh stone (shiny fusion crust with slight interior staining near the surface) with 80% fusion crust. Modes (in vol%): matrix, 47; chondrules, 44; sulfides, 6; Cr-magnetite, 2; refractory inclusions, 1. Chondrules range in size from 0.08 to 1.2 mm. Matrix mostly unrecrystallized, fine-grained (<5 μm) olivine, Fa_{37}; augite, $Fs_{15}Wo_{47}$; Ca-poor pyroxene, Fs_{29}; Ni-rich sulfides (Co up to 0.84 wt%); and Cr-rich magnetite (Cr_2O_3 up to 15.1 wt%). Sulfides contain many small (<20 μm), rounded inclusions of Cl-apatite and SiO_2 glass. Similar to, but not paired with, NWA 772. Contains Ca, Al-rich inclusions. Shock level, S1; weathering grade, W0/1. Specimens: type specimen, 9.42 g, and one thin section, *NAU*; main mass, *Hupé*.

Northwest Africa 1756

Morocco
Found 2002
Ordinary chondrite (LL3.0/3.2)

A 68.2 g meteorite was purchased in Safsaf in October 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): monomict chondritic breccia; chondrules are very similar to equivalent chondrules in the LL3.0 Semarkona chondrite in terms of phase/mesostasis compositions, zoning profiles, and textures. Type IA olivine: FeO = 0.21 to 1.94 wt%; CaO = 0.31 to 0.51 wt%. Type IIA olivine: FeO = 11.8 to 15.9 wt%; CaO = 0.10 to 0.19 wt%; P_2O_5 = 0.09 to 0.36 wt%; Chondrule mesostasis is optically isotropic. Matrix metal is Ni-rich (50 to 60 wt%) and occurs in metal-pyrrhotite-haxonite ± magnetite, chromite, carbon, cohenite, 0.1 to 0.2 mm aggregates; metal contains small (<1 μm) SiO_2-rich inclusions. Shock level, S1; one xenolith is S4; weathering grade, W1/W2. Specimens: type specimen, 12.5 g, and two thin sections, *NAU*; main mass, *Hupé*.

Northwest Africa 1789

Northwest Africa
Purchased 1999 December 1
Achondrite (eucrite, monomict)

One complete crusted stone, weighing 44 g, was purchased in Morocco by H. Reyss. Classification and mineralogy (M. Bourot-Denise, *MNHNP*): fine recrystallized, gabbroic texture. Pigeonite ($Fs_{56.5}Wo_{5.5}$) with exsolved augite ($Fs_{27.4}Wo_{41.8}$) is associated with plagioclase ($An_{83–87}$). Sulfide and ilmenite make up large grains; small metal grains are associated with oxides. All minerals, including silica, have rather jagged outlines. Shock stage, S0; weathering grade, W1. Specimens: type specimen 8.5 g, *MNHNP*; main mass with buyer.

Northwest Africa 1817

Morocco
Purchased 2003 January
Mesosiderite

A complete stony iron meteorite (728g) was obtained in Rissani by a Moroccan dealer. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): subequal amounts of metal and silicates in a coarse-grained, unbrecciated, plutonic igneous texture. Metal (about 40 vol%) is concentrated in spheroidal clusters interspersed with more silicate-rich material, and consists mainly of kamacite with included rounded taenite grains and rare schreibersite (Bunch et al. 2004). The remainder of the sample consists mainly of orthopyroxene ($Fs_{31}Wo_2$, FeO/MnO = 23.2–30.1) with lesser amounts of anorthitic plagioclase (An_{92}), irregularly-distributed olivine (~Fa_{40}, FeO/MnO = 42.3), a silica polymorph, troilite, and chromite. Oxygen isotopes (D. Rumble, *CIW*): replicate analyses of acid-washed pyroxene-rich fragments by laser fluorination, $\delta^{18}O$ = 3.19, $\delta^{17}O$ = 1.46, $\Delta^{17}O = -0.22 \pm 0.04$‰. This sample appears to be paired with NWA 1878. Specimens: type specimen, 22.4 g and thin section, *UWS*; 130 g *Oakes,* main mass, *Hupé*.

Northwest Africa 1819

Morocco
Purchased 2003 January
Achondrite (howardite)

Four broken, partly crusted stones (total 68.4 g) were purchased in Rissani by a Moroccan dealer for N. Oakes (*Oakes*) in 2003 January. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): breccia consisting mainly of cumulate eucrite debris with subordinate fragments of pinkish orthopyroxene and sparse basaltic eucrite clasts. The proportion of diogenitic orthopyroxene fragments ($Fs_{1.5}Wo_{24.2}$, FeO/MnO = 24.2) exceeds the 10 vol% necessary to classify this sample as a howardite. The cumulate eucrite debris consists of mineral and polycrystalline clasts composed of pigeonite, anorthite, silica polymorph, troilite, ilmenite, and rare fayalite. Specimens: type specimen, 14 g, and one polished thin section, *UWS*; main mass, *Oakes*.

Northwest Africa 1821

Morocco
Purchased 2003 January
Achondrite (diogenite)

A very fresh, complete stone with black fusion crust (40.1 g) was purchased in Rissani by a Moroccan dealer for N. Oakes (*Oakes*) in January 2003. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): protogranular aggregate of orthopyroxene ($Fs_{25.6}Wo_{2.3}$ to $Fs_{29.1}Wo_{3.3}$; FeO/MnO = 29.3–31.4), containing small inclusions of troilite, magnetite, and aluminous ilmenite, with sparse olivine ($Fa_{32.9}$, FeO/MnO = 43.8) and minor chromite. Specimens: type specimen, 8.1 g, and one polished thin section, *UWS*; main mass, *Oakes*; additional mass, 1 g, *Kurz*.

Northwest Africa 1826

Morocco
Purchased 2003 January
Achondrite (polymict eucrite breccia)

A 500 g broken stone was purchased in Rissani by a Moroccan dealer for N. Oakes (*Oakes*) in January 2003. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): breccia containing clasts of basaltic eucrites and cumulate eucrites plus mineral fragments from same, including anorthite, exsolved pigeonite (FeO/MnO in orthopyroxene = 35.9), silica polymorph, ilmenite, and troilite. No grains of diogenitic orthopyroxene or metal were observed. Specimens: type specimen, 20 g and one polished thin section, *UWS*; main mass, *Oakes*.

Northwest Africa 1827

Morocco
Purchased 2003 June
Mesosiderite

A complete stony iron meteorite (877 g) was purchased in Rissani by a Moroccan dealer for N. Oakes (*Oakes*) in June 2003. Classification and mineralogy (A. Irving and S. Kuehner, *UWS* and T. Bunch, *NAU*): igneous texture, mostly medium-grained but with some large mineral clasts of orthopyroxene and plagioclase (commonly surrounded by metal-rich areas). Predominantly orthopyroxene with about 10 vol% metal (5 wt% Ni), troilite, chromite, merrillite, and sparse, large anorthite clasts ($An_{90.5}Ab_{9}1Or_{0.4}$ to $An_{95.1}Ab_{4.6}Or_{0.2}$). Large orthopyroxene clasts are more magnesian ($Fs_{16.2}Wo_{0.8}$, FeO/MnO = 34.8) than the predominant medium-sized orthopyroxene grains ($Fs_{22.5}Wo_{2.1}$ to $Fs_{27.3}Wo_{2.2}$, FeO/MnO = 29.7–32.7). Small elongate grains of a secondary Ca-Fe-rich phosphate mineral occur along fractures in merrillite grains and probably are of terrestrial origin. Although this sample resembles a "metal-rich diogenite" rather than a mesosiderite, comparative studies by T. Bunch (*NAU*) of this sample, NWA 1879, and similar material provided by A. Jambon (*UPVI*) and M. Farmer (*Farmer*) have demonstrated that all (with an estimated total weight of over 22 kg) are part of a large, heterogeneous mesosiderite (tentatively assigned to class C) containing sparse eucritic and diogenitic clasts (Bunch et al. 2004). Specimens: type specimen, 20 g, *UWS*, 1 g, and one polished thin section, *NAU*; main mass, *Oakes*.

Northwest Africa 1828

Morocco
Purchased 2002 September
Achondrite (eucrite, cumulate)

A complete fusion-crusted stone (16.1 g) was purchased in Agadir by a Moroccan dealer in September 2002 for N. Oakes (*Oakes*). Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): very fractured and recrystallized, with sporadic glass-rich veinlets. Relatively fine-grained assemblage of anorthite (containing minor FeO) and exsolved pigeonite (some exhibiting deformed lamellae of augite in orthopyroxene) with minor Ti-Al-bearing chromite, troilite, ilmenite, and a silica polymorph. No grains of metal were observed. FeO/MnO is 31.3 for orthopyroxene and 31.0 for clinopyroxene. Specimens: type specimen, 3.5 g, and one polished thin section, *UWS*; main mass, *Oakes*.

Northwest Africa 1877

Morocco
Purchased 2003 June
Achondrite (olivine-rich diogenite)

A partly crusted stony meteorite (312 g) was purchased in Zagora by a Moroccan dealer for A. and G. Hupé (*Hupé*) in June 2003 and more of the same material (622 g) was purchased in Tagounite in December 2003. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): coarse-grained, dense, and somewhat friable, with an overall yellow-green color. Harzburgitic peridotite composed of subequal amounts of orthopyroxene ($Fs_{22.4–23.3}Wo_{1.5}$; FeO/MnO = 25.2–29.7) and olivine ($Fa_{27.8}$, FeO/MnO = 44–50) with minor Al-poor chromite [Cr/(Cr + Al) = 84.8–88.0, Mg/(Mg + Fe) = 11.7–19.8], troilite (as abundant blebs within silicates and as inclusions in chromite), and sparse Ni-free metal (partly altered to limonite). The modal amount of olivine estimated from three serial thin sections is approximately 45%, which is consistent with the moderately high density of this meteorite. The relatively magnesian silicate compositions are similar to those in Antarctic olivine diogenite GRA 98108 and quite different from those in another Moroccan olivine diogenite, NWA 1459 (Irving et al. 2003). Unlike both of these examples, however, NWA 1877 does not contain plagioclase. Specimens: type specimen, 24 g, and three polished thin sections, *UWS*; main mass, *Hupé*.

Northwest Africa 1878

Morocco
Purchased 2003 June
Mesosiderite, class B

A complete, crusted stony-iron meteorite (1374 g) was purchased in Zagora by a Moroccan dealer for A. and G. Hupé (*Hupé*) in June 2003. Classification and mineralogy (A.

Irving and S. Kuehner, *UWS*): relatively coarse-grained, with an unbrecciated, plutonic igneous texture, and subequal amounts of metal and silicates. The metal regions consist of kamacite (containing 5% Ni and minor Cr) enclosing rounded grains of taenite (20% Ni). The remainder of the sample consists of low-Ca pyroxene, predominantly orthopyroxene ($Fs_{31.0}Wo_{2.2}$, FeO/MnO = 25.8) with some pigeonite ($Fs_{31.6}Wo_{6.3}$, FeO/MnO = 26.2), and lesser amounts of anorthitic plagioclase ($An_{91.1–92.5}Or_{0.1}$), chromite, a silica polymorph, merrillite, troilite, and rare ilmenite. This sample appears to be paired with NWA 1817. Specimens: type specimens, 21 g, and one polished thin section, *UWS*; 7 g, and one polished thin section, *NAU*; main mass, *Hupé*.

Northwest Africa 1879

Morocco
Purchased 2003 June
Mesosiderite

Two very fresh, complete, crusted specimens (total weight 1624 g) were purchased from a dealer in Erfoud for A. and G. Hupé (*Hupé*) in June 2003. Classification and mineralogy (A. Irving and S. Kuehner, *UWS*): mostly medium-grained, relatively homogeneous assemblage of orthopyroxene (45%), plagioclase (15%), metal (20%), troilite (12%), chromite (8%) and accessory merrillite, with an unbrecciated, plutonic, igneous texture. The two-phase Fe-Ni metal grains consist of rounded regions of taenite (30 wt% Ni) within kamacite (5 wt% Ni). Compositions of orthopyroxene ($Fs_{29.8–31.0}Wo_{3.1–3.5}$, FeO/MnO = 26.9–30.3) and plagioclase ($An_{89.7–90.5}Or_{0.3–0.6}$) are typical for mesosiderites, despite the lack of brecciation in this sample. Both this sample and NWA 1827 appear to be part of a much larger, heterogeneous mesosiderite meteorite under study by A. Jambon (*UPVI*) and T. Bunch (*NAU*). Specimens: type specimens, 22 g, and one polished thin section, *UWS*; 7 g, and one polished thin section, *NAU*; main mass, *Hupé*.

Northwest Africa 1880

Western Sahara
Purchased 2002
Achondrite (diogenite)

A single stone of about 7 g was found in 2002 by an anonymous finder in the Western Sahara and purchased in 2002 in Erfoud. Classification and mineralogy (A. Greshake, *MNB*, and M. Kurz, *Kurz*): dominated by large orthopyroxene crystals, minor phases include olivine, troilite, and Fe-Al-chromite; orthopyroxene, $Fs_{26}Wo_{3.2}$; olivine, $Fa_{29.6}$; oxygen isotopes (I. Franchi and R. C. Greenwood, *OU*): $\delta^{17}O$ = +1.42‰, $\delta^{18}O$ = +3.16‰, $\Delta^{17}O$ = –0.22‰; low degree of shock; low to moderately weathered. Specimens: type specimen; 1.5 g, plus one polished thin section, *MNB*; main mass, anonymous finder.

Northwest Africa 1882

Western Sahara
Found 2003
Mesosiderite

Many stones totaling 4438 g were found in 2003 by an anonymous finder in Western Sahara. Classification and mineralogy (A. Greshake, *MNB*): several stones are partially covered by fusion crust; contains up to several cm-sized metal nodules; metal is mostly kamacite with some taenite; silicate portion is dominantly Mg-rich pyroxene, $Fs_{26}Wo_3$ ($Fs_{23.4–28.7}Wo_{2–4.7}$) and plagioclase, An_{92} ($An_{90.1–94.4}$); accessories include silica, chromite, and phosphate; oxygen isotopic composition (R. Clayton and T. Mayeda, *UChi*): $\delta^{18}O$ = 3.36, $\delta^{17}O$ = 1.42‰.; low degree of shock; low to medium degree of weathering. Specimens: type specimen, 22 g, plus one polished thin section, *MNB*; main mass, S. Ralew, Germany.

Northwest Africa 1906

Morocco
Found 2003
Rumuruti chondrite (R4)

A 560 g stone was purchased in Rissani in June 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): well-defined chondrule outlines with mostly recrystallized matrix and chondrule mesotasis. Olivine, $Fa_{39.4}$; augite, $Fs_{11}Wo_{46.5}$; plagioclase, $An_{11}Or_5$; chromite, Cr/Cr + Fe = 86, Mg/Mg + Fe = 12; pentlandite, Cr = 2.88 wt%, and merrillite. Shock level, S2; weathering grade, W2. Specimens: type specimen, 26.1 g, *NAU*; main mass, *Farmer*.

Northwest Africa 1907

Morocco
Found 2003
Carbonaceous chondrite (CK5)

A 476 g stone was purchased in Rissani in June 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): coarse, recrystallized matrix and some chondrule margins. Olivine is equilibrated at $Fa_{32.3}$ (range, 32.1–32.4) with NiO = 0.52 wt%; large patches of plagioclase with variable composition between An_{32} and An_{60}; magnetite contains 5.3 wt% Cr_2O_3 and 1.88 wt% Al_2O_3, troilite, and phosphate. Shock level, S2/3; weathering grade, W2. Specimens: type specimen, 22.15 g, *NAU*; main mass, *Farmer*.

Northwest Africa 1908

Morocco
Found 2001
Achondrite (eucrite, cumulate)

A 980 g, complete, and very fresh stone was purchased in Rissani in January 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): monomict, orthocumulate eucrite breccia. Contains cumulate, unzoned plagioclase An_{89-90} (N = 24); orthopyroxene with tight compositional cluster at $Fs_{65}Wo_2$ (N = 36) and exsolution lamellae of augite, $Fs_{28}Wo_{44}$; minor TiO_2-rich (18.2 wt%) to TiO_2-poor (<3%) chromite is present as inclusions in pyroxene. Microbreccia shear zones and plastic deformation of adjoining minerals

with melt pockets are common within clasts. Non-sheared clasts are unshocked. Specimens: type specimen, 20.6 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1909

Morocco
Found 2001
Achondrite (eucrite, monomict)

A 1.2 kg, complete, and very fresh stone was purchased in Rissani in January 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): monomict breccia with subophitic to microgabbroic clasts of zoned plagioclase (cores: An_{91}; rims: $An_{80}Or_1$), zoned pigeonite (cores: $Fs_{37}Wo_7$; rims: $Fs_{53}Wo_{11}$), and zoned subcalcic ferroaugite (cores: $Fs_{47}Wo_{20}$, rims: $Fs_{49}Wo_{24}$). Minor phases include ilmenite, chromite, silica, and pyrrhotite. Inclusions of granular, Fe-rich olivine (Fo_{81}), and metal (0.31 wt% Ni; 1.4 wt% Co) are present in pigeonite. Specimens: type specimen, 20.9 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1910

Morocco
Found 2002
Enstatite chondrite (EL6)

A complete 305 g stone was purchased in Erfoud in January 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): fine-grained assemblage of recrystallized enstatite and metal (25.6 vol%); no relic chondrules. Enstatite, $En_{99}Wo_1$ (FeO <0.02 wt%); plagioclase ($Ab_{80}Or_4$); metal (6.1 wt% Ni; 0.7 wt% Co; 0.9–1.3 wt% Si); silica, troilite, daubreelite (3.1 wt% Mn; 0.2 wt% Ni); alabandite (44.3 wt% Mn; 12.9 wt% Fe; 3.3 wt% Mg; 0.25 wt% Ca); and 0.7 vol% fresh oldhamite (50.4 wt% Ca and 1.24 wt% Mn). Weathering grade, W0/1, Shock level, S1. Specimens: type specimen, 20.1 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1911

Morocco
Found 2002
Pallasite (pyroxene-rich)

A 53.07 g complete stone was purchased in Rissani in May 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): high abundance of orthopyroxene; mineral modes of 8 cm^2 (vol%): orthopyroxene, 34.5; olivine, 40.2; metal, 24.3; troilite and chromite, 1%. Orthopyroxene (mg# = 87.5, molar FeO/MnO = 21.6), olivine (mg# = 89.2, FeO/MnO = 34.5), kamacite (7.35 wt% Ni), taenite (33.9 wt% Ni), chromite (59.7 wt% Cr_2O_3). Weathering grade, W1. Specimens: type specimen, 13.1 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1912

Morocco
Found 2002
Mesosiderite

A tiny, single stone of 13.52 g was purchased in Erfoud in March 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): type 2B, contains orthopyroxene fragments, $Fs_{26.4}Wo_2$; molar FeO/MnO = 33, with minor recrystallization at the margins; very calcic plagioclase (An_{96}), chromite (52.8 wt% Cr_2O_3), troilite, silica, and metal (6.4 wt% Ni, 0.78 wt% Co). Shock level, S1; sparse oxidation. Specimens: type specimen, 2.5 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1913

Morocco
Found 2001
Achondrite (ureilite)

A 731 g complete and partially crusted stone was purchased in Erfoud in 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU)*: typical ureilite texture with preferred orientation of elongated silicates. Mineral modes: olivine 68 vol% and pigeonite 32 vol%. Olivine cores, $Fa_{19.2–19.6}$ and reduced rims, $Fa_{1.5–3.0}$. Pigeonite, mostly $Fs_{17}Wo_{11}$. Metal along grain boundaries is 9.3 wt% Ni; and metal together with pyrrhotite as inclusions in pigeonite is 3.6 wt% Ni. Carbonaceous matter is present at grain boundaries; there is no evidence of diamonds. Shock level, S1; weathering grade, W2. Specimens: type specimen, 21.2 g, *NAU*; main mass, *Boswell*.

Northwest Africa 1914

Morocco
Found 2002
Achondrite (howardite)

A 628 g, mostly crusted stone, was purchased in Safsaf, Morocco in 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): fine- to medium-size clasts (<0.5 cm) of diogenites, typical eucrites, and FeO-rich olivine and pyroxene gabbroic clasts (up to 1.2 cm in diameter). Clast modal analyses of 32 cm^2 yield: diogenites, 46 vol%; eucrites, 34 vol%; gabbroic clasts, 10 vol%, shocked clasts, 6 vol%; shock-melted pyroxene and anorthite clasts, 4 vol%. Diogenite pyroxenes: Ca-poor, $En_{61}Wo_5$ with lamellae of $En_{40}Wo_{16}$. Gabbroic clast olivine, $Fa_{81–88}$; pyroxene, $En_{24}Wo_{17}$ to $En_{10}Wo_{26}$, plagioclase, An_{89}. Very fresh interior. Specimens: type specimen, 20.8 g, *NAU*; main mass, *Hupé*.

Northwest Africa 1925

Morocco
Found 2001
Achondrite (eucrite)

A single 86 g complete stone was purchased in Tagounite in 2002 April. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): gabbroic, cumulate eucrite; tabular crystals of plagioclase (<4 mm in longest dimension) poikilitically enclosed by large pyroxenes (up to 8 mm). Plagioclase is An_{91} with melt inclusions of a silica polymorph, Mg-augite, and ilmenite. Complex pyroxenes consist of inverted pigeonite

($Fs_{52.5}Wo_{4.2}$) with broad (5–8 μm) augite exsolution lamellae ($Fs_{25}Wo_{41}$) parallel to (100) of the host opx and blebs of augite that exsolved before or during pigeonite inversion. In additon, relic patches of pigeonite contain fine augite lamellae parallel to (001). Chromite, Cr/Cr + Al = 63–73, pyrrhotite, and tiny inclusions in opx of Ni-poor metal (Ni = 0.48 wt%; Co = 2.28 %) are also present. No ilmenite or silica was found outside of melt inclusions. Shock level, S2/3; weathering grade, W1. Specimens: type specimen, 17.2 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1926

Morocco
Found 2003
Achondrite (ureilite, polymict)

A 36.8 g partial stone was purchased in Rissani in June 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): fragmental breccia with clasts of a poikilitic ureilite embedded in typical ureilite material that consists of olivine with homogeneous cores (Fa_{31}) and reduced rims ($Fa_{2–7}$) and pyroxenes with $Fs_{19.7}Wo_{4.5}$ in cores and $Fs_{9.5}Wo_{1}$ at rims. Heavy concentration of carbonaceous matter; unoxidized metal, Ni = 2.95 wt%. Clasts are composed of large pyroxenes ($Fs_{19.1}Wo_{4.0}$) that poikilitically enclose homogeneous olivine ($Fa_{21.8}$). Clast ureilite contains very little carbonaceous matter in contrast to the host ureilite. Shock level, S2; low degree of weathering. Specimens: type specimen, 6.3 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1939

Morocco
Found 2002
Achondrite (howardite)

A 100.4 g incomplete stone was purchased in Rissani in June 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): medium-grained howardite composed of basaltic eucrites (72 vol%), diogenitic pyroxenes (17 vol%), granular eucrites (8 vol%), and shock clasts. Diogenitic pyroxenes are mostly pigeonite (mean, $Fs_{39.3}Wo_{7.3}$). Basaltic pyroxenes are $Fs_{32.4–47.8}Wo_{3–11.6}$, plagioclase, $An_{89.8}$, with ilmenite, silica, and chromite (Cr/Cr + Al = 0.61). Shock level, S1; slightly weathered. Specimens: 19.5 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1942

Morocco
Found 2001
Achondrite (howardite)

Two stones, total weight 476 g, were purchased in Zagora in April 2002. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): coarse-grained (diogenite clasts up to 12 mm); clast modes: diogenites, 83 vol%; granular eucrites, 8 vol%; basaltic eucrites, 2 vol%; and shocked clasts, 7 vol%. Diogenite pyroxenes, $Fs_{16.8–41.3}Wo_{1.2–9.8}$; plagioclase clasts, An_{92}; metal, Ni = 5.9 wt%, Co = 1.75 wt%. Shock level, S2; slightly weathered. Specimens: 34.2 g, *NAU*; main mass, *Farmer.*

Northwest Africa 1943

Morocco
Found 2001
Achondrite (howardite)

A 1220 g complete stone was purchased in Erfoud in April 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): mostly fine-grained with rare, large clasts of fine-grained eucrite breccias. Clast modes: diogenites, 44 vol%; basaltic eucrites, 17 vol%; cumulate eucrites, 13 vol%; basaltic breccias, 6 vol%; and shocked clasts, 20 vol%. Diogenite pyroxenes, $Fs_{22.5–57.3}Wo_{3–13.5}$; chromite, Cr/Cr + Al = 0.63 and metal, Ni = 5.4 wt%. Remarkably fresh with shiny crust and no oxidation around metal grains. Specimens: type specimen, 22.5, *NAU*; main mass, *Farmer.*

Northwest Africa 1949

Morocco
Purchased 2003 January
Enstatite chondrite (EL6)

A single stone (1400 g) was purchased in Erfoud in January 2003. Classification and mineralogy (A. Jambon and O. Boudouma, *UPVI*): stone has oxidized remnants of fusion crust but a fresh interior. No visible chondrules. Mineral modes: enstatite, 63.3 vol%; feldspar, 12.2 vol%; silica, 1.6 vol%; kamacite, 13.5 vol%; troilite, 4.6 vol%; alabandite, 0.2 vol%; oldhamite, 1.1 vol%; daubreelite, 0.8 vol%; schreibersite, 0.3 vol% assigned to class B; and traces of perryite; graphite occurs as inclusions in kamacite. Kamacite, 0.26 wt% Si; oldhamite, 1.1 wt% Mn. Specimens: type specimen, 32 g, *UPVI*; main mass, Moroccan Imports Asnières (France).

Northwest Africa 1950

Morocco
Found 2001 January and March
Martian meteorite (lherzolitic shergottite)

Two stones (414 and 383 g) were found in the Atlas mountains (Morocco) in January and March 2001. The exact location of the find is unknown. The meteorite is a cumulate peridotitic rock consisting of olivine (~55 vol%), low and high-Ca pyroxenes (~35 vol%), and plagioclase glass (~8 vol%). Accessory minerals include phosphates (merrillite), chromite and spinels (inclusions in olivines and pyroxenes), sulfides (pyrrhotite), and a glass rich in potassium. The igneous texture is very similar to that of the ALHA 77005. Classification and mineralogy (P. Gillet, *ENSL*, J. A. Barrat, *UAng*, M. Bohn, *Ifremer*): pyroxenes are pigeonite, $En_{78}Fs_{19}Wo_{2}$-$En_{60}Fs_{26}Wo_{14}$, and augite, $En_{53}Fs_{16}Wo_{31}$-$En_{45}Fs_{14}Wo_{41}$; maskelynite ranges from $An_{57}Ab_{41}Or_{1}$ to $An_{40}Ab_{57}Or_{3}$. The key element weight-ratios FeO*/MnO are close to 30 for pigeonite and close to 50 for

olivines. Geochemistry: REE pattern similar to that of ALHA 77005 but with higher values. Specimens: type specimen, 20 g, *ENSL*; main mass, *Fectay*.

Northwest Africa 1951
Morocco
Purchased 2003 April and May
Mesosiderite

Several stones totaling 17 kg of the same meteorite were purchased in Talsit in April and May 2003. Classification and mineralogy (A. Jambon and O. Boudouma, *UPVI*): breccia consisting of orthopyroxene clasts (>5 mm) and orthopyroxene-rich matrix with rare plagioclase. No lithic plagioclase or olivine clasts were observed. Metal is bimodal, mm-sized large blebs and small spots in matrix. Orthopyroxene, FeO/MnO = 30.4, $En_{68}Fs_{30}Wo_2$; plagioclase, $An_{89–92}$; low-Ni metal; troilite, Ca-phosphate, silica. Mineral modes: metal, 25 vol%; troilite, 5 vol%; plagioclase, ~3 vol%; orthopyroxene, 63.3 vol%. A mesosiderite tentatively assigned to class C as NWA 1827. Pairing of the two was suggested by T. Bunch, although NWA 1827 does contain plagioclase clasts. Specimens: type specimen, 35 g, *UPVI*; main mass, Moroccan Imports Chula Vista, California.

Northwest Africa 1978
Rissani, Er Rachidia, Morocco
Purchased 2002 February 17
Achondrite (eucrite)

A 617 g stone was purchased by Mike Farmer from a Moroccan dealer. Classification (David A. Kring and Ken Domanik, *LPL*): the specimen is a polymict breccia composed of fine- and medium-grained basaltic clasts, isolated pyroxene crystals, and clasts of breccia within the breccia. The basalts contain high- and low-Ca pyroxene, plagioclase, sometimes silica, ilmenite, troilite, and rare metal. Low-Ca pyroxene: $Wo_{5-2}En_{34-54}Fs_{61-34}$, FeO/MnO = 31. Plagioclase: $An_{81–94}$. The basaltic clasts exhibit fracturing and undulose extinction. Specimens: type specimen, 20 g, and thin section, *UA*; main mass, Mike Farmer.

Northwest Africa 1979
Morocco
Found 2002
Mesosiderite

A 5.12 kg single mass was purchased in Erfoud in 2003. Classification and mineralogy (T. Bunch and J. Wittke *NAU*): typical B2 mesosiderite, based on 8 vol% plagioclase, with a partially recrystallized matrix. Modes (vol%): silicate matrix, 44; metal 33; eucritic clasts (gabbroic), 12; diogenite grains (up to 1.2 cm), 8; and sulfides, 3. Metal grains are typically >2 mm with a few cm-size, subrounded to irregular grains; eucrite clasts <2 cm. Matrix pyroxene, $Fs_{29.7}Wo_2$ and Fe/Mn = 28.7; matrix augite, $Fs_{13}Wo_{43}$; plagioclase, $An_{89.7}$. Gabbroic eucrite inverted pigeonite, $Fs_{30.1}Wo_3$ and Fe/Mn = 26.9; exsolved augite, $Fs_{14.8}Wo_{43}$; plagioclase, An_{91}. Metal, Ni = 6.7 wt%, Co = 0.82%. Not paired with NWA 1827. Weathered crust, but with very fresh interior. Specimens: 22 g, *NAU*; main mass, *Boswell*.

Northwest Africa 1980
Morocco
Found 2002
Achondrite (eucrite)

A 546 g fully crusted stone was purchased in Erfoud in 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): monomict, cumulate eucrite breccia; clast size, millimeters to 6 cm; cataclastic, microgranular veining with minor recrystallization. Inverted pigeonite ($Fs_{48}Wo_{2.5}$); augite lamellae ($Fs_{15}Wo_{46}$); plagioclase (An_{93}); sulfide, ilmenite, chromite (Cr/Cr + Al = 65), and metal (Ni = 7.1 wt%). Shock level, S3/4; reduced birefringence, mosaicness, and deformation lamellae in pyroxenes; minor development of maskelynite. Very fresh, shiny black fusion crust and unoxidized metal; minor terrestrial carbonate alteration veins. Specimens: 23 g, *NAU*; main mass, *Boswell*.

Northwest Africa 1981
Morocco
Found 2002
Achondrite (polymict eucrite)

A 197 g complete and crusted stone was purchased in Erfoud, Morocco in 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): unique, highly shocked (S5) polymict breccia. Flow orientation of partially granulated clasts; enlongated melt pockets with fine-grain crystallites of plagioclase, pyroxenes, and silica, and minor remnant glass. Pyroxenes: extensive development of planar deformation features and fractures, reduced birefringence, and minor recrystallization. Presence of maskelynite. Eucrite clasts: 82 vol% are cumulate, 18% are basaltic. Cumulate pyroxenes: opx mean = $Fs_{49}Wo_{13}$, Fe/Mn = 27.4 exsolved augite = $Fs_{15}Wo_{44}$; pigeonite mean = $Fs_{42}Wo_{13}$, Fe/Mn = 29.3; anorthite range, $An_{70.3–92.8}$. Minor ilmenite, sulfides, phosphate, and silica polymorph. Very fresh, no apparent iron staining. Specimens: 21.3 g, *NAU*; main mass, *Boswell*.

Northwest Africa 1982
Morocco
Found 2000
Achondrite (ungrouped)

A 368 g partially crusted stone was purchased in Rissani in 2001. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): cataclastic pyroxenite with randomly dispersed metal grains; partial recrystallization of matrix and along fractures of large (up to 5 mm) orthopyroxene grains. Mineral modes: orthopyroxene, 68 vol%; metal, 12%; plagioclase, 8%; troilite, 3%; ilmenite, 3%; phosphate, 2%; spinels, 2%; and augite, 2%. Opx = $Fs_{28}Wo_3$; kamacite, Ni = 4.8 to 5.4 wt%;

taenite, Ni = 31.4 to 36.7%; plagioclase = An_{90}; spinel #1, Al_2O_3 = 61 wt%, MgO = 21.4%, FeO = 13.2%; spinel #2, Cr_2O_3 = 35.9%, Al_2O_3 = 33.0%, MgO = 17.9%, FeO = 13.1%; augite = $Fs_{13}Wo_{43}$. Oxygen isotope composition is somewhat outside the range of HED and closest to brachinites and IAB-IIICD irons (R. N. Clayton, *UChi*): $\delta^{18}O$ = +3.78‰, $\delta^{17}O$ = +1.47‰, $\delta^{17}O$ = –0.50‰. Cosmic ray exposure age (O. Eugster, *UBE*): of 18.6 + –2.0 Ma falls on the major CRE cluster of the HED meteorites. Not paired with NWA 1827 or 1879 mesosiderite C. Shock level, S1; weathering grade, W1. Specimens: type specimens, 13.8 g, i, 11.5 g with O. Eugster, *UBE*; main mass, *Fectay.*

Northwest Africa 2019

Northwest Africa
Purchased 2003
Mesosiderite

A mass of 534 g was purchased by P. Thomas in 2003. Classification and mineralogy (M. Bourot-Denise, *MNHNP*): the silicate portion is diogenitic, about 90% consist of large (400 μm), angular, chemically homogeneous crystals of orthopyroxene ($Fs_{28.4}$); olivine is absent; augite ($Fs_{13.4}$ $Wo_{41.9}$) is rare; plagioclase ($An_{89.8}$) is present as large patches, homogeneously distributed; silica forms a few patches, and merrillite is associated with metal. Fe-Ni metal forms large, jagged grains; it is mainly kamacite, with minor tetrataenite generally associated with schreibersite; troilite is in small grains. Paired with NWA 1827 and NWA 1879; total mass is estimated to be larger than 60 kg. Weathering grade is W1. Specimens: type specimen, 31 g, *MNHNP*; main mass with buyer.

Northwest Africa 2036 **31°35.5′N, 5°46.0′W**

Morocco
Found 2002 August 24
Enstatite chondrite EL6

A single stone of 390 g, with a well-preserved, thick (up to 1 mm) fusion crust and clearly visible shiny flow lines, was found by Abdelaziz Ermili (boulevard Mohamed V, Boumalne Dades, Ouarzazate, Morocco) and Hay Abdelkrim, at Adrar Mkorn, NE Boulmane, Morocco. According to the discoverers, nomads reported seeing in late 1999 "a furious lighting…as a ball of fire falling from the sky" in the vicinity of the find. An end-cut of 26.6 g was entrusted to Alain Gallien for identification. Magnetic measurements ($\log_\chi$ = 5.56, compared to 5.44 ± 0.1 for the mean on fresh EL) and visual examination by Pierre Rochette (*CEREGE*) indicated a probable enstatite chondrite. Classification and mineralogy (Bertrand Devouard, *Blaise Pascal University, Clermont-Ferrand, France*): equilibrated texture with abundant metal, grain sizes 50–300 microns, no clear chondrules or relics of chondrules visible on the polished end-cut. Major phases are enstatite ($En_{98.3}Wo_{1.4}Fs_{0.3}$), kamacite (with 6.6 wt% Ni and 1.2 wt% Si), plagioclase (An_{14}), and troilite (with 0.65 wt% Ti and 0.94 wt% Cr). Minor phases include daubreelite, alabandite (4.0–7.6 wt% Mg, average 4.9), oldhamite, an SiO_2 phase containing some Al, and rare graphite. Weathering grade W0. Specimens: type specimen, 25.3 g, *MNHNP*; main mass with the discoverers.

Northwest Africa 2046

Algeria
Purchased 2003 September
Martian meteorite (basaltic shergottite)

A 63 g complete and partially crusted stone found near Lakhbi, Algeria was purchased from a Moroccan dealer in September 2003 by M. Farmer (*Farmer*). The ellipsoidal stone has an average width of 30 mm, with a 1 to 3 mm-thick weathering rind; the interior is very fresh and unweathered. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*; A. Irving and S. Kuehner, *UWS*): olivine-orthopyroxene-phyric basaltic rock. Subhedral to euhedral, dark brown olivine phenocrysts (up to 2.2 mm long) are strongly zoned from cores of $Fa_{15.7}$ to rims of $Fa_{47.9}$, and subhedral to euhedral, prismatic orthopyroxene phenocrysts (up to 2.1 mm long) have cores as magnesian as $Fs_{17.7}Wo_{2.5}$, surrounded by irregularly zoned mantles with both pigeonite and augite, and pigeonite rims as ferroan as $Fs_{39.0}Wo_{12.5}$. The groundmass consists mainly of zoned pigeonite ($Fs_{30}Wo_{6.5}$ to $Fs_{40}Wo_{13}$) intergrown with maskelynite (zoned from cores of $Ab_{25.5}Or_{0.1}$ to rims of $Ab_{36.5}Or_{1.1}$) and small grains of relatively ferroan olivine ($Fa_{47.6–58.1}$). Accessory minerals include Ti-chromite (Al/(Al + Cr) = 13.8–28.3), chromite, ilmenite, Cr-ulvöspinel, pyrrhotite (commonly in parallel growth with ilmenite), merrillite,, rare chlorapatite, and rare fayalite (which occurs as a reaction rim on groundmass pigeonite in contact with ilmenite or pyrrhotite). Trapped melt inclusions in olivine contain aluminous diopside, pleonaste, chromite, merrillite and glass. Large, prismatic orthopyroxene phenocrysts exhibit preferred orientation; olivine phenocrysts are weakly oriented and tend to occur in clusters. Textures and mineral compositions are similar to those in olivine-orthopyroxene-phyric shergottite NWA 1195, but the olivine cores in NWA 2046 are more magnesian (Irving et al. 2004). Specimens: type specimen, 12.2 g, and one polished thin section, *NAU*; one polished thin section, *UWS*; main mass, *Strope*.

Northwest Africa 2059

Morocco
Found 2003
Achondrite (diogenite, polymict)

A 36 g partially crusted and complete stone was purchased in Erfoud in July 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU)*: plentiful, angular orthopyroxene clasts of considerable compositional range ($Fs_{17.7–47.5}Wo_{1.9–4.2}$) and a few large plagioclase clasts ($An_{81–91.6}$) together with sparse cumulate and basaltic eucrite clasts. Clast modes: diogenite,

87 vol%; eucrite, 9 vol%; plagioclase clasts, 2%; and shock clasts, 2 vol%. Small metal inclusions (<0.01 mm) in diogenite pyroxenes have very low Ni (0.15–0.37 wt%). Cumulate basaltic pyroxenes average $Fs_{41.6}Wo_{24.6}$. Overall mildly shocked; very little weathering. Specimens: type specimen, 7.3 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2060

Morocco
Found 2003
Achondrite (howardite)

A 985 g, very fresh stone with shiny fusion crust, was purchased in Rissani in July 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): a howardite of unusual characteristics. Fine-grained and powdery, average clast and mineral grain size is <2 mm with few clasts >3 mm. Clast modes: diogenites, 74 vol%; eucrites, 20 vol% (12% cumulate, 8% basaltic); anorthositic-like clasts, 3%; shock melt clasts, 2%; and opaques, 1%. Diogenite orthopyroxene, $Fs_{35.6–38.8}Wo_{2.3–4.2}$; plagioclase, An_{87}; chromite, Cr/(Cr + Al) = 0.81; metal, Ni = 0.67 wt%. Melt inclusions in opx contain Ca-rich pyroxene, $Fs_{33.3}Wo_{37.5}$; phosphate, silica phase, and K-rich glass. Plagioclase-pyroxene cumulates, $Fs_{38.2}Wo_{21}$; plagioclase, An_{86}. Other eucrite textures include recrystallized, granular, ophitic, subophitic, and variolitic ($Fs_{31.6}Wo_7$ and $Fs_{61.8}Wo_{33}$). Plagioclase-rich clasts have 95 vol% plagioclase ($An_{96.1}$). Mildly shocked; no apparent oxidation or Fe staining. Specimens: 26 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2061

Morocco
Found 2003
Achondrite (eucrite)

A 135 g very fresh and fully crusted complete stone was purchased in Erfoud in July 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): unbrecciated, porphyritic basalt with long (up to 9 mm) phenocrysts of low-Ca pyroxenes set in a matrix of smaller pyroxenes and blocky to acicular plagioclase. Clots (3–8 mm in diameter) of low-Ca pyroxene phenocrysts set in radiating bundles of plagioclase (variolitic texture) are distributed throughout the specimen. Main mass, low-Ca pyroxene phenocrysts are zoned from cores of $Fs_{29.8}Wo_{4.9}$ to pigeonite rims of $Fs_{49}Wo_{12}$; Fe/Mn = 29.8 and 37.2, respectively. Small inclusions of metal (Ni = 0.05 to 0.25 wt%) are sparsely distributed. Blocky to acicular plagioclase is $An_{83.7}Or_2$ with a small compositional range. All plagioclase, regardless of size and morphology, contains FeO up to 0.97 wt%. Clot pyroxene cores are $Fs_{42.9}Wo_{28}$ (Fe/Mn = 35.6) and rims are $Fs_{49.2}Wo_{25.1}$ (Fe/Mn = 36.1). Very fresh with no apparent weathering; shock level, low shock. Specimens: type sample, 21.7 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2062

Morocco
Found 2003
Achondrite (eucrite)

A 50.3 g partial stone with 20% crust was purchased in Erfoud in July 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): fine-grained subophitic to intergranular basalt with recrystallized, cataclastic enclaves and thin, shock-melt veins. A swirling pattern of glass is evident. Orthopyroxene compositions are tightly clustered around $Fs_{63.1}Wo_{2.1}$ (Fe/Mn = 32.7); Ca-rich pyroxene centered about $Fs_{25.2}Wo_{48.1}$. Plagioclase, $An_{91.3}$. Minor phases include silica, ilmenite, chromite, low Ni-metal, and phosphate. Weathering grade, W1; exterior iron oxides and caliché; slight interior staining. Shock level is variable. Specimens: 13.8 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2063

Morocco
Found 2003
Achondrite (eucrite, monomict)

A 95.8 g partial stone with 50% crust was purchased in Erfoud in July 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): coarse-grained variolitic to subophitic with sparse, large (2–4 mm) orthopyroxene phenocrysts; small (<1–3 mm) enclaves of fine-grained variolitic texture without phenocrysts; lightly brecciated with minor recrystallization. Orthopyroxene phenocrysts, $Fs_{58.5}Wo_2$ (Fe/Mn = 29.6–32.8); matrix augite, $Fs_{24.8}Wo_{43.6}$; plagioclase, $An_{81.7}Or_5$. Minor chromite, ilmenite and silica. Incipient maskelynite, planar fractures, mosaicism, and reduced birefringence in pyroxenes; sample is moderately shocked. Interior very fresh. Specimens: type sample, 20.8 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2064

Morocco
Found 2003
Achondrite (eucrite, cumulate)

A 94.4 g complete and fully crusted stone was purchased in Erfoud in July 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): coarse-grained (<3.2 mm) cumulate basalt; cumulate plagioclase with intercumulus pyroxene and minor ilmenite. Plagioclase, $An_{91.8}Or_1$; orthopyroxene, $Fs_{49.5}Wo_{1.8}$ with exsolution lamellae of $Fs_{41.5}Wo_{12.8}$; augite, $Fs_{9.1}Wo_{44}$. Subrounded, cm-size clasts set in finely crushed, unrecrystallized matrix; very mildly shocked. Very fresh with no apparent weathering; shiny fusion crust. Specimens: 21.1 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2065

Morocco
Found 2003
Achondrite (eucrite)

A 58 g partial stone with 40% crust was purchased in Erfoud in July 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): monomict breccia of highly variable textures; fine-grained (<1 mm) cumulate to subophitic with a partial

overlay of metamorphic-granular (prominent 120° triple junctions). Cumulate areas: orthopyroxene host $Fs_{58.2}Wo_{2.1}$; exsolution lamellae, $Fs_{25}Wo_{45}$; plagioclase, $An_{90.1}$, Cr/(Cr + Al) = 0.87; subophitic Ca-poor pyroxene, $Fs_{62.3}Wo_5$, with exsolved $Fs_{27}Wo_{43.9}$. This specimen probably sustained high shock levels, but shock indicators were mostly annealed-out during post-impact metamorphism. Very fresh, little apparent weathering. Specimens: type, 11.6 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2066

Morocco
Found 2003
Achondrite (eucrite, monomict)

A 58.2 g complete stone with 90% crust was purchased in Erfoud in July 2003. Classification and mineralogy (J. Wittke and T. Bunch, *NAU*): brecciated, medium- to coarse-grained (<3 mm) ophitic to subophitic basalt. Orthopyroxene $Fs_{61.8}Wo_{2.2}$ with exsolved augite lamellae of $Fs_{25.4}Wo_{45.4}$; plagioclase, $An_{91.2}$; chromite, Cr/(Cr + Al) = 0.85; and minor ilmenite, silica, sulfide, and phosphate. Minor recrystallization of shocked pyroxenes and annealing of plagioclase and pyroxenes (shock decorations); incipient maskelynite, and parallel fractures in pyroxenes; moderately shocked. Dull fusion crust and minor staining. Specimens: type, 11.5 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2068

Morocco
Found 2002
Rumuruti chondrite (R3.8)

A 134 g partial stone was purchased in Erfoud in July 2003. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): unbrecciated, unequilibrated with little matrix olivine; chondrule mesostasis poorly crystallized. Matrix olivine, $Fa_{39.5 \pm 1.8}$; chondrule and matrix olivine range, $Fa_{15.3–42}$; opx, $Fs_{20.5}Wo_{0.5}$; poorly crystallized plagioclase, $An_{10.2}Or_4$; pentlandite, Ni = 30.4 wt%, Co = 1.3%; chromite, Cr/(Cr + Al) = 0.91. Shock stage, S2; weathering grade, W2. Specimens: 23.2 g, *NAU*; main mass, *Boswell*.

Northwest Africa 2079

Morocco
Found 2002
Achondrite (eucrite, monomict)

A 496 g partial stone with 70% fusion crust was purchased in Rissani in March 2002. Classification and mineralogy (T. Bunch and J. Wittke, *NAU*): brecciated basalt with <15 vol% cataclastic matrix; clast grain size range, 1.5 mm to 0.4 mm; cumulate texture with strong, preferred orientation of plagioclase and pyroxene crystals in most clasts. Orthopyroxene, $Fs_{55–61}Wo_{1.5–2.1}$; exsolution lamellae, $Fs_{44–47}Wo_{15–21}$; plagioclase more sodic than most typical eucrites; $An_{77–82}Or_{2.5–4.1}$; minor silica, ilmenite, and chromite. Moderately shocked, parallel fracturing, and mosaicism in pyroxenes and reduced birefringence in major minerals. Very fresh interior with greenish appearance. Specimens: 21.3 g, *NAU*; main mass, *Hmani*.

Northwest Africa 2098

Morocco
Found 2002
Achondrite (ureilite)

A single stone of 1333 g was found by Moroccan nomads in 2002 and sold in Morocco. Mineralogy and classification (J. Schlüter, *Ham*): typical granoblastic ureilite texture with olivine and pigeonite in the grain size range of 300–1500 μm. Mean olivine, $Fa_{12.4}$, range $Fa_{11.9–12.5}$; mean pigeonite, $Fs_{10.8}$, range $Fs_{10.6–11.0}$; $Wo_{6.18}$, range $Wo_{4.73–9.31}$. Pigeonite shows 0.3 wt% Cr_2O_3. Intergranular graphite laths up to 150 μm wide and 1500 μm in length. Moderate weathering grade, sets of planar fractures in olivine indicate shock stage S3. Specimens: type specimen, 28 g, *Ham*; main mass, Horst Burkard, Bonn.

Northwest Africa 2234 **30°55′N, 4°54′W**

South East Morocco
Found 2000
Achondrite (ureilite)

A single 422 g stone was found by an anonymous person. Classification (H. Takeda, *Chiba*, A. Yamagushi *NIPR*): the meteorite is a crystalline ureilite composed of coarse, shocked dusty olivine (cores $Fo_{82–92}$, rims $Fo_{94–98}$) and pigeonite ($Wo_9En_{74}Fs_{17}$). Opaque carbonaceous matters occurs in parts of narrow intergranular veins, mostly filled with iron oxides and hydroxides. Shock stage, S3; weathering grade, W2. Specimens: types specimen, 20 g, and thin section, *NIPR;* main mass, *Fectay.*

Northwest Africa 2235

Near Alnif, Morocco
Found 2000
Achondrite (lodranite)

A 64 g stone was purchased by Bruno Fectay and Carine Bidaut from an anonymous fossil hunter who found it within 100 km of Alnif. Classification (H. Takeda, *Chiba*, A. Yamaguchi, *NIPR*): the meteorite is a coarse-grained aggregate (0.5–2 mm in longest dimension) with triple point junctions, consisting mainly of olivine (Fo_{88}), orthopyroxene ($Wo_2Fo_{85}Fs_{13}$), Fe-Ni metal, troilite and minor augite ($Wo_{40}Fo_{54}Fs_6$), and chromite (Cr/(Cr + Al) = 0.85, Fe/(Fe + Mg) = 0.63. Shock stage, S1; weathering grade, W1. Specimens: type specimen, 13 g, and thin section, *NIPR*; main mass, *Fectay.*

Northwest Africa 2236

South East Morocco
Found 1999
Achondrite (ureilite)

A 29.8 g stone was found by an anonymous person. Classification (H. Takeda, *Chiba*, A. Yamagushi, *NIPR*): it is composed of medium to coarse (1–2 mm) olivine (Fo of cores, 97) and small orthopyroxene grains ($Wo_{4.8}Fo_{92.3}Fs_{3.0}$). Minor twinned diopside grains ($Wo_{38}Fo_{60}Fs_2$) are present. Carbonaceous matter occurs as narrower intergranular veins than common ureilites. A few olivine crystals grow larger (up to ~3 mm) than average grains alone one direction. Shock stage, S1; weathering grade, W1. Specimens: type specimen, 5.9 g, and thin section, *NIPR*; main mass, *Fectay*.

Northwest Africa 2246

Northwest Africa
Purchased 2003 January 1
Achondrite (eucrite, polymict)

A mass of 11.8 g was purchased by M. Zicaro. Classification and mineralogy (M. Bourot-Denise, *MNHNP*): a homogeneous matrix contains orthopyroxene clasts of slightly larger grain size and basaltic-textured clasts, along with a few silica patches. The most abundant pyroxene is pigeonite ($Fs_{22.5}$), generally containing augite lamellae. Plagioclase, $An_{77.8–90.8}$. Low shock stage; weathering grade, W1. Specimens: type specimen, 2.5 g, *MNHNP*; main mass with buyer.

Northwest Africa 2247

Northwest Africa
Purchased 2003 January 1
Achondrite (eucrite, polymict)

A fully crusted stone (8.6 g) was purchased by M. Zicaro. Classification and mineralogy (M. Bourot-Denise, *MNHNP*): overall grain size is rather fine; monocrystalline diogenitic clasts, fine basaltic clasts of pigeonite with augite exsolutions, SiO_2-troilite-rich clasts. Matrix essentially consists of pyroxene ($Fs_{21.8}$) and plagioclase ($An_{72.3–90.0}$); abundant chromite-ilmenite associations; rare, small Fe-Ni metal grains. Low shock stage; weathering grade, W1. Specimens: type specimen, 1.7 g, *MNHNP*; main mass with buyer.

Northwest Africa 3003

Morocco
Found 2002
Carbonaceous chondrite (CO3)

A single compact roundish brown stone of 351 g lacking fusion crust was found by Moroccan nomads and sold in Morocco. Mineralogy and classification (J. Schlüter, Hamburg): abundant small well-defined chondrules in the 150–200 μm range, olivine aggregates, abundant troilite, rare metal grains, few small fine-grained calcium-aluminium inclusions. Mean olivine, $Fa_{20.78}$ (range $Fa_{0.49–50.44}$). Weathering grade, W2; shock stage, S2. Oxygen isotopes (U. Wiechert, *ETH*): $\delta^{17}O = –4.58$, $\delta^{18}O = –0.73$, $\Delta^{17}O = –4.19‰$. Specimens: type specimen, 20 g, *Ham*; main mass, Horst Burkard, Bonn.

Northwest Africa 3004

Morocco
Found 2002
Carbonaceous chondrite (CV3)

A single dull black stone of 175 g partly covered with fusion crust was found by Moroccan nomads and sold in Morocco. Mineralogy and classification (J. Schlüter, *Ham*): the meteorite consists of chondrules of different structures and mineralogies in the 800–2400 μm range with single chondrules up to 5000 μm in size, olivine aggregates, mineral grains, and several fine-grained convoluted calcium-aluminium inclusions (up to 2000 μm) set in a dark matrix; rare metal grains. Mean olivine, $Fa_{4.07}$ (range $Fa_{0.33–23.45}$); mean pyroxene, $Fs_{1.73}$ (range $Fs_{0.59–3.39}$); $Wo_{0.72}$ (range $Wo_{0.48–1.02}$). Weathering grade, W1; shock stage, S2. Oxygen isotopes (U. Wiechert, *ETH*): $\delta^{17}O = –2.07$, $\delta^{18}O = +2.49$, $\Delta^{17}O = 3.39‰$; 2nd analysis $\delta^{17}O = –3.29$, $\delta^{18}O = +0.80$, $\Delta^{17}O = –3.71$. Specimens: type specimen, 22 g, *Ham*; main mass, Horst Burkard, Bonn.

Northwest Africa 3008

Morocco
Found 2002
Primitive achondrite (acapulcoite)

A single black stone of 157 g with fusion crust was found by Moroccan nomads and sold in Morocco. Mineralogy and classification (J. Schlüter, Hamburg): granoblastic texture with grain sizes in the range of 100–300 μm. Mean olivine ($Fa_{12.7 \pm 0.3}$), mean orthopyroxene ($Fs_{13.0 \pm 0.1}$), and kamacite (6.61 wt% Ni, 0.27 wt% Co) are the main components; tiny metal plebs occur in olivine and orthopyroxene; rich in plagioclase (mean $Ab_{79.0}$, range $Ab_{76.7–83.4}$; mean $An_{18.26}$, range $An_{13.3–20.5}$; mean $Or_{2.8}$, range $Or_{2.2–3.3}$) and troilite. Minor phases are clinopyroxene (mean Cr_2O_3, 1.46 wt%), chromite, fluorapatite, and merrillite (Mg end member). Noble gases (L. Schultz, Mainz); the exposure age of 6.8 ± 0.6 Ma is within the acapulcoite/lodranite range. Weathering grade, W2; shock stage, S1. Specimens: type specimen, 36 g, *Mineralogical Museum Hamburg*; main mass, Horst Burkard, Bonn.

Northwest Africa 3055

Northwest Africa
Found 2003
Mesosiderite

A single stone of 1600 g partly covered by fusion crust was found in 2003 by an anonymous finder in the Western Saharan desert. Classification and mineralogy (A. Greshake and M. Kurz, *MNB)*: stony portion consisting of large orthopyroxene, plagioclase, and phosphates grains with minor chromite, troilite, and small FeNi-metal inclusions; orthopyroxene, $Fs_{27.1}$ (range $Fs_{25.8–29.4}$); plagioclase, $An_{92.6}$ (range $An_{91.2–95.5}$); contains regions dominated by large olivine ($Fa_{28.8}$) grains with numerous small FeNi-metal, chromite, and orthopyroxene inclusions; metal is mostly kamacite with some

taenite; low degree of shock; low degree of weathering. Specimens: type specimen, 21.1 g, plus one polished thin section, *MNB;* main mass with anonymous finder.

Northwest Africa 3056

Northwest Africa
Found 2003
Achondrite (eucrite)

Several small stones totalling 68 g were found in 2003 by an anonymous finder in the Western Saharan desert and purchased in Zagorra in 2003. Classification and mineralogy (A. Greshake and M. Kurz, *MNB*): monomict breccia dominated by large blocky pagioclase and less abundant pigeonite with augite exsolution lamellae; plagioclase, $An_{96.5}$; low-Ca pyroxene, $Fs_{36.1–38.4}Wo_{2.8–3.1}$; augite, $Fs_{16.1–40.5}Wo_{41.4–43.8}$; phases include silica, chromite, and Mg-Al-rich chromite; moderate degree of shock; low degree of weathering. Specimens: type specimen, 14.8 g, plus one polished thin section, *MNB*; main mass with anonymous finder.

Northwest Africa 3066

Northwest Africa
Found 2002
Achondrite (eucrite)

A single stone of 34.9 g was found in 2002 by an anonymous finder in the Western Saharan desert and purchased 2002 in Tagounite. Classification and mineralogy (A. Greshake and M. Kurz, *MNB*): polymict breccia with clastic texture of basaltic, impact melt, and abundant mineral clasts set into a fine-grained matrix of compositionally zoned orthopyroxene ($Fs_{21–54.3}$), exsolved Ca-pyroxene, and opaques; plagioclase, $An_{93.1}$; pigeonite, $Fs_{31.7–58.3}Wo_{5.1–14.4}$; augite, $Fs_{23.9}Wo_{35.1}$; minor phases include silica, ilmenite, troilite, and chromite; low degree of shock; low degree of weathering. Specimens: type specimen, 7.1 g, plus one polished thin section, *MNB*; main mass Christian Anger, Austria.

Northwest Africa 3074

Northwest Africa
Found 2002
Achondrite (eucrite)

Three stones totalling 292 g were found in 2002 by an anonymous finder in the Western Saharan desert. Classification and mineralogy (A. Greshake and M. Kurz, *MNB*): polymict fragmental breccia with dominantly plagioclase and pyroxene clasts set into a fine-grained matrix of zoned orthopyroxene ($Fs_{26–72.3}$), exsolved Ca-pyroxene, and opaques; lithic clasts include basalts with exsolved Ca-pyroxenes and impacts melt fragments; plagioclase, $An_{91.6}$; pigeonite, $Fs_{35.5–53.2}Wo_{5.2–13.6}$; augite, $Fs_{33.6–36.5}Wo_{27.3–36.4}$; minor phases include olivine ($Fa_{24.3}$), silica, ilmenite, and troilite; low degree of shock; low degree of weathering. Specimens: type specimen, 21.2 g, plus one polished thin section, *MNB*; main mass with anonymous finder.

Northwest Africa 3075

Northwest Africa
Found 2002
Achondrite (eucrite)

A single stone of 446 g completely covered by fusion crust was found in 2002 by an anonymous finder in the Western Saharan desert. Classification and mineralogy (A. Greshake and M. Kurz, *MNB*): polymict breccia with basaltic impact melt and large minerals clasts set into a more fine-grained matrix of plagioclase, pigeonite with augite exsolution lamellae, and opaque phases; some clasts show cumulate texture; plagioclase, An_{87} (range $An_{83.4–88.2}$); pigeonite, $Fs_{32.9–74.2}Wo_{7.5–16.7}$; augite, $Fs_{64.7}Wo_{21.6}$; minor phases include silica, chromite, and phosphates; numerous shock veins, strong mosaicism of pyroxene, and strong undulatory extinction of plagioclase attest high degree of shock; moderate degree of weathering. Specimens: type specimen, 20.2 g, plus one polished thin section, *MNB*; main mass with anonymous finder.

Northwest Africa 3078

Northwest Africa
Found 2002/2003
Achondrite (howardite)

One single stone of 733 g mostly covered with fresh fusion crust was found in the winter of 2002/2003 by an anonymous finder in the Western Saharan desert. Classification and mineralogy (A. Greshake and M. Kurz, *MNB*): polymict breccia dominated by often chemically zoned orthopyroxene fragments set into a clastic matrix. Other types of fragments include large blocky pagioclase, pigeonite with augite exsolution lamellae, and unusual orthopyroxene and sulfide-rich clasts; orthopyroxene, $Fs_{23.8–47.7}Wo_{1.4–3.3}$; plagioclase, $An_{90.9}$; pigeonite, $Fs_{25–40.3}Wo_{5.1–6.3}$; augite, $Fs_{17.7–29.6}Wo_{27.3–42.4}$; minor phases are sulfides, FeNi metal, chromite, and Al-Ti-rich chromite; low degree of shock; low degree of weathering. Specimens: type specimen, 20 g, plus one polished thin section, *MNB*; main mass with anonymous finder.

Northwest Africa 3081

Morocco
Found winter 2002/2003
Carbonaceous chondrite (CK5/6)

A single stone of 207.9 g was found in the winter of 2002/2003 by an anonymous finder in the Western Saharan desert and purchased in 2003. Classification and mineralogy (A. Greshake, *MNB*): exhibits fine-grained texture with strongly recrystallized matrix dominating over rare chondrules and mineral fragments; feldspar is abundant in the matrix; olivine, $Fa_{33.2}$; feldspar, $An_{22.3–73.3}$; contains Cr-rich magnetite and minor augite; oxygen isotopic composition (R. Clayton and T. Mayeda, *UChi*): $\delta^{17}O = –3.69‰$, $\delta^{18}O = +0.64‰$, $\Delta^{17}O = –4.02‰$; low degree of shock; strong

degree of weathering. Specimens: type specimen, 25.9 g, plus one polished thin section, *MNB*; main mass with anonymous finder.

Northwest Africa 3082
Northwest Africa
Found 2003
Achondrite (eucrite)

Two small stones totaling 7.4 g were found in 2003 by an anonymous finder in the Western Saharan desert. Classification and mineralogy (A. Greshake and M. Kurz): displays a widely unbrecciated basaltic texture of dominantly exsolved Ca-pyroxene and large blocky plagioclase; pigeonite, $Fs_{50.1–53.3}Wo_{9.7–14.8}$; augite, $Fs_{40.9–44}Wo_{21.2–24.1}$; plagioclase, $An_{82.1}$; minor phases include silica, ilmenite, troilite, Al-Ti-rich chromite, and Fe-rich orthopyroxene with $Fs_{59.9}$; low degree of shock; low degree of weathering. Specimens: type specimen, 4.6 g plus, one polished thin section, *MNB*; remaining mass with anonymous finder.

Northwest Africa 3132
Purchased early 2003 in Rissani, Morocco
Enstatite chondrite (EL3)

A stone of 125.39 g was purchased in a market in Morocco. Classification (G. Huss, *ASU*) : EL chondrite, type 3, S2, W4. Fo = 100, Fs = 0.55 ± 0.46, Wo = 0.44 ± 018. Chondrule sizes provide the main criteria for EL classification, although remnants of oxidized metal also support it. Specimens: type specimen, 21.28 g, plus potted butt and thin section, *ASU*; main mass is with the purchaser, Nelson Oaks.

Nova 004
Possibly from Siberia
Purchased 2003
Chondrite (H5)

A partly fusion crusted stone of 3470 g was bought in a flea market in Frankfurt (Germany). The original mass of the individual is estimated to be 4–5 kg. The sample was said to be from a region between Irkutsk and the border of Mongolia. A large meteorite was reported to have fallen in Bodiabo, Irkutsk in 2002. Classification (M. Niemeier and A. Bischoff, *Mün*): the sample is a very fresh (W0/1) unbrecciated chondrite. The olivine composition is $Fa_{19.2 \pm 0.5}$; low Ca-pyroxene composition is $Fs_{16.6 \pm 0.8}$. Shock stage is S3. Specimens: type specimen 35 g and thin section, *Mün*; main mass, anonymous owner.

Oman meteorites
Oman
(495 meteorites)

Table 5 lists 495 meteorites that were found during fieldwork in the deserts of Oman.

Plancy-l'Abbaye 48°40′N, 04°03′W
Aube, Champagne, France
Found 2003 September 1
Chondrite (H4)

A 180 g individual stone was found by a meteorite hunter while he/she was prospecting with a detector around the village of Plancy l'Abbaye. Classification (Emmanuel Dransart, *EMTT*): olivine, $Fa_{17.80}$; low-Ca pyroxene, $Fs_{15.89}$; S2, W5. Chondrules are well-preserved. There is no fusion crust; porosity is 20%. Specimens: type specimen, 21.7 g, *MNHNP*; main mass, finder.

PNRA meteorites, see Antarctic PNRA meteorites

Ridgecrest, new classification

Ridgecrest (San Bernadino County, California, USA: found 1958) has now been classified as an H5 chondrite, S2, W2 (olivine mean Fa = 18.6 mol%). Classification (A. Rubin, *UCLA*): it is not paired with Muroc or Muroc Dry Lake, as suggested in the 5th edition of the *Catalogue of meteorites.*

Roach Dry Lake 030 115°22.084′W, 35°40.443′S
Clark County, NV, USA
Found 2002 May 5
Enstatite chondrite (EL6)

A single, fusion-crusted and oriented stone weighing 10.13 g was found by R. Matson. Classification (A. Rubin, *UCLA*): EL6, S2, W4. Mean Fs = 0.5 mol%. EL6 classification is based on chondrule size and overall texture. Metal and sulfide compositions are not available because these phases have been heavily weathered. Specimens: type specimen, 3.19 g, *UCLA*; main mass with finder.

Ryder Gletcher ~81°10′N, 49°W
Knud Rasmussen Land, North Greenland
Found 1988 or 1989
Ordinary chondrite (L5)

A stone of 5288 g was brought to the Natural History Museum Bern for investigation in August 2001. It had previously been shown to Dr. W. R. Danner at UBC Vancouver in 1995 as a meteorite from Greenland. The finder spotted the stone from low-flying aircraft on a north-flowing valley glacier at a surface altitude of approximately 1000 m. The stone is relatively unweathered, oriented, and completely covered with a black fusion crust. Classification and mineralogy (E. Gnos, *UBE*; B. A. Hofmann, *NMB*): olivine $Fa_{23.5 \pm 1.1}$ (22.5 by XRD); pyroxene, $Fs_{20.8}Wo_{1.2}$; shock stage, S4; weathering grade, W1. Some areas are shock-blackened (troilite mobilisate on fractures). Specimens: type specimen, 21 g, *Geological Museum Copenhagen*; main mass (5199 g) with anonymous finder.

Saharan meteorites from Algeria

(32 meteorites)
Table 6 lists 32 metorites that were found in the Algerian Sahara by meteorite collectors undertaking field work.
See also African meteorites; Northwest Africa meteorites.

Saharan meteorites from Libya
(41 meteorites)
Table 7 lists 41 metorites that were found in the Libyan Sahara by meteorite collectors undertaking field work.
See also African meteorites.

Sahara 98034 and 02029–03501, see African meteorites

Sahara 02029 **z+0°13.72′N, w+0°31.13′W**
Found 2002
Achondrite (winonaite)
One 88 g stone was found by Labenne. Classification and mineralogy (M. Bourot-Denise, *MNHNP*): equidimensional silicate grains, with abundant 120° triple junctions, grain size mainly in the range 200–300 μm; wide black veins. Olivine, $Fa_{2.6}$; low-Ca pyroxene, $Fs_{3.2}$. Fe-Ni metal contains 0.6 wt% P and forms large (500 μm) isolated grains; troilite contains 2.1 wt% Cr and fills cracks. Minor minerals include diopside ($Fs_{1.4–5.5}$), plagioclase, schreibersite, and daubréelite. Shock stage, S5; weathering grade, W2. Specimens: type specimen, 18.5 g, *MNHNP*; main mass with finders.

Sahara 02501
Ti Hedjirine, Sahara
Found 2002 May
Achondrite (eucrite)
One single massive (3960 g) round-tetrahedral-shaped stone with glassy black fusion crust (75% of surface), deep regmaglypts well-marked on three faces, was discovered in the Sahara by a meteorite prospector. Petrography and mineralogy: (A. Jambon, O. Boudouma, H. Chennaoui-Aoudjehane, *UPVI*): this very fresh rock has an overprinted glomerophyric texture, finely and highly fractured and partly molten. Modal mineralogy: pyroxene 53 ± 2%; plagioclase 46.3 ± 1.4%; silica 4 ± 2% evaluated from 25 SEM frames covering 1 cm^2. Mineralogy: Fe-rich subhedral pyroxene up to 600 μm in length. Average composition: $En_{28}Fs_{57}Wo_{15}$, FeO/MnO = 32 ± 3. (range, $En_{25}Fs_{32}Wo_{42}$ to $En_{28}Fs_{69}Wo_3$). Pyroxene is zoned with Wo-poor cores and fine exsolution bands. Plagioclase: $An_{86}Ab_{12}Or_2$ (from An_{91} to An_{79}). Plagioclase laths are about 300 μm long and partly recrystallized. Ilmenite, silica are irregularly distributed and associated with K-rich feldspathic glass (1.5% K_2O) with up to 9% FeO. Silica glass (90% SiO_2 plus a plagioclase fraction) is also present. Specimens: type specimen, *UPVI*: 1.7 + 1.0 + 1.6 + 11.2 + 9.6 g; main mass, *Caillou Noir*.

Sahara 03500
Found 2003 May
Achondrite (ungrouped)
In May 2003, a dark 221.33 g stone was discovered in the Sahara by a person prospecting for meteorites, acting on behalf of Caillou Noir. The rock is light gray-green, fine-grained, and displays dark globules of a few mm to cm with rusty rims. It has a cracked fusion crust (dark greenish brown) and a deep regmaglyt on one side, broken on the other side with desert alteration. Petrography and mineralogy (A. Jambon and O Boudouma, *UPVI*; B. Devouard, *UBP*): magmatic texture of orthopyroxene and olivine with interstitial glass. A few rounded metal-sulfide globules (~16 vol%), 0.5–10 mm, are dispersed in this silicate "matrix." Glomerocrysts of pyroxene ~50–300 μm, $En_{77}Fs_{20}Wo_3$, FeO/MnO = 27.8 ± 0.4. Fine rims of clinopyroxene ($En_{50}Fs_{14}Wo_{36}$) are in contact with the glass phase. Slightly zoned olivine, 20–50 μm, Fo_{81} to Fo_{76}, FeO/MnO = 45.5 ± 0.6. Interstitial glass (~15 vol%) close to feldspathic composition ($\sim Ab_{17}An_4Or_{13}Qz_{65}$). Very minor Fe sulfide grains (<5 μm) in the glass phase or between crystals. Metal-sulfide globules consist of dendritic metal in pyrrhotite (coarse texture, visible with the naked eye). Metal grains have discontinuous rims of Fe-Ni phosphide, and display a fine-grained texture with irregular exsolutions of taenite. Smaller globules (<500 μm; Fe = 89%, Ni = 9–10%, P = 0.5–1.5%) consist of kamacite with phosphide and taenite exsolution, surrounded by pyrrhotite. The rock is highly fractured, with secondary veins of Ca-carbonate of probable terrestrial origin. Minor oxidation is visible around the metal-sulfide globules (W1). Specimens: type specimens, *UPVI,* 21.36 g, *Université de Clermont III,* 2.0 g; main mass, *Caillou Noir*.

Sawtooth Knob **40°51.73′N, 118°32.5′W**
Humboldt County, NV USA
Found 2002 June 13
Iron (IIAB)
Two individual masses, 13.44 g and 5.10 g, were found within 100 m of each other in a dry streambed by Patricia and Gordon Cave, who were prospecting for gold with metal detectors. Both samples were recovered from 4–8 inches depth in soft, dry, desert soil. Both are complete individuals with 2–3 mm diameter regmaglypt-like markings on the exterior. Classification and analysis (D. Hill, *LPL*): the analyzed sample is mainly kamacite with trace amounts (<<5%) of taenite and schreibersite. No shock deformation is evident. Average compositions from microprobe analysis are: kamacite, Fe = 93.6 ± 1.4%, Ni = 5.9 ± 0.6% (n = 536); taenite, Fe = 72.4 ± 5.8%, Ni = 26.0 ± 5.9% (n = 111); schreibersite, Fe = 44.7 ± 6.5%; Ni = 40.7 ± 5.2%; P = 14.3 ± 1.8% (n = 94). Width of cross section of a single kamacite lamella ~4.3 ± 0.5 mm. The larger, intact specimen indicates octahedral structure with similar kamacite widths. No obvious Widmannstätten structure is visible on the etched surface. Average bulk composition of two replicate INAA samples from the smaller specimen: Ni 6.04 ± 0.06%; Ga 54.6 ± 0.5 μg g^{-1}; Ge 190 ± 40 μg g^{-1}; Ir 0.018 ± 0.002 μg g^{-1}; Au 1.06 ± 0.01 μg g^{-1}; W 0.62 ± 0.03 μg g^{-1}; As 7.94 ±

0.11 μg g^{-1}. Based on Ni and other elements, a IIAB designation is indicated, with a closer agreement to IIB irons. Comparisons of Au versus Ga, Co, Ir exhibit concentrations that are consistent with IIAB also but do not fall exactly along sample trends noted by Wasson et al. (1998). Specimens: type specimens, 2.3 g, *LPL*; 2.8 g + 13.44 g (main mass), *Fleischmann Planetarium and Science Center, U. of Nevada*.

Sayh al Uhaymir 188 **20°35.262′N, 57°5.851′E**
Oman
Found 2002 January 16
Enstatite chondrite (EL4)
A complete stone weighing 127.915 g. Collecting, classification, and mineralogy (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): enstatite range is $Fs_{0.5–4.4}Wo_{0.2–0.8}$. The average chondrule size is 0.65 mm, bulk iron content is 21.7 wt% (*ICP-OES*, U. Krähenbühl [calculated from point-counting under reintegration of hydroxides]), Fe/Si (molar) ~0.52. Weathering grade, W1–W3 (W3 in rim region and along calcite veins); shock stage, S2. Red and blue cathodoluminescence colors confirm metamorphic grade 4. Oxygen isotope composition (I. A. Franchi and R. C. Greenwood, *Open University*; average of two analyses) are $\delta^{17}O = +3.213‰$, $\delta^{18}O = +5.990‰$, and $\Delta^{17}O = +0.098‰$.

Sayh al Uhaymir 202 **21°4.25′N, 57°18.67′E**
Oman
Found 2001 January 22 and 2002 January 15
Carbonaceous chondrite (CV3)
A 249.06 g stone and six additional fragments (total 86.80 g) giving a total weight of 335.86 g were found. All fragments fit to one stone and were found by A. Al-Kathiri, B. Hofmann, and E. Gnos. Classification and mineralogy (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): the rock contains very fine-grained CAIs (up to 1.5 mm), fine- to medium-grained CAIs (up to 3 mm in size), as well as few coarse-grained CAIs (up to 15 mm in size). The matrix/(chondrule + aggregate) ratio is 0.43. The mineralogy of the CAIs comprises forsterite, spinel, gehlenite, anorthite, and pyroxene ("fassaite" or Al diopside). The composition of matrix and chondrule olivine is $Fa_{1.8–8.5}$, and low-Ca pyroxenes show a range of $Fs_{1.8–6.3}Wo_{1.1–1.4}$. Many normal chondrules contain well-equilibrated olivine or olivine-orthopyroxene. The rock also contains magnetite and kamacite. Weathering grade is 2–3, shock stage is 2, and metamorphic grade is 3.2/3.3 based on red cathodoluminescence colors. Probably paired with SaU 040. All specimens, *NMBE*.

Sayh al Uhaymir 281 **21°00.00′N, 57°12.00′E**
Oman
Found 2001
Enstatite chondrite (EH3)
A mass of 162.56 g was found in 2001 in the Sayh al Uhaymir region of Oman. Classification and mineralogy (A. Greshake and M. Kurz, *MNB*): abundant enstatite-rich chondrules set into a strongly altered matrix containing lath-shaped enstatite. Chondrules occasionally contain forsteritic olivine and glassy mesostasis; enstatite, $Fs_{0.1–3.9}$; olivine, $Fa_{0.1}$; contains troilite, Fe, Ni metal, daubreelite, Fe, Ni phosphates, and perryite; low degree of shock; strongly weathered. Specimens: type specimen, 20.3 g, plus one polished thin section, *MNB*; main mass with anonymous finder.

Shişr 033 **18°20.835′N, 53°44.862′E**
Oman
Found 2002 October 25
Carbonaceous chondrite (CR)
A fragmented stone weighing 1097.7 g (5 large and many small fragments, total 65) was found by M. Hauser and L. Moser. Mineralogy and classification (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): the average chondrule size is 1.0 mm. Chondrules include PO, POP, PP, BO, RP. The matrix/(chondrule + aggregates) ratio is 0.53. Metal-rich PO chondrules and large metal grains are common. Olivine composition varies from $Fa_{2.0}$ to $Fa_{7.9}$, the orthopyroxene from $Fs_{1.2–12.1}Wo_{0.4–3.5}$. The rock contains several, up to 4 mm-sized, elongated fragments of a C1 clasts. These strongly deformed, phyllosilicate-rich clasts characteristically contain abundant 10–150 μm-sized pyrrhotite laths and slightly smaller framboidal magnetite aggregates. Weathering grade, W2; shock stage, S2. Specimens: complete mass at *NMBE*.

Shişr 043 **18°35.546′N, 53°48.748′E**
Oman
Found 2003 January 21
Iron, medium octahedrite (IIIAB)
A single iron of 8267 g was found in the desert, about two thirds buried in soil, by A. Al-Kathiri, B. Hofmann, U. Krähenbühl, and M. Eggimann. Description and classification: (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*; U. Krähenbühl, *UBE*): slightly elongated mass showing only minor rusting, partially smooth, partially rough surface with octahedral cleavage indicates several breakup-events. Undeformed Widmannstätten pattern, kamacite bandwidth 1.0 ± 0.1 mm (n = 97), partially preserved metallic fusion crust up to 1.9 mm thick. Bulk metal has Ni = 8.08 wt%, Ga = 18.8 ppm, Ge = 36.2 ppm, Ir = 1.8 ppm (classification analysis U. Krähenbühl, by ICP-OES/ICP-MS). All specimens: *NMBE*.

Sivas **39°49.48′N, 36°08.15′E**
Sivas, Turkey
Fell 1989 September 30, 16:00 local time
Ordinary Chondrite (H6)
A single 40 kg stone was seen to fall by local farmers near the small village of Seyhhalil and recovered by members of the

Sivas University Geology Department. Classification (M. Higgins, U. Quebec at Chicoutimi): olivine $Fa_{17.4–20.0}$, mean $Fa_{18.8}$; Opx $Fs_{16.2–17.5}$, mean $Fs_{16.7}$; plagioclase $Ab_{80–87}$, mean $Ab_{83.2}$. Chondrules (~30%) are poorly defined. Shock stage, S2; weathering grade, W0. Specimens: type specimen and main mass, 40 kg, Natural History Museum, *MTA*, Ankara, Turkey.

South American meteorite finds

(3 meteorites)

Table 8 reports three ordinary chondrite finds from South America.

Tanzerouft 058–071, see Saharan meteorites from Algeria

Timna **29°45′N, 34°55′E**

Eilat, Israel
Found 2002 November 3
Ordinary chondrite (H5)

A 40 g stone was found in the desert by Gabriel Shaqued during a field trip. Classification (A. Rubin, *UCLA*): the meteorite is an H ordinary chondrite, with olivine composition Fa 18.1 mol%; S2 W1. Specimens: type specimen, 10.11g; *UCLA*; main mass Gabriel Shaqued Afikim, Emek HaYarden 15148, Israel

Uruq al Hadd 002 **~18°30′N, 52°10′E**

Oman
Found 1996
Ordinary chondrite (H3)

A complete, baseball-shaped stone (total weight ~3.7 kg) with well-preserved fusion crust was found in 1996 by Said Rams Hatrush Al-Hairisi near sand dunes near the northwest corner of Oman. The specimen was brought to the Ministry of Industry and Minerals, Salalah for identification, and a fragment was sent to the Ministry of Industry and Minerals for chemical analysis. Petrologic grade based on cathodoluminescence colors is 3.8/3.9. Classification and analysis (E. Gnos, *UBE*; B. Hofmann, *NMBE*; A. Al-Kathiri, *UBE*): olivine, $Fa_{14.2–20.3}$; pyroxene, $Fs_{11.9–21.2}$. Specimens: (96.225 g) at *NMBE*; main mass at Ministry of Commerce and Industry, Salalah.

Villalbeto de la Peña **42°48′N,4°40′W**

Palencia, Castilla-Leon, Spain
Fell 2004 January 04, 16:47 UT
Chondrite (L6)

At about 17:47 p.m. on 2004 January 4, a brilliant fireball of absolute magnitude −18 ± 2 was seen over a large area of Spain. The fireball coursed northeastward and experienced various explosions along its trajectory. Thundering detonations were heard over a wide area, and a long, smoky trail remained visible for nearly 30 minutes. A total mass of ~3.5 kg was recovered. Two specimens (42.03 and 21.76 g) were found by Jose Luis Allende on January 11–12. From January 23 to February 8, a recovery team collected five specimens (61.78 g, 32.0 g, 126.0 g, 34.7 g, and 32.1 g). In addition, a linked second team lead by Javier Garcia-Guinea (Museo Nacional de Ciencias Naturales, Madrid) found seven specimens in the same area (58.91 g, 38.12 g, 5.83 g, 3.87 g, 185.7 g, 66.31 g, and 119.08 g). Three other individuals recovered an additional 7 stones (52.8 g, 51.64 g, 50.23 g, 46.48 g, 33.22 g, 18.28 g, and 11.00 g). On March 10, a nearly complete individual of 1367.6 g was discovered. All the specimens exhibit a black fusion crust. Classification (Jordi Llorca, *Universitat de Barcelona*; Ignasi Casanova, *Universitat Politecnica de Catalunya*; Alan Rubin, *UCLA*): olivine, Fa = 24.2 ± 0.2 mol%; low-Ca pyroxene, Fs = 20.3 ± 0.2 mol%; Wo = 1.6 ± 0.2 mol%. Shock stage, S4; weathering grade, W0. Specimens: type specimen, 42.03 g, and 0.52 kg stone, Museo Nacional de Ciencias Naturales Madrid; 63 g, anonymous collector; 1367.6 g, anonymous collector.

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ABBREVIATIONS FOR ANALYSTS AND SPECIMEN LOCATIONS

Al-Khoud1: Classified: Abbasher Mahmoud Gismelseed Sultan Qaboos University, College of Science, Physics Department, B. O. Box 36 Code 123 Al-Khoud, Sultanate of Oman; main mass, Department of Geology, Faculty of Science, Khartoum University P.O. Box 123, Sudan.

Asu1: Classified: G. Huss, *ASU*; type specimen, *ASU*; main mass, M. Mayo.

Asu2: Classified: C. Moore, *ASU*; type specimen, *ASU*; main mass, finder.

Asu3: Classified: M. McGehee, *ASU*; type specimen, *ASU*; main mass, J. Blennert.

Asu4: Classified: G. Huss, *ASU*; main mass, *ASU*.

Asu5: Classified: G. Huss, *ASU*; main mass, S. Wilson.

Asu6: Classified: G. Huss; main mass, *Oakes*.

Bart1: type specimen, *Vernad*; main mass, *Bart.*

Bart2: type specimen, *Vernad*; specimen, *Bart*; main mass, Freymadl.

Bart3: type specimen, *Vernad*; specimen, *Bart*; main mass, Olaf Gabel.

Bart4: type specimen, *Vernad*; specimen, *Bart*; main mass and finder, Hochsieder.

Bart5: type specimen, *Vernad*; specimen, *Bart*; main mass, Thomas Merz.

Bart6: Classified: R. Bartoschewitz, *Bart* and P. Appel Kiel; type specimen, *Vernad*; main mass, *Bart*.

Be2: Classified: A. Greshake, *MNB* and M. Kurz.

Be5: Classified: A. Greshake, *MNB*; main mass, Stefan Ralew, Kunibertstraße 29, 12524 Berlin.

Bern1: Finder and classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern2: Finder: M. Hauser and L. Moser; classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern3: Finder: A. Al-Kathiri; classification: E. Gnos, B. Hofmann and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern4: Finder: A. Al-Kathiri, E. Gnos, O. Eugster, and S. Lorenzetti; classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern5: Finder: A. Al-Kathiri, E. Gnos, O. Eugster, S. Lorenzetti, M. Al-Batashi, S. Al-Busaidi, and A. Al-Radshi; classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern6: Classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern7: Finder and classification: E. Gnos, B. Hofmann, A. Al-Kathiri, M. Eggiman, and S. Lorenzetti, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern8: Finder: A. Al-Kathiri and M. Eggiman; classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern9: Finder: A. Al-Kathiri, B. Hofmann, M. Eggiman, and U. Krähenbühl; classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

Bern10: Finder and classification: E. Gnos, B. Hofmann, and A. Al-Kathiri, *NMB*; analyst: E. Gnos and A. Al-Kathiri, *NMB*.

DP1: Classified: K. J. Cole, *Harper*; type specimen and thin section, *DuPont*; found, Pelisson.

EL1: Classified: Ph. Gillet, *ENSL*, J. A. Barrat, *UAng* and M. Bohn (Ifremer); type specimen, *ENSL*; main mass, *Fectay.*

ENSL1: Classified: A. Jambon, *UPMCPa*; type specimens, 26.25 g and 62.09 g, P. Gillet, *ENSL*, 516.16 g, 19.07 g, and 26.45 g, *UPMCPa*; main mass, 410 kg, *Caillou Noir.*

ENSL2: Classified: E. M. Chamorro, K. Pistre, P. Beck, *ENSL*, and P. Grandjean, *UCBL*; type specimen, *ENSL*; main mass, F. Beroud (Lyon) and C. Boucher (Chatel-Guyon).

Ha1: Classified: P. Sipiera, *PSF*; main mass, Huss.

JSC1: Classified: M. E. Zolensky, *JSC*; main mass, *Hupé*.

La1: Classified: A. Rubin, *UCLA*; purchased by Verish from Bessey; type specimen, *UCLA*; main mass, *Verish*.

La2: Classified: A. Rubin, *UCLA*; purchased by Reed from David Gregory; type specimen, *UCLA*; main mass, Reed.

La3: Classified: A. Rubin, *UCLA*; purchased by Verish from Reed, imported by David Gregory; type specimen, *UCLA*; main mass, *Verish*.

La4: Classified: A. Rubin, *UCLA*; purchased by Gessler from Bessey; type specimen, *UCLA*; main mass, *Gessler.*

La5: Classified: A. Rubin, *UCLA*; purchased by *Verish*; type

specimen, *UCLA*; main mass, *Verish*.
La6: Classified, A. Rubin, *UCLA*; all material consumed.
La7: Classified A. Rubin, *UCLA*; type specimen, *UCLA*; main mass, *Verish*.
La8: Classified A. Rubin, *UCLA*; type specimen, *UCLA*; main mass, Matson.
La9: Classified A. Rubin, *UCLA*; type specimen, *UCLA*; main mass, D. Freeman.
La10: Classified A. Rubin, *UCLA*; type specimen, *UCLA*; main mass, K. Cathcart.
MNHN1: Analyses and classifications by M. Bourot-Denise, MNHNP. Magnetic measurements by P. Rochette, *CEREGE*, Marseille; type specimen, *MNHN*.
Mun1: Classified: A. Sokol, A. Bischoff, and M. Niemeier, *Mün;* type specimen, *Mün*.
Mun2: Classified: A. Sokol and A. Bischoff, *Mün;* type specimen, *Mün*.
NAU1: Classified: T. Bunch and J. Wittke, *NAU*; type specimen, *ASU*; main mass, *Hupé*.
NAU2: Classified: T. Bunch and J. Wittke, *NAU*; type specimen, *ASU*; main mass, *Hupé*.
NAU3: Classified: T. Bunch and J. Wittke, *NAU*; type specimen, *ASU*; main mass, *Farmer*.
NAU4: Classified: T. Bunch and J. Wittke, *NAU*; type specimen, *ASU*; main mass, *Boswell*.
NHMV1: Classified: F. Brandstätter, *NHMV*; M. Varela, Universidad Nacional del Sur, Argentina; main mass, M. Morgan.
OU1: Classified by R. Greenwood, Open; main mass with finder, M. Franco.
Pa8: Classified: B. Devouard and J. L. Devidal, *UPB*, and B. Zanda *MNHNP*; main masses with finders, F. Beroud and C. Boucher.
Pa13: Classified: M. Bourot-Denise, *MNHNP*; finder, Claire and Marie Parodi.
Pa15: Classified: E. Dransart, *EMTT*; type specimens, *MNHNP*; main masses with private collectors, F. Beroud and C. Boucher.
Pa16: Classified: M. Bourot-Denise, *MNHNP*; main mass, A. Goueslain and J. L. Parodi.
Pa17: Classified: M. Bourot-Denise, *MNHNP*; main mass, B. Dejonghe.
Pa18: Classified: M. Bourot-Denise, *MNHNP*; main mass, Letallec.
Pa19: Classified: M. Bourot-Denise, *MNHNP*; main mass, Labenne.
Pa20: Classified: M. Bourot-Denise, *MNHNP*; finder, Danigo; main mass, Letallec.
PSF1: Classified: P. P. Sipiera, K. J. Cole, *PSF* and M. Zolensky, *JSC*; oxygen isotopes by R. Clayton, *UChi*; main mass with finders Pelisson.
PSF2: Classified: P. P. Sipiera and K. J. Cole; type specimen, *PSF*; main mass with Pelisson.
PSF3: Classified: P. P. Sipiera and K. J. Cole, *PSF*; found by O. and J. P. D'Henin; main mass with Pelisson.
Si1: Classified: M. S. Kelley, P. A. Asher, and T. McCoy, *SI*.
Si2: Classified: M. Zolensky, *JSC*; type specimen, *SI*.
Sn1: Classified: A. Burroni and L. Folco, *MNA-SI*; magnetic classification (based on SM30 measurements), P. Rochette, *CEREGE* and L. Folco, *MNA-SI,* according to Rochette et al. (2003); main mass and thin section, *MNA-SI*.
Sn2: Classified: L. Folco, *MNA-SI*, M. D'Orazio, and N. Perchiazzi, Pisa; main mass and section, *MNA-SI*.
UAz1: Classified: D. Scrader and D. Kring, *LPL*; type specimen, *LPL*; main mass, *LPL*.
UAz2: Classified: D. Hill, *LPL*; type specimen, *LPL*; main mass, J. Adams.
UAz3: Classified: D. Kring, *LPL*; type specimen, *LPL*; main mass, J. Blennert.
UHaw1: Classified Deon van Niekerk; type specimen, Hawai'i Institute for Geophysics and Planetology (SOEST), University of Hawai'i, Manoa, USA.
UNM1: Classified: R. Jones, *UNM*; main mass, J. and K. Rhodes.
Up1: Classified: Yassir A. Abdu, Uppsala; type specimen, Department of Physics, College of Science, Sultan Qaboos University, P.O. Box 36 Code 123 Al-Khoud Sultanate of Oman; main mass, private store in Sudan.
UPB1: Classified: B. Devouard, *UBP*, M. Messaoudi, H. Afalfiz, and D. Belhai, *USTHB*; type specimen, *MNHNP*; main mass, M. Franco, *Caillou Noir*.
UPMCPa1: Classified: A. Jambon, *UPVI*, O. Boudoma and H. Chennaoui-Aoudjehane, Universite Hassan II, Departement de Geologie, Maarif Casablanca, Morocco; type specimens (1.7 + 1.0 +1.6 +11.2 + 9.6 g), *UPVI*; main mass, with finder, M. Franco, *Caillou Noir*.
UPMCPa2: Classified: A. Jambon and O. Boudouma, *UPVI*, and B. Devouard, *UBP*; type specimens, 21.36 g, *UPVI* and 2.0 g, *UBP*; main mass with finder, M. Franco, *Caillou Noir*.
UPVI1: Classified: A. Jambon and O. Boudouma, *UPVI* and J. A. Barrat, *UAng*; type specimen, *ENSL*; main mass, *Fectay*.
UPVI5: Classified: A. Jambon and O. Boudouma, *UPVI*; type specimen, *UPVI*; main mass, Moroccan Imports Asnières (France).
UPVI6: Classified: A. Jambon and O. Boudouma, *UPVI*; type specimen, *UPVI*; main mass, Moroccan Imports Chula Vista, California (USA).
UTok1: Classified: K. Kaneda, *UTokyo*; main mass, J. Calvert.
UWS1: Classified: *Oakes*; type specimen, *UWS*.
UWS2: Classified: A. Irving and S. Kuehner, *UWS*; main mass, *Hupé*.
UWS3: Classified: A. Irving and S. Kuehner, *UWS*; main mass, *Farmer*.
UWS4: Classified: A. Irving and S. Kuehner, *UWS*; main mass, *Oakes*.
UWS5: Classified: A. Irving and S. Kuehner, *UWS*; type

specimen, 20 g *UWS* and 1 g *ASU*; main mass, *Oakes*.
Vr1: Classified: S. Afanasiev and N. Kononkova, *Vernad*; type specimen, *Vernad*.
Vr2: Classified: S. Afanasiev, *Vernad*, analyzed by A. Ulianov, *MSU*.
Vr2a: Classified: S. Afanasiev, *Vernad*, analyzed by A. Ulianov, *MSU*. TL measurements, A. I. Ivliev, *Vernad*. An additional 90 g is at *MSU*.
Vr3: Classified and analyzed: D. Badyukov, *Vernad*.
Vr4: Mineralogy and classification: C. Lorenz, *Vernad* and F. Brandstätter, *NHMV*.
Vr5: Classified: S. Demidova, *Vernad* and G. Kurat, *NHMV*.
Vr6: Classified: M. Ivanova and M. Nazarov, *Vernad*.
Vr16: Classified: Bart; type specimen, *Vernad*; main mass, *Bart*.

ADDRESSES OF METEORITE COLLECTIONS AND RESEARCH FACILITIES

AMNH: American Museum of Natural History, New York, NY 10024, USA.
Bart: Bartoschewitz Meteorite Laboratory, Lehmweg 53, D-38518 Gifhorn, Germany.
Bessey: Dean Bessey, Box 6306, Stn A, Toronto Ontario, Canada, M5W 1P7.
Caillou Noir: Caillou Noir 100 Chemin des Campènes, 74400 Chamonix, France.
CAS: Chinese Academy of Sciences, Beijing, China.
CEREGE: CEREGE Arbois, BP 80, Aix En Provence, Cedex 4, France.
Chiba: Chiba Institute of Technology, Tsudanuma, Narashino, Chiba 275–0016, Japan.
Cilz: Marlin Cilz, Montana Meteorite Lab, Box 1063, Malta, MT 59538, USA.
CIW: Carnegie Insitution Washington, Geophysical Laboratory, 5251 Broad Branch Rd., NW, Washington D.C. 20015, USA.
Charles U: Albertov 6, 128 43 Prague 2, Czech Republic
DMNH: Denver Museum of Natural History, City Park, Denver, CO 80205, USA.
EMTT: Etudes Métallurgiques et de Traitement Thermique, Parc du Chater - Bât. B, 1, avenue du Chater, 69340 Francheville, France.
ENSL: Ecole Normale Supérieure de Lyon, Laboratoire de Sciences de la Terre, 46 allée d'Italie 69364 Lyon Cedex, France.
Farmer: Michael Farmer 4201 W. Oxbow Mine Ct. Tucson, AZ 85745, USA.
Fectay: Bruno Fectay and Carine Bidaut, La Memoire de la Terre SARL Rue de la Mairie, 39240 La Boissiere, France.
FMNH: Field Museum of Natural History, Chicago, IL 60605, USA.
Franco: Caillou Noir / Michel Franco, 100 Chemin des Campènes 74400 Les Praz de Chamonix, France.
Frei: Universität Freiburg, Institut für Mineralogie, Petrologie und Geochemie, Albertstrasse 23b, D-79104, Freiburg, Germany.
Gessler: Mr. Nicholas Gessler, Box 706, 22148 Monte Vista Road, Topanga, CA 90290–0706, USA.
GO: Griffith Observatory, 2800 East Observatory Road, Los Angeles, CA 90027–1255, USA.
Gomet: D. Gomet, lieu dit Lahouratte, 40180 Heim, France
Ham: Mineralogical Mus., Univ. Hamburg, Grindelallee 48, D-20146 Hamburg, Germany.
Harper: Planetary Studies Foundation, c/o Harper College, Schmitt Meteorite Research Group, 1200 W. Algonquin Rd., Palatine, IL 60067, USA.
Hupé: G. and A. Hupe, 2616 Lake Youngs Court SE, Renton, WA 98058, USA.
Jensen: Jensen Meteorites, 16730 E Ada Pl., Aurora, CO 80017–3137, USA.
JSC: Johnson Space Center, Houston, TX 77058, USA.
KCCU: Kingsborough College of the City University of New York, Brooklyn, NY 11235, USA.
Köln: Universität zu Köln, Institut für Mineralogie und Geochemie, Zülpicher Straße 49 b, 50674 Köln, Germany.
Kraus: Thomas Kraus, German-Space-Shop, Büchelstr. 87, 53227 Bonn, Germany.
Kurz: M. Kurz, Schillerstrasse 7, D-34626 Neukirchen, Germany.
LPL: Lunar and Planetary Laboratory, University of Arizona, 1629 E. University Blvd., Tucson, AZ, 85721 USA.
Matson: Rob Matson, 8 Merano Ct., Newport Coast, CA 92657, USA.
MIT: Department of Earth and Planetary Sciences, 54–1224, Massachusetts Institute of Technology, Cambridge, MA 02139, USA.
MNA-SI: Museo Nazionale dell'Antartide, Università di Siena, Via Laterina 8, I-53100 Siena, Italy.
MNB: Museum für Naturkunde, Invalidenstrasse 43, D-10115 Berlin, Germany.
MNHNP: Museum National d'Histoire Naturelle, Paris, France.
MPI: Institut für Chemie, Abteilung Kosmochemie, Postfach 3060, D-55020 Mainz, Germany.
MPI-K: Max-Planck-Institut für Kernphysik, Saupfercheckweg 1, D-69117 Heidelberg, Germany.
MSU: Department of Geological Sciences, 206 Natural Science Bldg., Michigan State University, East Lansing, MI 48824–1115, USA.
Mün: Institut für Planetologie, Wilhelm-Klemm-Str. 10, 48149 Münster, Germany.
NAU: Northern Arizona University, Flagstaff, AZ 86011, USA.
NGRI: National Geophysical Research Institute, Hyderabad 500 007, India.
NIPR: National Institute of Polar Research, 9–10, Kaga 1-chome, Itabashi-ku, Tokyo 173–8515, Japan.
NHM: Department of Mineralogy, The Natural History

Museum, Cromwell Road, London SW7 5BD, UK.
NHMV: Naturhistorisches Museum, Postfach 417, A-1014 Wien, Austria.
NMB: Museum für Naturkunde, Institut für Mineralogie, Humboldt-Universitaet zu Berlin, Invalidenstrasse 43, 10115 Berlin, Germany.
NMBE: Naturhistorisches Museum, Bernastrasse 15, CH-3005 Bern, Switzerland.
Novosibirsk: Institute of Geology, Geophysics and Mineralogy of Novosibirsk, Siberia, Russia.
Oakes: Nelson Oakes, Route 1, House 50C, Uniondale, PA 18470, USA.
OAM: Osservatorio Astronomico e Museo "Giorgio Abetti" in San Giovanni in Persiceto, Bologna, Italy.
OU: Planetary Sciences Research Institute, Open University, Milton Keynes, MK7 6AA, UK.
Pani: A. Pani, Meteorites-Minerals-Fossils, Lassallestr. 4/20, A-1020 Vienna, Austria.
PCU: Charles University, Faculty of Science, Institute for Cheochemistry, Mineralogy and Mineral Resources, Albertov 6, 128 43 Prague 2, Czech Republic.
Pelisson: Richard and Roland Pelisson, 270 Rue de la Cascade, 38660 La Terrasse, France.
PRL: Physical Research Laboratory, Navrangpura, Ahmedabad, 380 009, India.
PSF: James M. DuPont Meteorite Collection, Planetary Studies Foundation 612 Chatham Circle, Algonquin, IL 60102, USA.
ROM: Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario M5S 2C6, Canada.
SI: Department of Mineral Sciences, NHB-119, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, USA.
Sultan Qaboos: Sultan Qaboos University, College of Science, Physics Department, P.O. Box 36 Code 123 Al-Khoud Sultanate of Oman.
TCU: Oscar E. Monnig Collection, Department of Geology, Texas Christian University, Ft. Worth, Texas 76129, USA.
Tulane University: Department Earth & Environmental Sciences, Tulane University, New Orleans, LA 70118, USA.
Twelker: E. Twelker, Juneau, AK, USA.
UAng: Jean-Alix Barrat, Université d'Angers, Faculté des Sciences, 2 bd Lavoisier, 49045 Angers Cedex, France.
UBE: University of Bern, University of Bern, Hochschulstrasse 4, CH-3012 Bern, Switzerland.
UBP: Université Blaise Pascal, Clermont-Ferrand, France.
UChi: University of Chicago, Chicago, IL 60637, USA.
UCLA: Institute of Geophysics and Planetary Physics, University of California, Los Angeles, CA 90095–1567, USA.
UH: Hawai'i Institute of Geophysics & Planetology, School of Ocean and Earth Science and Technology, University of Hawai'i, 2525 Correa Road, Honolulu, HI 96822, USA.
UNebr: University of Nebraska, Lincoln, NE 68588, USA.
UNM: Institute of Meteoritics, Department of Earth and Planetary Sciences, University of New Mexico, Albuquerque, NM 87131, USA.
UPeradeniya: Department of Geology, University of Peradeniya, Peradeniya, Sri Lanka.
UPVI: Université Pierre & Marie Curie (Paris VI), 4 Place Jussieu, 75005 Paris, France.
UTenn: Planetary Geosciences Institute, Department Geological Sciences, University of Tennessee, Knoxville, TN 37996, USA.
UTok: Earthquake Research Institute, University of Tokyo, Yayoi, Bunkyo-ku, Tokyo 11300–32, Japan.
UWO: University of Western Ontario, London, Ontario N6A 3KT, Canada.
UWS: University of Washington, Department Geological Sciences, Box 351310, Seattle, WA 98195, USA.
Verish: Robert Verish, Meteorite Recovery Foundation, P.O. Box 237, Sunland, CA 91040, USA.
Vernad: Vernadsky Institute of Geochemistry and Analytical Chemistry, Russian Academy of Sciences, Kosygin Str. 19, Moscow 117975, Russia.
WAM: Western Australian Museum, Francis Street, Perth, Western Australia 6000, Australia.

Table 1. Meteorites from Africa.

Name	Place of recovery	Date found (mm/dd/yyyy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Comments	Type (g)	Info[a]
Adrar Madet 002	Niger	2002	18°36.625′	10°29.646′	2200	1	LL3	S4	W2	24.5–26.9	2.0–25.7	–	24	Pa17
Adrar Yaouelt	Niger	10/24/2002	17°40.792′	10°02.102′	2730	2	H5	S1	W4	19.4	17.9	–	41.9	Pa20
Al Zarnkh	Sudan	02/08/2001	13°39.62′	28°57.60′	700	2	LL5	–	–	–	–	See separate entry	75	Al-Khoud1
Bou Kra	Western Sahara	12/05/2001	26°37.950′	12°48.615′	130	1	H6	S2	W4	19.08	16.81	–	22.1	Pa13
GSS 021	Great Sand Sea, Egypt	02/18/2002	28°06.34′	25°32.41′	1416	2	L5	S3	W4	21	18.9	–	106	Pa17
Sahara 98034	Sahara	09/1998	–	–	10345	5	H5	S2	W2	18	16	High porosity	36	Mun1
Sahara 02029	Sahara	2002	z + 0°13.72′	w + 0°31.13′W	88	88	Win	–	–	–	–	See separate entry	18.5	Pa19
Sahara 03013	Sahara	2003	y + 0°10.07′	x + 0°34.01′W	82	82	R3	S3	W3	39.7–47.5	5.3–36.8	–	18.7	Pa19
Sahara 01500	Sahara	01/2001	–	–	2059	1	H5	S1/2	W2	19	17.2	–	23.5	OU1
Sahara 01501	Sahara	01/2001	–	–	254.9	1	H5	S1/2	W2	19.3	17.1	–	22.5	OU1
Sahara 02500	Sahara	2001–2002	llb°28′029–02′198	llb°03′252–50′543	410850	Many	L3	S2	W1	26 ± 2	–	–	650	ENSL1
Sahara 02501	Sahara	05/2002	–	–	3960	1	Euc	–	–	–	–	See separate entry	25.1	UPMCPa1
Sahara 03500	Sahara	05/2003	–	–	221.3	1	Achanom	–	–	–	–	See separate entry	23.36	UPMCPa2
Sahara 03501	Sahara	01/2003	–	–	4067	1	H4	S3	W1	19.5	18.5	Magnetic sus 5.31	24.1	UBP1

[a]See abbreviations for analysts and specimen locations.

Table 2. Meteorites from the 2003–2004 PNRA expedition to Antarctica.

Name	Latitude (S)	Longitude (E)	Date found (mm/dd/yyyy)	Pieces	Wt. (g)	Class	Shock	WG	Fa mol%	Fs mol%	logχ[a]	Comments[b]	Info[c]
Miller Butte (MIB)													
MIB 03001	72°41′68.1″	160°20′14.9″	12/09/2003	1	41.3	H6	S1	W0	17.6	16.3	5.36	–	Sn1
MIB 03002	72°41′36.9″	160°16′05.9″	12/11/2003	1	82.7	Iron IID						See separate entry	Sn2
MIB 03003	72°40′12.0″	160°14′33.8″	12/12/2003	1	11.7	H3	S2/3	W1	2.0–26.4	13.5–19.4	4.87	–	Sn1
Roberts Butte (ROB)													
ROB 03001	72°39′12.0″	160°18′25.3″	12/15/2003	1	33.2	H4	S4	W2	19.5	16.8	4.89	–	Sn1
Johannessen Nunataks (JOH)													
JOH 03001	72°53′48.8″	161°08′14.9″	12/18/2003	1	127.7	H6	S2	W1	19.2	17.3	5.18	–	Sn1
JOH 03002	72°53′41.5″	161°08′44.1″	12/18/2003	1	50.2	H~6	–	–	–	–	5.17	(1)	Sn1
JOH 03003	72°53′41.8″	161°08′41.3″	12/18/2003	1	28.5	H~6	–	–	–	–	5.22	(1)	Sn1
JOH 03004	72°53′57.0″	161°07′52.3″	12/18/2003	1	34.1	H~6	–	–	–	–	5.23	(1)	Sn1
JOH 03005	72°53′58.3″	161°07′46.3″	12/18/2003	1	112.4	H~6	–	–	–	–	5.16	(1)	Sn1
JOH 03006	72°53′58.3″	161°07′43.6″	12/18/2003	1	40.1	H~6	–	–	–	–	5.23	(1)	Sn1
JOH 03007	72°53′58.7″	161°07′42.1″	12/18/2003	1	929.3	H~6	–	–	–	–	4.88	(1)	Sn1
JOH 03008	72°53′58.7″	161°07′42.1″	12/18/2003	1	365.3	H~6	–	–	–	–	5.01	(1)	Sn1
JOH 03009	72°53′59.6″	161°07′44.4″	12/18/2003	1	400.0	H~6	–	–	–	–	4.96	(1)	Sn1
JOH 03010	72°53′59.6″	161°07′44.4″	12/18/2003	2	445.0	H~6	–	–	–	–	5.01	(1)	Sn1
JOH 03011	72°53′47.6″	161°04′49.9″	12/19/2003	1	407.3	H5	S1	W1	18.5	16.9	4.96	–	Sn1
JOH 03012	72°53′47.1″	161°04′49.9″	12/19/2003	1	172.5	H~5	–	–	–	–	5.16	(2)	Sn1
JOH 03013	72°54′00.0″	161'07′45.9″	02/21/2003	1	162.4	H~6	–	–	–	–	5.11	(1)	Sn1
JOH 03014	72°54′07.0″	161°09′59.2″	02/21/2003	1	16.1	H5	S3	W0/1	18.0	16.7	5.27	–	Sn1
JOH 03015	72°51′11.7″	161°01′30.4″	02/21/2003	1	121.2	LL5	S1	W0	27.9	23.3	4.64	–	Sn1
JOH 03016	72°49′58.8″	161°13′23.5″	02/22/2003	1	4.8	H6	S1/2	W0/1	18.1	16.8	5.32	–	Sn1
JOH 03017	72°53′58.2″	161°07′45.6″	02/26/2003	1	1.9	H~6	–	–	–	–	5.30	(1)	Sn1
JOH 03018	72°53′58.2″	161°07′46.0″	02/26/2003	1	0.2	H~6	–	–	–	–	5.11	(1)	Sn1
JOH 03019	72°53′59.8″	161°07′43.9″	02/26/2003	1	1.4	H~6	–	–	–	–	5.48	(1)	Sn1

Table 2. Meteorites from the 2003–2004 PNRA expedition to Antarctica. *Continued.*

Name	Latitude (S)	Longitude (E)	Date found (mm/dd/yyyy)	Pieces	Wt. (g)	Class	Shock	WG	Fa mol%	Fs mol%	logχ[a]	Comments[b]	Info[c]
Mount Walton (WAL)													
WAL 03001	72°26′55.2″	160°20′22.9″	12/30/2003	1	140.3	L6	S4	W0/1	23.9	20.5	–	–	Sn1
Mount DeWitt (DEW)													
DEW 03001	77°12′33.1″	159°45′40.2″	01/08/2004	1	725.2	LL6	S3	W0/1	28.2	23.6	4.11	Fragmental breccia	Sn1
Frontier Mountain (FRO)													
FRO 03001	72°57′13.9″	160°29′27.5″	12/27/2003	1	1.5	Lod	S1	W0	9.5	13.2	4.98	See separate entry	Sn1
FRO 03002	72°57′10.5″	160°29′50.7″	12/28/2003	1	12.7	H6	S3	W2	18.6	16.5	5.01	–	Sn1
FRO 03003	72°57′09.9″	160°29′50.4″	12/28/2003	1	15.3	H3	S2	W3/4	3.0–24.4	16.1-22.5	4.84	–	Sn1
FRO 03004	72°57′09.9″	160°29′51.0″	12/28/2003	1	4.5	H5/6	S3	W1/2	17.5	16.0	5.00	–	Sn1
FRO 03006	72°57′07.9″	160°30′22.9″	12/28/2003	1	8.4	H6	S1	W2	18.0	16.3	5.10	–	Sn1
FRO 03007	72°57′08.5″	160°30′25.9″	12/28/2003	1	1.8	H5	S2	W1	18.5	17.1	5.19	–	Sn1
FRO 03021	72°57′04.1″	160°27′49.1″	12/29/2003	1	7.3	H6	S2	W3	18.5	16.9	5.03	–	Sn1
FRO 03100	72°57′08.2″	160°30′03.8″	03/01/2004	1	0.9	H4	S4	W1/2	17.9	16.7	5.24	–	Sn1

[a]Magnetic susceptibility.
[b](1) Likely to be paired with JOH 03001; (2) likely to be paired with JOH 03011.
[c]See abbreviations for analysts and specimen locations.

Table 3. Ordinary chondrite finds from North America.

Name	Find site	County, State	Latitude (N)	Longitude (W)	Mass (g)	Date found (mm/dd/yyyy)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Finder	Wt (g)	Info[a]	Comments
Arches	Sandstone cliff	Grant, UT	38°41.32′	104°35.11′	534	09/08/2001	1	L5	S1	W4	25	–	–	Lee Ferguson	70	Uaz1	–
Cuddeback Dry Lake 012	Dry lake	San Bernardino, CA	35°18.73′	117°27.18′	0.72	09/15/2002	1	H5	S4	W5	18.9	–	–	MEW[b]	TS	La6	–
Dougherty	Field	Floyd, TX	33°58′45″	101°12′	1113	01/05/2002	1	L6	S3	W1	25.7	21.3	–	Mark Mayo	31.95	Asu1	–
Essex	Desert wash	San Bernadino, CA	34°36.7′	115°2.0′	5000	02/24/2002	1	H5			18.9	–	–	Scott Ellis	125	Asu2	–
Franconia	Dry wash	Mojave, AZ	34°42.982′	114°13.318′	>100000	10/31/2002	84	H5	S3	W2	17.6	–	–	John Wolfe	26.4	La7	Fe-Ni veins with metallic Cu
Hualapai Wash 020	Dry wash	Mojave, AZ	35°50.3′	114°9.97′	60.9	01/02/2003	1	H5	S2	W2	18.7	16.8	–	Acquaintance of J. Adams	14.25	Uaz2	–
Hualapai Wash 021	Desert	Mojave, AZ	35°53.37′	114°11.52′	20.5	03/11/1997	4	H4	S1	W2	19	–	–	John Blennert	6.06	Uaz3	–
Lucerne Valley (LV)																	
LV 019	Dry lake	San Bernadino, CA	34°29.321′	116°56.991′	3.91	03/15/2002	1	L6	S2	W5	24.7	–	–	R. Matson	0.77	La8	–
LV 020	Dry lake	San Bernadino, CA	34°29.508′	116°56.580′	18.4	03/15/2002	1	H6	S2	W3	18.7	–	–	R. Matson	4.54	La8	–
LV 021	Dry lake	San Bernadino, CA	34°29.587′	116°56.797′	3.92	04/07/2002	1	H6	S1	W3	17.9	–	–	R. Matson	0.84	La8	–
LV 022	Dry lake	San Bernadino, CA	34°29.435′	116°57.019′	16.49	04/07/2002	1	LL4	S3	W2	27.8	–	–	R. Matson	3.82	La8	–
LV 023	Dry lake	San Bernadino, CA	34°29.457′	116°57.023′	7.56	04/07/2002	1	L6	S3	W5	24.4	–	–	R. Matson	1.48	La8	–
LV 018	Dry lake	San Bernadino, CA	34°29.276′	116°56.928′	0.97	03/15/2002	1	H6	S3	W5	18.8	16.5	–	R. Matson	0.38	La8	–
LV 024	Dry lake	San Bernadino, CA	34°29.732′	116°56.826′	2.71	04/12/2003	1	L6	S2	W3	24.6	–	–	R. Matson	1.07	La8	–
Mud Dry Lake	Dry lake	Nye, NV	37°51.564′	117°01.258′	18255	01/12/2002	Many	H3	S1	W3	18.2	–	–	R. Verish	42.6	La7	–
Red Dry Lake 022	Dry lake	Mojave, AZ	35°39.711′	114°1.626′	17	07/05/2002	1	H6	S1	W5	18.7	–	–	R. Verish	6	La7	–
Red Dry Lake 023	Dry lake	Mojave, AZ	35°39.825′	114°1.619′	5.9	07/05/2002	1	L5	S4	W4	24.9	–	–	R. Verish	1.5	La7	–
Red Dry Lake 031	Dry lake	Mojave, AZ	35°41.84′	114°3.70′	4.8	05/18/2002	1	H4	S2	W2	18.4	16.1	1.5	J. & K. Rhodes	0.95	Unm1	–
Rock Springs	Mud flat	Sweetwater, WY	41°39.0′	109°1.5′	52.7	02/15/2003	1	L6	S2	W2	25.7	–	–	D. Freeman	11.2	La9	–
Roach Dry Lake 002	Dry lake	Clark, NV	35°39.56′	115°22.30′	5	08/01/2000	1	L6	–	–	23	–	–	John Blennert	1.8	Asu3	Probably paired with Devil Peak
Roach Dry Lake 003	Dry lake	Clark, NV	35°40.302′	115°22.033′	4.2	10/21/2000	1	H5	S2	W3	19.8	–	–	R. Matson	1.1	La8	Primm fragment

Table 3. Ordinary chondrite finds from North America. *Continued.*

Name	Find site	County, State	Latitude (N)	Longitude (W)	Mass (g)	Date found (mm/dd/yyyy)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Finder	Wt (g)	Info[a]	Comments
Roach Dry Lake 006	Dry lake	Clark, NV	35°41.007′	115°20.822′	6.53	03/31/2001	1	H6	S3	W3	20.2	–	–	K.Cathcart	5.27	La8	–
Roach Dry Lake 027	Dry lake	Clark, NV	35°40.847′	115°20.437′	18.65	05/05/2002	1	H5	S3	W3	18.8	–	–	R. Matson	3.48	La8	–
Roach Dry Lake 030	Dry lake	Clark, NV	35°40.443′	115°22.084′	10.13	05/05/2002	1	EL6	–	–	–	–	–	See separate entry	–	–	–
Roach Dry Lake 031	Dry lake	Clark, NV	35°40.206′	115°22.349′	36.2	05/06/2002	1	H6	S3	W3	18.8	–	–	R. Verish	8	La7	–
Roach Dry Lake 064	Dry lake	Clark, NV	35°40.635′	115°21.396′	18.26	07/05/2002	1	H6	S2	W6	18.8	–	–	K.Cathcart	8.34	La10	–
Roach Dry Lake 075	Dry lake	Clark, NV	35°40.413′	115°21.0403′	29.9	07/19/2002	1	H6	S3	W3	18.7	–	–	R. Matson	5.8	La8	–
Roosevelt County (RC)																	
RC 106	Soil blow-out	Roosevelt, NM	34°13′	103°56′	98.8	02/01/2001	1	L6	S6	W2	24.9	20.8	1.6	S.Wilson	98.8	Asu4	–
RC 107	Soil blow-out	Roosevelt, NM	34°13′	103°08′	81.2	07/01/2000	8	L6	S3	W6	24.9	20.6	1.65	S. Wilson	15.88	Asu5	–
Seminole (e)[a]	–	Gaines, TX	32°43′	102°39′	758.2	1977	1	H5	S2	W2	18.9	18.3	1.2	Glenn Huss	20.1	Ha1	–
Seminole Draw (b)	–	Gaines, TX	32°43′	102°39′	1192.7	1976	1	H5	S2	W2	19.5	18.8	2.5	Glenn Huss	117.7	Ha1	–
Statesboro	Bean field	Bulloch, GA	32°26.25′	81°55′	2158.26	06/15/2000	1	L5	–	–	24.6	20.8	1.8	H. Cannon	25	Si1	–
Wichita	Wheat field	Sedgwick, KS	37°35.51′	97°12.898′	2367	08/13/1971	1	H6	S3	W3	17.6	16	1.1	Bud Scott	20	Utok1	–
Wild Horse	Farm	Cheyenne, CO	38°85′	103°12′	1360	1979	1	H5	S2	W3	18.4	16.7	1.1	Unknown farmer	20	Utok1	–

[a]See abbreviations for analysts and specimen locations.
[b]MEW: Monika E. Waiblinger-Seabridge, 3400 Nesscliffe Way, Carmichael, CA 95608.

Table 4. Meteorites from Northwest Africa. Most of these were purchased from Moroccan dealers. Most of the collection locations cannot be verified.

Name	Possible origin or pseudonym	Date found (mm/dd/yyyy)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Logχ[a]	Comment[b]	Place purchased	Type (g)	Info[c]
NWA 962	–	06/2001	102	1	LL4–5	S1–4	–	26.6–32.6	23.8–28.0	–	–	(1); ol: PMD 1–6%	Erfoud	21.4	JSC1
NWA 969	–	06/2001	44	1	LL7	–	–	–	–	–	–	See separate entry	Erfoud	9.1	UWS2
NWA 995	Erfoud, Morocco	P 06/2001	222.9	1	L5	S2	W1	24.6 ± 0.5	–	–	–	Breccia	Erfoud	28.9	La1
NWA 1083	Northwest Africa	P 11/2001	60.8	1	CR2	S1	W2	1.3	4.1	–	–	–	Erfoud	14.8	La5
NWA 1112	–	2001	49	1	CK5	–	–	–	–	–	–	See separate entry	–	–	
NWA 1254	Morocco	2002	281	1	H5	S3	W3	–	–	–	5.14	–	Morocco	50.8	MNHN1
NWA 1284	–	2001	56	1	CK4/5	–	–	–	–	–	–	See separate entry	–	–	
NWA 1465	–	2001	3000	Many	CV3	–	–	–	–	–	–	See separate entry	Tagounite	21.8	Be2
NWA 1554	Morocco	2002	178	1	L/H4	S2	W3	–	–	–	5	–	Morocco	20.3	MNHN1
NWA 1555	Morocco	2002	50	1	H5/6	S2	W2	–	–	–	5.16	Br	Morocco	10.6	MNHN1
NWA 1556	Morocco	2002	374	1	L6	S3	W4	–	–	–	4.44	–	Morocco	22.8	MNHN1
NWA 1557	Morocco	2002	124	1	L/LL6	S4	W3	–	–	–	4.65	Black chondrite	Morocco	21	MNHN1
NWA 1617	–	P 06/01/2002	23.44	1	Win	–	–	–	–	–	–	See separate entry	Agadir	4.5	UWS4
NWA 1645	Morocco	P 10/2002	129	1	Mes	–	–	–	–	–	–	See separate entry	Rissani	20	UWS3
NWA 1649	–	P 10/2002	70.8	1	Euc pm	–	–	–	–	–	–	See separate entry	Zagora	20	UWS2
NWA 1650	–	P 10/2002	39	1	Euc pm	–	–	–	–	–	–	See separate entry	Zagora	8	UWS2
NWA 1668	–	10/2002	710	1	R5	–	–	–	–	–	–	See separate entry	–	–	
NWA 1670	Attamina	P 01/2003	29	1	Angr	–	–	–	–	–	–	See separate entry	Erfoud	5.8	UPVI1
NWA 1694	–	P 10/2002	47.1	1	CK3	–	–	–	–	–	–	See separate entry	Safsaf	9.4	NAU2
NWA 1711	Northwest Africa	P 10/31/02	459.1	1	L Impact melt rock	S6	W3	25.4	21	–	–	Br; vesicles (flattened bubbles).	Erfoud	39	La2
NWA 1712	Northwest Africa	P 10/31/02	424.1	1	L6	S4	W2	24.3	–	–	–	Br, sv, metal veins	Erfoud	24.7	La3
NWA 1756	–	10/2002	68.2	1	LL3	–	–	–	–	–	–	See separate entry	Safsaf	12.5	NAU2
NWA 1769	Mauritania	2001	589	4	How	S3	W1	–	21.2	–	–	(2)	Erfoud	20.9	MNHN1
NWA 1772	Morocco	2002	168.4	2	L5	S1	W1	24.8	20.8	–	–	Well-delineated chondrules; $An_{10.2}$	Erfoud	20.6	MNHN1
NWA 1785	Morocco	2001	248.8	1	H3.7	S2	W2	16.0–28.1	7.8–19.8	–	–	–	Morocco	21.8	MNHN1

Table 4. Meteorites from Northwest Africa. Most of these were purchased from Moroccan dealers. Most of the collection locations cannot be verified. *Continued.*

Name	Possible origin or pseudonym	Date found (mm/dd/yyyy)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Logχ[a]	Comment[b]	Place purchased	Type (g)	Info[c]
NWA 1786	Morocco	P 02/02/2002	277	1	H5	S1/S2	W2	19.5	16.9	–	–	–	Morocco	21.5	MNHN1
NWA 1789	Morocco	P 12/01/1999	44.04	1	Euc mm	S0	W1	–	–	–	–	See separate entry	Morocco	8.5	MNHN1
NWA 1790	Morocco	P 12/1999	100	1	L4	S2	W1/W2	23.8	22.4	–	–	–	Erfoud	21	MNHN1
NWA 1810	Anbdur	P 2000	42	1	EL5	S3	W3	–	0.95	–	–	(3)	–	20	Vr1
NWA 1817	–	P 01/2003	728	1	Mes	–	–	–	–	–	–	See separate entry	Rissani	22.4	UWS4
NWA 1818	–	09/2002	42	1	Melted L	–	–	–	–	–	–	See separate entry	–	–	–
NWA 1819	–	P 01/2003	68.4	4	How	–	–	–	–	–	–	See separate entry	–	–	–
NWA 1820	–	P 01/2003	8364	3	LL5	S2	W2	30	?	–	–	–	Rissani	22	UWS1
NWA 1821	–	P 01/2003	40.1	1	Dio	–	–	–	–	–	–	See separate entry	Rissani	8.1	UWS4
NWA 1822	–	P 02/2003	3053	1	H5	S2	W1	18.8	16.6	–	–	$Wo_{1.5}$	Rissani	–	–
NWA 1823	–	P 02/2003	2027	1	LL6	S2	W2	28.9	–	–	–	–	Rissani	22	UWS1
NWA 1824	–	P 09/2002	277	1	L5	S2	W2	25	–	–	–	–	Agadir	20	UWS1
NWA 1825	–	P 09/2002	103.4	1	L5	S2	W2	25	–	–	–	–	Agadir	20	UWS1
NWA 1826	–	P 01/2003	500	1	Euc	–	–	–	–	–	–	See separate entry	Rissani	21	UWS1
NWA 1827	–	P 06/2003	877	1	Mes	–	–	–	–	–	–	See separate entry	Rissani	21	UWS5
NWA 1828	–	P 09/2002	16.1	1	Euc cm	–	–	–	–	–	–	See separate entry	Rissani	3.5	UWS4
NWA 1851	–	P 20/3/2002	736	1	L6	S4	W2	23.8 ± 0.3	–	–	–	–	–	41.92	La1
NWA 1858	Morocco	P 06/2003	647.84	1	H3	S1	W2	17.9 ± 3.5	–	–	–	Br; 1cc inclusion of green-grey, glassy vesicular impact melt	USA	39.26	La4
NWA 1877	–	06/2003	312	1	Achon	–	–	–	–	–	–	See separate entry	–	–	–
NWA 1878	–	P 2000	42	1	Mes	–	–	–	–	–	–	See separate entry	–	–	Be2
NWA 1879	Morocco	P 06/2003	1624	2	Mes	–	–	–	–	–	–	See separate entry	–	–	–
NWA 1880	–	P 2002	7	1	Dio	–	–	–	–	–	–	See separate entry	Erfoud	1.5	Be5
NWA 1881	–	P 2002	13	1	LL4–6	S2/3	W1	27.3	6.1–24.4	–	–	(4); br; light-dark clasts	Morocco	2.8	Be5
NWA 1882	–	P 2002	4438	Many	Mes	–	–	–	–	–	–	See separate entry	Morocco	22	Be5
NWA 1883	–	P 2002	1109	1	H5	S4	W1	17.9	16.3	–	–	Br	Morocco	21	Be5
NWA 1884	–	P 2002	327	1	H4/5	S2	W1	18.1	16	–	–	–	Morocco	21.5	Be5
NWA 1885	–	P 2002	289	1	L5	S2	W3	18	16.5	–	–	–	Morocco	20	Be5
NWA 1886	–	P 2002	53	1	LL6	S3	W2	28.6	24.1	–	–	Br	Morocco	12	Be2
NWA 1887	–	P 2002	350	1	H6	S4	W1	19.2	16.9	–	–	–	Erfoud	21	Be2
NWA 1888	–	P 2002	280	1	L	S4	W1	21	18.3	–	–	Partly shock melted, br. impact melt rock	Erfoud	20.7	Be2
NWA 1889	–	P 2002	246	1	L4	S4	W2	25.7	21.6	–	–	–	Erfoud	20.7	Be2
NWA 1890	–	P 2002	392	1	L6	S4	W1	23.9	20.2	–	–	–	Erfoud	21.3	OU1
NWA 1891	Boudnib, Morocco	2002	148	1	H5	S3/4	W2	19.8	17.3	–	–	–	–	61.6	OU1
NWA 1892	Azrarad (E. Er Rachidia) Morocco	2002	115	1	L6	S5	W1/2	25.4	22	–	–	Possibly paired with NWA 1893	–	27.2	OU1
NWA 1893	Azrarad (E. Er Rachidia) Morocco	2002	34	1	L6	S4/5	W2	26.1	22.3	–	–	–	–	17.1	OU1
NWA 1894	Ouad Esfaa, Tamasinite Boudnib, Morocco	2002	76	2	L6	S4/5	W2	26.3	21.8	–	–	–	–	22.5	OU1
NWA 1895	Algeria	2002	244	3+	Euc	Moderate	Moderate	64.6	–	–	(5)	–	–	21.2	OU1
NWA 1896	Bouymarchene-Boudnib, Morocco	2002	178	1	L5	S2	W2/3	25.6	22.1	–	–	–	–	27.9	OU1
NWA 1897	Bouymarchene-Boudnib, Morocco	2002	109	2	LL5	S4/5	W3	31	26.7	–	–	–	–	27.1	OU1
NWA 1898	Morocco/Algeria border	2002	210	1	L6	S5	W2	25.9	22.6	–	–	–	–	47	OU1
NWA 1899	Probably Morocco	2002	69	2	LL4	S2	W2/3	28.9	23.7	–	–	–	–	13.5	OU1
NWA 1900	Boudnib, Morocco	2002	1100	5	L4	S2	W1	24.2	21	–	–	–	–	26.6	OU1

Table 4. Meteorites from Northwest Africa. Most of these were purchased from Moroccan dealers. Most of the collection locations cannot be verified. *Continued.*

Name	Possible origin or pseudonym	Date found (mm/dd/yyyy)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Logχ[a]	Comment[b]	Place purchased	Type (g)	Info[c]
NWA 1901	Taouz, Morocco	2002	567	2	L6	S4	W1/2	25.8	22.3	–	–	Possibly paired with NWA 1902	–	30.2	OU1
NWA 1902	Taouz, Morocco	2002	1825	4	L6	S4	W1/2	25.2	22.1	–	–	–	–	32.1	OU1
NWA1903	Bouymarchene Bounib, Morocco	2002	692	2	H4	S1	W2	19.2	15.3	–	–	–	–	32.5	OU1
NWA 1904	Bounib n. Guir-Hamada Glathmane	2002	152	2	H5	S2/3	W3	20	18.8	–	–	–	–	23.2	OU1
NWA1905	Remlia region, Morocco	2002	994	1	CK5	S1	Moderate	33	28	–	–	(6)	–	22.3	OU1
NWA 1906	–	P 06/2003	560	1	R4	–	–	–	–	–	–	See separate entry	Rissani	26.1	NAU3
NWA 1907	–	P 06/2003	476	1	CK5	–	–	–	–	–	–	See separate entry	Rissani	22.15	NAU3
NWA 1908	–	P 01/2002	980	1	Euc cm	–	–	–	–	–	–	See separate entry	Rissani	20.6	NAU3
NWA 1909	–	P 01/2002	1200	1	Euc mm	–	–	–	–	–	–	See separate entry	Rissani	20.9	NAU3
NWA 1910	–	P 01/2003	305	1	EL6	–	–	–	–	–	–	See separate entry	Erfoud	20.1	NAU3
NWA 1911	–	P 03/2003	53.07	1	Pal	–	–	–	–	–	–	Pyroxene-rich; see separate entry	Rissani	13.1	NAU3
NWA 1912	–	P 03/2003	13.53	1	Mes	–	–	–	–	–	–	See separate entry	Erfoud	2.5	NAU3
NWA 1913	–	P 2002	731	1	Ure	–	–	–	–	–	–	See separate entry	Erfoud	21.2	NAU4
NWA 1914	–	P 2002	628	1	How	–	–	–	–	–	–	See separate entry	Safsaf	20.8	NAU2
NWA 1925	–	P 04/2002	86	1	Euc	–	–	–	–	–	–	See separate entry	Tagounite	17.2	NAU3
NWA 1926	–	P 06/2003	37	1	Ure pm	–	–	–	–	–	–	See separate entry	Rissani	6.3	NAU3
NWA 1927	–	P 03/2003	14.3	1	Mes	–	–	–	24.6	–	–	Metal: 6.4 wt% Ni	–	3.56	NAU3
NWA 1928	–	P 06/2003	153.6	1	LL6	S2	W1	30.2	24.3	–	–	Shock darkend	Erfoud	21.9	NAU3
NWA 1930	–	P 06/2003	7.5 kg	6	LL3	S2	W2	1.2–17	6.5	–	–	–	Rissani	45	NAU3
NWA 1931	–	P 06/2003	267	1	H5	S1	W1	19.1	16.5	–	–	–	Rissani	21.1	NAU3
NWA 1932	–	P 06/2003	125	1	LL3	S1	W2	2.3–35.3	–	–	–	–	Zagora	21.3	NAU3
NWA 1933	–	P 03/2003	1018	6	LL3	S2	W3	1.5–42	–	–	–	–	Mhamid	47.27	NAU3
NWA 1934	–	P 06/2003	8 kg	Many	CV3	S1	W3	1.6–38.4	–	–	–	–	Rissani	103.2	NAU3
NWA 1935	–	P 06/2003	581	1	LL4	S2	W2	30.1–34.9	24.7–25.5	–	–	–	Rissani	28	NAU3
NWA 1936	–	P 05/2003	2146	1	H4	S1	W1	18.6	16.9	–	–	–	Golmima	20.34	NAU3
NWA 1937	–	P 06/2003	42.8	1	LL5/6	S2	W1	28.1	22.5	–	–	–	Rissani	8.9	NAU3
NWA 1938	–	P 06/2003	20.6	1	CV3	S1	W2	2–39.9	–	–	–	–	Rissani	5.1	NAU3
NWA 1939	–	P 06/2003	100.4	1	How	–	–	–	–	–	–	See separate entry	Rissani	19.5	NAU3
NWA 1940	–	P 06/2003	1131	1	CV3	–	–	1.2–44.6	–	–	–	–	Erfoud	24.8	NAU3
NWA 1941	–	P 06/2003	16 kg	18	L6	S3	W1	23.4	19	2	–	–	Rissani	90	NAU3
NWA 1942	–	P 04/2002	457	2	How	–	–	–	–	–	–	See separate entry	Zagora	34.2	NAU3
NWA 1943	–	P 04/2002	1220	1	How	–	–	–	–	–	–	See separate entry	Erfoud	22.5	NAU3
NWA 1944	–	P 06/2001	632	2	H4	S1	W2/3	17.9	16.5	–	–	–	Zagora	20.2	NAU2
NWA 1945	–	P 06/2003	242	1	LL3	S1	W2	22.1–30.2 Mean: 28.3	17.9–22 Mean: 19.9	–	–	–	Zagora	22.7	NAU2
NWA 1946	–	P 06/2003	301	1	LL5	S2	W3	30.1	24.9	–	–	–	Zagora	25.8	NAU2
NWA 1947	–	P 06/2003	63	1	L4	S1	W2	23.3	19.5	–	–	–	Zagora	12.7	NAU2
NWA 1948	–	P 06/2003	116	1	LL6	S1	W1	30.5	24.6	–	–	–	Zagora	20.7	NAU2
NWA 1949	Merzouga	P 01/2003	1400	1	EL6	–	–	–	–	–	–	See separate entry	Erfoud	32	UPVI5
NWA 1950	Jules Verne	01 & 03/2001	812	2	Martian	–	–	–	–	–	–	See separate entry	–	20	EL1
NWA 1951	Zaje	P 04–05/2003	17 kg	Several	Mes	–	–	–	–	–	–	See separate entry	Talsit	35	UPVI6
NWA 1978	–	02/17/02	617	–	Eucrite	–	–	–	–	–	–	See separate entry	Rissani	20	–
NWA 1980	–	2002	546	1	Eucrite	–	–	–	–	–	–	See separate entry	Erfoud	21.3	–
NWA 1981	–	2002	197	1	Eucrite	–	–	–	–	–	–	See separate entry	Erfoud	23	–
NWA 1982	–	2000	368	1	Achon	–	–	–	–	–	–	See separate entry	Rissani	25.3	–
NWA 1983	Morocco/Algeria	Spring 2003	662	1	L4	–	–	24.3	–	–	–	Px-poor, merrillite with 2.7% Na_2O	Find	23.6	Bart1
NWA 1984	Morocco/Algeria	P 2003	1360	1	L4	–	–	24.2	20.1	1.5	–	$An_{13.8}Or_{7.8}$	Erfoud	19.2	Bart1

Table 4. Meteorites from Northwest Africa. Most of these were purchased from Moroccan dealers. Most of the collection locations cannot be verified. *Continued.*

Name	Possible origin or pseudonym	Date found (mm/dd/yyyy)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Logχ[a]	Comment[b]	Place purchased	Type (g)	Info[c]
NWA 1985	Morocco	P 2002	59.2	1	L5/6	–	–	25.4	21.9	1.6	–	–	Erfoud	12.2	Bart1
NWA 1986	Morocco	F 2002	24	1	H5	–	–	18.7	16.4	0.8	–	Extreme low in olivine	Erfoud	7.2	Bart1
NWA 1987	Morocco	F 2002	71.1	1	H	–	–	–	17	1.3	4.88	No olivine measured	Erfoud	20.1	Bart1
NWA 1988	Morocco	F 2003	21.1	1	H5	–	–	19.7	17.2	1.3	–	–	Erfoud	6.3	Bart1
NWA 1990	Morocco	P 2002	20.9	1	L4	–	–	25.7	21.4	1.5	–	–	Erfoud	4.73	Bart1
NWA 1991	Morocco/Algeria	P 2001	249.6	1	L6	–	–	25.6	21.6	1.6	–	–	Erfoud	21.3	Bart1
NWA 1992	Morocco/Algeria	P 2002	199.5	1	L5	–	–	24.8	20.8	1.7	–	(7)	Erfoud	21.4	Bart1
NWA 1994	Morocco/Algeria	P 2001	34.4	1	L	–	–	25.8	22.1	1.6	–	Extreme low in olivine	Mhamid	7.2	Bart2
NWA 1995	Morocco/Algeria	P 2001	47.4	1	L5	–	–	25.9	21.6	1.6	–	–	Mhamid	9.3	Bart2
NWA 1996	Morocco/Algeria	P 2001	85.8	1	L5	–	–	25.5	21.9	1.3	–	–	Mhamid	16.6	Bart2
NWA 1997	Morocco/Algeria	P 2002	64.7	1	L3/4	–	–	24.3	21.5	1.4	–	–	Munich	13.2	Bart3
NWA 1998	Morocco/Algeria	P 2002	116	1	H4/5	–	–	18.8	16.6	1.2	–	Apatite bearing	Munich	22.5	Bart3
NWA 1999	Morocco/Algeria	P 2002	129.2	1	H4	–	–	17.2	16.1	1.2	–	–	Munich	19.9	Bart3
NWA 2000	Morocco/Algeria	P 2002	1981	1	H5	–	–	19.1	16.7	1.3	–	–	Erfoud	26.7	Bart1
NWA 2002	Morocco	P 2001	191	1	L5/6	–	–	24.8	21	3.2	–	Large impact melt inclusion	Erfoud	41.1	Bart1
NWA 2003	Morocco/Algeria	P 2002	1877	1	L4	–	–	25	21.2	1.6	–	–	Erfoud	32.7	Bart1
NWA 2004	Morocco/Algeria	P 2002	252	1	L4	–	–	25.1	21.7	1.7	–	$An_{10.3–12.7}Or_{6.4–7.2}$	Erfoud	20.1	Bart1
NWA 2005	Morocco/Algeria	P 2002	506	2	H4	–	–	19.1	16.8	1.5	–	–	Erfoud	20.8	Bart1
NWA 2006	Morocco/Algeria	P 2002	838	1	H5	–	–	19.1	16.7	0.7	–	–	Erfoud	31.5	Bart1
NWA 2007	Tafrdaoute	F 12/1999	822.3	8	H5	–	–	19	17	1.3	–	–	find	23.7	Bart4
NWA 2008	Morocco/Algeria	P 2002	141.8	1	L5	–	–	25	21.5	0.9	–	(8)	Erfoud	20	Bart1
NWA 2009	Morocco/Algeria	P 2001	1220	1	L5/6	–	–	25.3	21.1	1.6	–	–	Erfoud	37.6	Bart1
NWA 2011	Morocco	2002	136.5	1	L4	–	–	25.5	21.2	1.7	–	(9)	Find	39.7	Bart1
NWA 2012	Morocco	2002	88.3	1	L5	–	–	25.5	21.1	1.5	–	$An_{11.9–10.2}Or_{0–8.7}$	Find	27.8	Bart1
NWA 2013	Morocco	2002	163.8	1	L5	–	–	25.3	21.1	1.7	–	–	Find	22	Bart1
NWA 2014	Morocco	2002	255	1	H4	–	–	18.9	16.3	1.9	–	–	Find	19.9	Bart1
NWA 2015	Morocco	2002	544	2	H4	–	–	18	16.2	0.7	–	$An_8Or_{3.2}$	Find	29.8	Bart1
NWA 2016	Zag	–	215	1	H4	–	–	19.2	16.6	1.5	–	Apatite bearing	–	23.3	Bart5
NWA 2017	Boudnib	03/2003	99.2	1	L5	–	–	22.6	19.4	1.3	–	(10). Lat 31°42′N; Long 3°18′W	Find	25.7	Bart1
NWA 2019	Morocco	2003	534	1	Mes	–	W1	–	28.4	–	–	See separate entry	–	31	MNHN1
NWA 2036	Adrar Mkorn, Morocco	–	–	–	EL6	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2046	–	P 09/2003	63	1	Martian	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2058	–	2001	80.1	5	H melt	S6	W2/3	17.1–18.4	15.8–16.5	–	–	–	–	17.1	NAU1
NWA 2059	–	2003	36	1	Dio	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2060	–	2003	985	1	How	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2061	–	2003	135	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2062	–	2003	50.3	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2063	–	2003	95.8	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2064	–	2003	94.4	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2065	–	2003	58	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2066	–	2003	58.2	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2068	–	2002	134	1	R3.8	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2079	–	2002	496	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2096	Kem Kem	2002	922	1	L3	S3	W2	15.1	16.8	–	–	–	Morocco	36	Ham1
NWA 2096	–	–	–	–	–	–	–	PMD 41	PMD 37	–	–	–	–	–	–
NWA 2097	South of Boudenib	2002	158	1	LL(L)3	S2–3	W2–3	19.7	13.5	–	–	Probably paired with 3006 and 3007	Morocco	22	Ham1
NWA 2097	–	–	–	–	–	–	–	PMD 42	PMD 8	–	–	–	–	–	–

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Name	Possible origin or pseudonym	Date found (mm/dd/yyyy)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Logχ[a]	Comment[b]	Place purchased	Type (g)	Info[c]
NWA 2098	–	2002	1333	1	Ure	–	–	–	–	–	–	See separate entry	–	–	–
NWA 2099	Tagounite	2002	124	1	H4/5	S3	W4	17.9	15.6	–	–	–	Morocco	20	Ham1
NWA 2234	SE Morocco	2000	422	1	Ureilite	–	–	–	–	–	–	See separate entry	–	20	–
NWA 2235	Alnif, Morocco	2000	64	1	Lodran	–	–	–	–	–	–	See separate entry	–	13	–
NWA 2236	SE Morocco	1999	29.8	1	Ureilite	–	–	–	–	–	–	See separate entry	–	5.9	–
NWA 2237	Morocco	P 06/2001	2300	1	LL4	S2	W3	26.9	23.4	–	–	–	Ste Marie aux Mines, France	47.7	MNHN1
NWA 2238	Morocco	P 02/2003	12000	~70	L4	S3/S4	W1	25.5	21.7	–	–	–	Tucson, USA	63.4	MNHN1
NWA 2239	Morocco	P 06/2002	>100000	Many	L3–6	S2	W1	25.0–29.7	21.6–22.9	–	–	Br, (11).	Ste Marie aux Mines, France	50.5	MNHN1
NWA 2240	Morocco	P 12/2002	420	1	LL5/6	S2	W4	31	25.7	–	–	–	Morocco	15.5	MNHN1
NWA 2241	Morocco	2003	190	1	L4–6	S3	W2	25.5	21.6	–	–	–	–	21.1	MNHN1
NWA 2242	Morocco	2002	124	1	LL6	S2/S3	W1	26.3	21.9	–	–	–	–	20.2	MNHN1
NWA 2243	Morocco	2002	2000	1	L3–5	S3	W2	25.1	20.8–26.4	–	–	–	–	21	MNHN1
NWA 2244	Morocco	2002	290	1	L3	S3	W1/2	24.4–28.3	19–22.8	–	–	Dark-light breccia	–	20	MNHN1
NWA 2245	Morocco	2002	280	1	L4–6	S4	W2	25.2	20.7	–	–	–	–	22	MNHN1
NWA 2246	Morocco	P 01/01/2003	11.8	1	Euc pm	S2	W1	–	22.5	–	–	See separate entry	–	2.5	MNHN1
NWA 2247	Morocco	P 01/01/2003	8.6	1	Euc pm	S2	W1	–	21.8	–	–	See separate entry	–	1.7	MNHN1
NWA 2248	Morocco	P 01/03/2003	40	1	LL6	S5	W2	31.3	26.5	–	–	Br; Ca-pyroxene: $Fs_{10.4}$, $Wo_{43.7}$	–	9	MNHN1
NWA 2249	Morocco	P 01/04/2003	30.5	1	L4	S2/S3	W1	25.7	22.3	–	–	–	–	30.5	MNHN1
NWA 2250	Morocco	2003	1555	1	H5	S2	W4	19	17.3	–	–	–	Erfoud	20	MNHN1
NWA 3000	–	2002	218	1	H5	S3	W2	16	14.5	–	–	–	–	21	Ham1
NWA 3001	Taouz	2002	509	1	L6	S4	W1	24.7	21.1	–	–	Breccia	–	20	Ham1
NWA 3002	–	2002	922	1	H5	S2	W3	16.2	14.6	–	–	–	–	19	Ham1
NWA 3003	–	2002	351	1	CO3	S2	–	–	–	–	–	See separate entry	–	–	–
NWA 3004	–	2002	175	1	CV3	S2	–	–	–	–	–	See separate entry	–	–	–
NWA 3005	South of Boudenib	2002	70	1	L3	S3	W4	15.8 PMD 38.0	15.5 PMD 89.7	–	–	–	–	14	Ham1
NWA 3006	South of Boudenib	2002	68	1	LL(L)3	S2	W4	14.42 PMD 45.2	8.92 PMD 63.8	–	–	–	–	20	Ham1
NWA 3007	South of Boudenib	2002	224	1	LL(L)3	S2	W4	12.92 PMD 51.9	12.01 PMD 68.8	–	–	–	–	20	Ham1
NWA 3008	–	2002	157	1	Acap	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3009	–	2001	1500	1	L4–6	S3	W2	24.5	20.7	–	–	Br	–	35	Ham1
NWA 3010	Algeria or Morroco	10/2000	690	6	L6	S5	W2	25	20.8	–	–	Co in kamacite = 1.07%	Erfoud	20	UHaw1
NWA 3011	Algeria or Morroco	10/2000	8640	1	L5	S5	W3	23.9	20.8	–	–	Co in kamacite = 0.87%	Erfoud	20	UHaw1
NWA 3012	Algeria or Morroco	10/2000	4168	Many	LL4	S5	W3	28.6	23.3	–	–	Co in kamacite = 1.87%	Erfoud	20	UHaw1
NWA 3013	Algeria or Morroco	10/2000	3122	1	L5	S5	W2	27.4	18.1	–	–	Co in kamacite = 0.95%	Erfoud	20	UHaw1
NWA 3014	Algeria or Morroco	10/2000	2673	1	H4	S1	W4	18.4	16.4	–	–	Co in kamacite = 0.57%	Erfoud	20	UHaw1
NWA 3015	–	2002	986	1	H3	S3	W1	19.7 PMD 8.9	17.6	–	–	–	–	38	VR1
NWA 3016	–	2002	305	1	L6	S2	W1	24	21.5	–	–	–	–	20	VR1
NWA 3017	–	2002	1070	1	H5	S2	W2	18.1	17.3	–	–	–	–	21	VR1
NWA 3055	–	2003	1600	1	Mes	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3066	–	2002	34.9	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3074	–	2002	453	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3075	–	2002	446	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–

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Name	Possible origin or pseudonym	Date found (mm/dd/yyyy)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Logχ[a]	Comment[b]	Place purchased	Type (g)	Info[c]
NWA 3078	–	2002/2003	733	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3081	–	Winter 2002/3	207.9	1	CK5/6	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3082	–	2003	7.4	1	Euc	–	–	–	–	–	–	See separate entry	–	–	–
NWA 3130	–	Early 2003	670.7	1	H5	S1	W3	18.9 ± 0.3	16.6 ± 0.2	–	–	–	Rissani	20.76	ASU6
NWA 3131	–	Early 2003	21.98	1	L5	S5	W2	24.7 ± 0.3	20.5 ± 0.2	–	–	Heavily shock blackened	Rissani	3.13	ASU6
NWA 3132	–	Early 2003	125.39	1	EL3	S2	W4	100	0.55 ± 0.46	0.44 ± 0.18	–	–	Rissani	21.28	ASU6

[a]Magnetic susceptibility.

[b]Notes: (1) Contains troilite, metal ($Fe_{94}Ni_6$ to $Fe_{63}Ni_{37}$) and plagioclase ($Ab_{86}An_{11}Or_3$ to $Ab_{76}An_{17}Or_7$); no diopside; (2) 2 fragments and 2 complete stones; clastic texture with major opx; cpx: $Fs_{28.9–62.05}Wo_{39.68–4.60}$; $An_{89.47}$; (3) kamacite: 0.99 wt% Si; plag: $An_{10.5}Or_{4.4}$; (4) oxygen isotopes (I. Franchi and R. C. Greenwood, OU): $\delta^{17}O = +4.01‰$, $\delta^{18}O = +5.38‰$, $\Delta^{17}O = +1.21‰$; (5) oxygen isotopes: $\delta^{17}O‰ = +1.873$, $\delta^{18}O‰ = +3.890$, $\Delta^{17}O‰ = –0.150$; mean plag $An_{88.0}$; range 85.1–95.2; (6) oxygen isotopes: $\delta^{17}O‰ = –3.218$, $\delta^{18}O‰ = +1.560$, $\Delta^{17}O‰ = –4.029$; (7) Or-rich plag, $An_{26.9–57.1}Or_{16.3–24.7}$; merrillite 2.7% Na_2O; (8) $An_{16.7–31.7}Or_{0–16.1}$; chromite Al_2O_3 5.6%, TiO_2 3.1%, MgO 3.7%; taenite 16–23% Ni; merrillite 2.8% Na_2O, 3.1% MgO; (9) plag $An_{10.8}Or_{5.9}$; merrillite 2.7% Na_2O, 3.8% MgO; (10) $An_{10.6–19.2}Or_{10.7–8.7}$; apatite bearing; ringwoodite in melt veins; (11) magnetite-rich carbonaceous inclusion with small chondrules.

[c]See abbreviations for analysts and specimen locations.

Table 5. Meteorites from Oman.

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Al Huqf (AH)														
AH 002	04/01/2000	19°16.3′	57°23.2′	81.4	1	H5	S3	W3	17.2	16.9	1.0	–	26	Vr1
AH 003	10/22/2002	19°30.417′	57°7.171′	115.417	1	L4	S1/2	W2	24	20.9	1.7	–	NHB	Bern2
AH 004	10/21/2002	19°32.689′	57°5.884′	260.22	1	L5	S3	W2–3	25.7	21.3	1.5	Cpx	NHB	Bern2
AH 005	11/28/2002	19°50.434′	57°0.509′	763.291	20	L6	S4	W4	24.9	21.7	1.5	Probably paired with AH 006 and AH 008	NHB	Bern1
AH 006	11/28/2002	19° 0.440′	57°0.505′	1861.211	>7	L6	S3	W3	24.9	21	1.5	Probably paired with AH 005 and AH 008	NHB	Bern1
AH 007	11/28/2002	19°50.477′	57°0.572′	1042.7	1	L5	S3	W3	24.5	20.9	1.5	cpx	NHB	Bern1
AH 008	11/28/2002	19°50.522′	57°0.448′	1074.3	1	L6	S3	W2	25.1	20.7	1.4	Probably paired with AH 005 and AH 006	NHB	Bern1
AH 009	12/14/2002	19°50.538′	57°0.008′	39.832	1	H4	S2	W4	19.2	17	1		NHB	Bern1
AH 010	01/27/2002	19°52.071′	57°0.168′	41539.34	100	L6	S4	W2	25.2	21.1	1.6	Probably paired with AH 011	NHB	Bern5
AH 011	01/27/2002	19°51.964′	57°0.192′	8056	1	L6	S4	W2	25.5	22	1.6	Cpx; probably paired with AH 010	NHB	Bern5
AH 012	01/13/2003	19°48.151′	57°19.282′	402.754	14	L6	S4	W4	25.7	22.8	1.5	–	NHB	Bern9
Aybut														
Aybut 001	01/30/2002	17°45.476′	53°59.419′	442.26	1	H6	S2	W1	20.5	17.4	1.3	Cpx	NHB	Bern4
Dhofar (Dho)														
Dho 182	02/09/2000	18°56.5′	54°30.08′	255.1	3	Euc	S2	W0		61.9	–	See separate entry	18.6	Fre1
Dho 242	02/06/2001	18°37.63′	54°45.05′	58.4	1	H5	S3	W4	15.5	14	–	–	12	Mun2
Dho 246	02/06/2001	18°40.16′	54°43.68′	50	1	H5	S3	W4	15.5	15	–	–	11	Mun2
Dho 247	02/07/2001	18°59.14′	54°36.05′	97.8	1	H6	S2	W3	19.5	17.5	–	–	20	Mun2
Dho 249	02/07/2001	18°59.20′	54°36.13′	36.6	1	H6	S2	W3	19	17	–	–	8	Mun2
Dho 252	02/08/2001	18°35.91′	54°02.03′	64.3	1	H3	S2	W3	17.9 ± 5.4	12.0 ± 8.4	–	–	13	Mun2
								Range:	7–27	2–34				Mun2
Dho 259	02/12/2001	18°47.21′	54°15.10′	48.6	11	L6	S2	W4	24.5	20.5	–	–	10	Mun2

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 266	02/22/2001	18°45.47′	54°26.19′	85.6	2	H5	S3	W3–4	18.5	16	–	–	17	Mun2
Dho 334	04/27/2000	19°03.4′	54°41.9′	973	1	H3	S2	W3	16.8	16.3	1.6	–	134	Vernad2a
Dho 379	10/13/2000	19°00.504′	54°46.148′	25000	1	L6	S3	W3	26	21.5	–	Sv	26	Mun2
Dho 429	03/28/2001	18°48.523′	54°30.297′	189	1	H4	S2	W3–4	16.5	15.5	–	–	20	Mun2
Dho 434	03/29/2001	18°44.792′	54°24.745′	169	1	H6	S3	W3	19.5	17.5	–	Sv	23	Mun2
Dho 444	03/31/2001	18°54.503′	54°28.782′	1469	1	L6	S4	W4	25.5	21	–	Sv	20	Mun2
Dho 445	03/31/2001	18°54.440′	54°29.553′	240	1	L6	S4	W4	25	21.5	–	Sv	15	Mun2
Dho 452	04/01/2001	18°48.406′	54°23.235′	3	1	L(LL)3	S2	W4 Range:	15.0 ± 11.4 1–41	9.9 ± 8.3 1–33	–	–	9	Mun2
Dho 543	04/04/2001	19°16′28.6″	54°27′33.8″	265	1	LL4	S2	W2	31.4	25.6	2.45	Cpx: $Fs_{11.0}Wo_{43.6}$; plag: $An_{10.5}Or_{4.0}$	21.2	Bart6
Dho 544	04/04/2001	19°18′55.0″	54°31′04.3″	2392	1	H5		W3	18.7	16.3	1.04	$Fs_{11.3–13.9}Wo_{13.5–10.1}$	25.7	Bart6
Dho 545	04/04/2001	19°21′08.1″	54°38′17.8″	513	1	H6	S3	W3	19.7	17.2	1.13	Br; chromite: 7.8% Al_2O_3; 2.6% MgO; 0.9% MnO; whitlockite	20.6	Bart6
Dho 546	04/05/2001	19°18′21.4″	54°32′41.8″	777	1	L5	S3	W3	25.2	21.4	1.56	Whitlockite	21.3	Bart6
Dho 547	04/10/2001	19°22′45.1″	54°10′04.3″	514	1	L5	S2	W2	24.9	22	1.47	$An_{11.8}Or_{7.7}$	18.7	Bart6
Dho 548	04/11/2001	19°20′57.0″	54°34′06.0″	3677	1	H4	S1	W2	18	16.1	0.84	$Fs_{5.7}Wo_{42.0}$	19.8	Bart6
Dho 549	07/11/2001	18°42.572′	54°21.879′	250	1	H5	S2	W3–4	18	16	–	–	21	Mun2
Dho 550	07/11/2001	18°50.481′	54°33.804′	280	1	L6	S3	W4	24.5	21	–	–	20	Mun2
Dho 552	07/11/2001	18°42.996′	54°22.052′	362	1	H5	S3	W3–5	18.5	17	–	–	26	Mun2
Dho 553	07/11/2001	18°43.361′	54°22.536′	604	1	H5	S2	W4	19	17	–	–	34	Mun2
Dho 554	07/11/2001	18°43.342′	54°22.704′	751	1	H5	S2	W4	18.5	16.5	–	Sv; calc. v.	21	Mun2
Dho 555	07/11/2001	18°42.992′	54°22.149′	223	1	H6	S3	W3	19.5	17.5	–	–	26	Mun2
Dho 556	07/11/2001	18°43.138′	54°22.172′	247	1	H5	S3	W3–4	19.5	17	–	Sv	47	Mun2
Dho 557	07/11/2001	18°43.598′	54°22.471′	859	1	H5	S3	W2–3	18.5	16	–	Sv	27	Mun2
Dho 558	07/11/2001	18°43.817′	54°22.769′	680	1	H6	S3	W3	19.5	17.5	–	Calc. v.	24	Mun2
Dho 559	07/11/2001	18°43.109′	54.22.896′	113	1	H5	S3	W4	18.5	16.5	–	Sv; calc. v.	20	Mun2
Dho 560	07/11/2001	18°43.564′	54°22.850′	593	1	H5	S3	W3	18.5	16.5	–	–	25	Mun2
Dho 561	07/11/2001	18°43.626′	54°22.243′	692	1	H5	S3	W2–3	19.5	18	–	–	21	Mun2
Dho 562	07/11/2001	18°43.647′	54°23.129′	1100	1	H5	S3	W3–4	19.5	17.5	–	Sv	20	Mun2
Dho 563	07/11/2001	18°43.185′	54°22.703′	242	1	H5	S3	W4	19.5	17.5	–	–	23	Mun2
Dho 564	07/11/2001	18°43.118′	54°22.771′	283	1	H5	S2	W2	20	17.5	–	Sv	56	Mun2
Dho 565	07/11/2001	18°49.114′	54°22.466′	466	6	H5	S3	W4	19.5	17	–	–	30	Mun2
Dho 566	07/11/2001	18°42.763′	54°22.433′	215	1	H5	S3	W4	19	17.5	–	–	20	Mun2
Dho 567	07/11/2001	18°42.768′	54°22.705′	328	1	H6	S1	W4	19	16.5	–	–	32	Mun2
Dho 568	07/11/2001	18°42.792′	54°22.475′	65	1	H5/6	S3	W4	18	17	–	–	13	Mun2
Dho 569	07/11/2001	18°42.570′	54°32.479′	56	1	H5	S3	W3–4	20	17	–	Calc. v.	14	Mun2
Dho 570	07/11/2001	18°42.069′	54°22.144′	73	3	L5	S4	W4	23.5	21	–	Sv; calc. v.	45	Mun2
Dho 571	07/11/2001	18°43.143′	54°22.177′	371	1	H5	S3	W4	19.5	17.5	–	–	38	Mun2
Dho 572	07/11/2001	18°42.175′	54°22.025′	289	5	H5	S3	W3–4	19	17	–	–	28	Mun2
Dho 573	07/11/2001	18°42.104′	54°21.985′	55	2	H5	S3	W4	19.5	17.5	–	–	13	Mun2
Dho 574	07/11/2001	18°43.686′	54°22.862′	687	1	H5	S3	W3–4	19.5	17	–	Sv	23	Mun2
Dho 575	07/12/2001	18°40.260′	54°25.210′	127	1	L6	S5	W4	26	22.5	–	–	47	Mun2
Dho 576	07/12/2001	18°40.791′	54°24.718′	183	1	H5	S2	W3–4	19	17.5	–	Calc. v.	27	Mun2
Dho 577	07/12/2001	18°40.866′	54°23.900′	494	1	H6	S2	W3	19	18	–	–	32	Mun2
Dho 578	07/13/2001	18°45.977′	54°39.638′	108	1	L6	S2	W4	26.5	22.5	–	Calc. v.	20	Mun2
Dho 579	07/13/2001	18°43.190′	54°11.817′	206	1	H5/6	S2	W3	20.5	18.5	–	Sv, br	25	Mun2
Dho 582	07/13/2001	18°43.408′	54°11.511′	473	1	H5–6	S4	W3–4	18.5	16.0 ± 2.0	–	Br, sv, im	26	Mun2

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 583	07/13/2001	18°43.497′	54°11.232′	1378	1	H6	S1	W3–4	20.5	18	–	–	26	Mun2
Dho 587	07/13/2001	18°43.476′	54°11.497′	537	1	H5	S2	W4	20	18	–	Sv	28	Mun2
Dho 588	07/14/2001	18°41.973′	54°11.798′	226	1	L5/6	S2	W4	24.5	20.5	–	Calc. v.	26	Mun2
Dho 589	07/14/2001	18°42.062′	54°11.144′	83	1	H4/5	S2	W3–4	20.5	18	–	–	16	Mun2
Dho 590	07/14/2001	18°42.338′	54°10.891′	379	1	H6	S4	W3–4	19.5	17	–	Br; sv	28	Mun2
Dho 591	07/14/2001	18°41.530′	54°12.084′	215	1	H4	S2	W3–4	17.5	16	–	–	21	Mun2
Dho 592	07/14/2001	18°41.543′	54°11.451′	108	1	L5/6	S2	W4	24	20.5	–	–	20	Mun2
Dho 593	07/14/2001	18°44.316′	54°12.723′	182	1	H4	S2	W3–4	18	16.5 ± 1.7	–	Br	21	Mun2
Dho 594	07/15/2001	18°43.482′	54°23.702′	1806	1	H3–6	S2	W2–3	18.5 ± 2.5	16.0 ± 2.7	–	Br	27	Mun2
Dho 595	07/15/2001	18°44.407′	54°22.397′	334	1	H5	S3	W4	19.5	17.5	–	–	55	Mun2
Dho 596	07/15/2001	18°44.370′	54°22.414′	764	10	H5	S3	W4	19.5	17.5	–	Sv	39	Mun2
Dho 597	07/15/2001	18°44.535′	54°22.792′	723	14	H5	S3	W4	19	17.5	–	–	39	Mun2
Dho 598	07/15/2001	18.44.214′	54°28.761′	36	1	H5/6	S3	W3–4	17.5	15.5	–	–	8	Mun2
Dho 600	07/15/2001	18°41.472′	54°41.016′	183	1	L6	S4	W3	24	21	–	–	24	Mun2
Dho 602	07/16/2001	18°42.427′	54°10.983′	137	1	H5/6	S3	W3–4	18.5	16.5	–	Sv	21	Mun2
Dho 603	07/16/2001	18°43.748′	54°11.249′	245	1	L4	S2	W2	24	20.0 ± 4.7	–	–	19.5	Mun2
Dho 604	07/16/2001	18°47.328′	54°25.118′	300	1	H5/6	S3	W3–4	18.5	16.5	–	Calc. v.	31	Mun2
Dho 605	07/16/2001	18°43.061′	54°11.995′	469	1	H5/6	S3	W4	19	17	–	–	25	Mun2
Dho 606	07/16/2001	18°43.527′	54°11.234′	259	1	H3–5	S2	W3	18.2 ± 0.93	16.2 ± 2.3	–	Br; sv	45	Mun2
Dho 607	07/16/2001	10°43.728′	54°11.432′	~5000	1	H5	S2	W4	18.5	16.5	–	–	32	Mun2
Dho 608	07/16/2001	18°44.140′	54°11.528′	95	4	H5/6	S1	W4	19.5	17.5	–	–	20	Mun2
Dho 609	07/16/2001	18°44.238′	54°11.722′	97	2	H4	S2	W4	18	16.5 ± 1.3	–	–	20	Mun2
Dho 610	07/17/2001	18°44.428′	54°11.979′	176	4	H5	S3	W3–4	19	17	–	Sv	29	Mun2
Dho 611	01/12/2001	19°08.335′	54°52.886′	99	1	H4	S2	W4	19.5	17.5	–	–	22	Mun2
Dho 612	01/12/2001	19°08.679′	54°52.951′	559	4	L5	S3	W4	25	22	–	Calc. v.	27	Mun2
Dho 613	01/13/2001	19°09.217′	54°42.761′	482	1	H5	S2	W3	19.5	17	–	Calc. v.	28	Mun2
Dho 615	01/13/2001	19°10.718′	54°53.571′	966	1	L3	S4	W4	20.6 ± 1.4	10.9 ± 5.3	–	–	41	Mun2
Dho 616	01/13/2001	19°14.441′	54°53.571′	68	3	H5/6	S3	W4	19.5	17	–	Calc. v.	13	Mun2
Dho 617	01/14/2001	19°09.660′	54°42.387′	7395	~180	H6	S2	W4	20	17.5	–	–	79	Mun2
Dho 618	01/15/2001	19°12.109′	54°47.024′	51	1	H5/6	S4	W4	19.5	17	–	Calc. v.	11	Mun2
Dho 619	01/15/2001	19°08.487′	54°39.558′	140	1	H5/6	S3	W2–3	18	15.5	–	–	21	Mun2
Dho 620	01/15/2001	19°10,565′	54°39.413′	154	1	L6	S3	W4	25.5	21	–	–	21	Mun2
Dho 621	01/15/2001	19°19.475′	54°49.434′	206	1	L6	S4	W4	25	20.5	–	–	33	Mun2
Dho 623	01/16/2001	19°11.132′	54°39.478′	147	1	L6	S4	W4	26	22	–	Calc. v.	22	Mun2
Dho 624	01/17/2001	19°07.207′	54°48.840′	1332	1	H5	S3	W3	19.5	17	–	Sv	44	Mun2
Dho 625	01/17/2001	19°06.770′	54°49.418′	314	2	H5/6	S3	W3–4	19.5	17.5	–	Sv	27	Mun2
Dho 626	01/17/2001	19°06.965′	54°49.370′	332	1	L6	S4	W2–3	25.5	21.5	–	–	38	Mun2
Dho 627	01/17/2001	19°06.727′	54°49.213′	361	2	H5	S2	W3	20	17	–	–	22	Mun2
Dho 628	01/17/2001	19°06.360′	54°48.863′	2220	18	H5/6	S2	W3	19	16.5	–	–	104	Mun2
Dho 629	01/17/2001	19°06.569′	54°48.972′	830	3	H5	S3	W3	19.5	17	–	Calc. v.	22	Mun2
Dho 630	01/17/2001	19°06.474′	54°48.760′	146	2	H5	S3	W4	19.5	17	–	Calc. v.	22	Mun2
Dho 631	01/17/2001	19°06.589′	54°49.043′	1395	18	H5	S3	W4	18.5	16.5	–	Calc. v.	81	Mun2
Dho 632	01/17/2001	19°06.847′	54°48.985′	79	1	LL5	S5	W3–4	28	23.5	–	Partly S4	16	Mun2
Dho 633	01/18/2001	19°06.436′	54°36.436′	43	1	H3	S2	W3	19.9 ± 1.5	18.3 ± 1.2	–	Calc. v.	8	Mun2
Dho 634	01/18/2001	19°06.664′	54°36.934′	436	1	L6	S5	W4	26.5	22.5	–	Partly S4	20	Mun2
Dho 635	01/18/2001	19°04.092′	54°46.508′	261	1	L6	S3	W3	25.5	21	–	–	20	Mun2
Dho 636	01/19/2001	19°11.892′	54°52.936′	718	6	L5	S3	W3–4	23.5	19.5	–	Calc. v.	27	Mun2
Dho 637	01/19/2001	19°11.748′	54°51.714′	251	3	L5	S3	W4	23	19.5	–	–	19	Mun2

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 639	01/19/2001	19°12.166′	54°36.029′	1521	1	L6	S5	W3–4	25	21	–	Calc. v.; part S4	58	Mun2
Dho 640	01/20/2001	19°08.273′	54°40.021′	64	1	H5/6	S3	W2–3	18	16	–	Sv	15	Mun2
Dho 641	01/20/2001	19°10.719′	54°41.885′	72	2	L6	S4	W1–2	25.5	21.5	–	Sv, partly S5	15	Mun2
Dho 642	01/25/2001	18°11.569′	53°48.481′	135	1	L6	S2	W3–4	25.5	21.5	–	–	20	Mun2
Dho 643	01/25/2001	18°39.039′	53°55.495′	124	2	H6	S3	W4	20.5	17.5	–	–	22	Mun2
Dho 644	01/26/2001	18°39.648′	53°54.274′	704	5	L6	S3	W4	23	20.5	–	Calc. v.	21	Mun2
Dho 645	01/26/2001	18°57.723′	54°08.725′	48	1	H3	S2	W4	15.5 ± 5	10.5 ± 4	–	–	8	Mun2
Dho 646	01/26/2001	18°59.652′	54°10.882′	3518	17	H5/6	S3	W3	20	17.5	–	–	38	Mun2
Dho 647	01/27/2001	19°10.893′	54°41.243′	147	2	L6	S2	W4	21	19	–	Calc. v.	22	Mun2
Dho 648	01/27/2001	19°11.368′	54°38.519′	133	2	LL6	S5	W4	28.5	24	–	Sv	20	Mun2
Dho 649	01/27/2001	19°11.619′	54°38.248′	33	2	L6	S5	W4	25	21	–	Sv; rw; part S6	7	Mun2
Dho 650	01/27/2001	19°11.619′	54°46.596′	114	1	L6	S5	W4	25.5	21.5	–	Calc. v.	19	Mun2
Dho 651	01/28/2001	19°12.223′	54°46.594′	218	1	H5/6	S1	W2–3	19	16.5	–	–	26	Mun2
Dho 652	01/28/2001	19°06.329′	54°50.285′	44	3	H5/6	S3	W4	19	16.5	–	–	10	Mun2
Dho 653	01/28/2001	19°06.477′	54°48.600′	1308	~30	H5/6	S3	W3	19	17	–	Calc. v.	81	Mun2
Dho 654	01/28/2001	19°06.426′	54°48.983′	167	4	H5/6	S3	W3–4	19	17	–	–	30	Mun2
Dho 655	01/28/2001	19°07.172′	54°50.138′	400	1	H5	S3	W3	20	17.5	–	–	30	Mun2
Dho 656	01/29/2001	19°05.464′	54°47.777′	724	1	H4	S3	W1–2	19.5	16.5	–	Sv	42	Mun2
Dho 657	01/29/2001	19°05.949′	54°48.044′	652	9	H5/6	S3	W4	19.5	17.5	–	Calc. v.	61	Mun2
Dho 658	01/29/2001	19°06.438′	54°47.206′	225	1	L4/5	S3	W3	21.5	19 ± 2	–	–	19.5	Mun2
Dho 659	01/30/2001	19°07.243′	54°46.720′	275	3	L3–6	S3	W4	21 ± 3.5	19.5 ± 1.0	–	Br	26	Mun2
Dho 660	01/30/2001	19°07.594′	54°48.178′	963	14	L5–6	S3	W2	24.5	20.5	–	Br, sv	31	Mun2
Dho 661	02/01/2001	19°05.425′	54°05.252′	95	1	LL4–6	S3	W2	28.5	22	–	Br, sv	22	Mun2
Dho 662	02/01/2001	19°05.889′	54°48.397′	1511	45	H5	S3	W3	19.5	17	–	Sv	89	Mun2
Dho 663	02/01/2001	19°05.880′	54°48.214′	633	2	H5	S3	W3	19	17	–	Calc. v.	23	Mun2
Dho 664	02/01/2001	19°06.276′	54°48.567′	988	1	H5/6	S3	W3–4	19.5	17	–	Calc. v.	23	Mun2
Dho 665	02/01/2001	19°06.466′	54°48.733′	233	12	H5/6	S3	W3–4	20	17.5	–	–	20	Mun2
Dho 666	02/01/2001	19°07.214′	54°47.819′	94	1	H5/6	S3	W3–4	19.5	17.5	–	Sv	20	Mun2
Dho 667	02/01/2001	19°06.977′	54°48.570′	424	8	H5	S3	W3–4	19	16.5	–	Sv	45	Mun2
Dho 668	02/01/2001	19°06.030′	54°46.375′	500	1	H5	S3	W3	20	18	–	Calc. v.	43	Mun2
Dho 669	02/02/2001	19°05.945′	54°48.402′	425	12	H5	S3	W3–4	19.5	16.5	–	Sv	31	Mun2
Dho 670	02/02/2001	19°06.058′	54°48.413′	633	22	H5/6	S3	W4	19.5	17	–	Sv	38	Mun2
Dho 671	02/02/2001	19°05.122′	54°45.077′	81	1	L6	S3	W4	25	21	–	–	15	Mun2
Dho 672	02/02/2001	19°12.191′	54°36.333′	453	1	H6	S3	W2	19.5	17.5	–	–	30	Mun2
Dho 673	02/02/2001	19°12.378′	54°36.498′	1493	1	L6	S4	W4	25	21.5	–	Sv; partly S5	22	Mun2
Dho 674	02/02/2001	19°12.783′	54°36.659′	852	1	L6	S4	W3	26	22	–	–	24	Mun2
Dho 675	02/02/2001	19°12.798′	54°37.745′	40	1	Ure	–	W3	15.5 ± 5.5	12.5 ± 1.1	–	(1)	9	Mun2
Dho 676	02/02/2001	19°13.294′	54°37.487′	110	1	L6	S3	W4	25.5	21.5	–	Br, sv	19	Mun2
Dho 677	02/02/2001	19°13.439′	54°37.934′	533	2	L6	S4	W4	25.5	21.5	–	Partly S5	21	Mun2
Dho 678	02/03/2001	19°15.978′	54°40.284′	698	1	H5	S3	W2–3	19.5	17	–	Sv, calc. v.	30	Mun2
Dho 679	02/03/2001	19°16.298′	54°40.174′	1653	1	H5	S2	W3	18.5	16.5	–	–	43	Mun2
Dho 680	02/03/2001	19°17.598′	54°41.238′	69	1	L6	S3	W3–4	25	20.5	–	Sv	15	Mun2
Dho 681	02/03/2001	19°18.190′	54°41.910′	109	1	H5	S3	W3–4	19.5	17	–	–	20	Mun2
Dho 682	02/03/2001	19°18.747′	54°42.712′	116	4	H5/6	S3	W4	20	17	–	–	26	Mun2
Dho 683	02/03/2001	19°18.418′	54°42.813′	126	3	H5	S3	W3	19	17	–	–	20	Mun2
Dho 684	02/03/2001	19°18.761′	54°43.134′	405	1	L5	S3	W4	22.5	19.5	–	–	25	Mun2
Dho 685	02/03/2001	19°20.723′	54°44.103′	379	1	H5/6	S3	W2–3	19.5	17.5	–	–	43	Mun2
Dho 686	02/03/2001	19°20.670′	54°43.701′	530	2	L6	S5	W4	26	21.5	–	Sv	21	Mun2

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 687	02/03/2001	19°20.490′	54°43.498′	945	1	H5/6	S2	W2–3	18.5	16.5	–	Sv	42	Mun2
Dho 688	02/03/2001	19°21.201′	54°44.412′	513	1	L5	S3	W3	22.5	20	–	–	29	Mun2
Dho 689	02/03/2001	19°22.508′	54°44.912′	503	8	H5/6	S3	W4	19.5	17.5	–	Sv	37	Mun2
Dho 690	02/03/2001	19°24.708′	54°45.713′	1769	9	L6	S4	W4	25	21.5	–	Sv	39	Mun2
Dho 692	02/03/2001	19°24.817′	54°46.120′	53	1	H5/6	S3	W4	20.5	18	–	Sv; calc. v.	11	Mun2
Dho 693	02/04/2001	19°25.272′	54°47.712′	101	2	H5	S3	W4	20	18	–	–	25	Mun2
Dho 694	02/04/2001	19°25.786′	54°48.238′	147	1	H5	S2	W3–4	19	17	–	Calc. v.	23	Mun2
Dho 708	07/04/2001	18° 20.7′	54° 10.5′	209	1	H3	S2	W4	16.8	15.9	0.9	–	39.4	VR2
								Range:	7.4–20.1	1.8–25.0				
Dho 743	01/16/2002	19°11.6′	54°42.1′	141	2	L6	S2	W4	24.8	22.2	1.6	–	32	VR2
Dho 744	01/17/2002	19°15.6′	54°42.1′	132	1	H6	S4	W3	16.6	16.9	1.2	–	25.3	VR2
Dho 838	01/17/2002	19°19.7′	54°45.8′	170	1	H6	S3	W3	19.1	18	1.3	–	49.6	VR2
Dho 839	01/18/2002	18°31.7′	54°00.2′	126	1	H5	S3	W3	18.2	17.9	1.2	–	18.2	VR2
Dho 840	11/15/2002	19°20.5′	54°33.6	126	1	H4	S2	W1	18.4	17.6	1.1	–	25	VR1
Dho 841	01/18/2002	18°37.8′	54° 03.0′	100	1	H6	S2	W4	18.5	18.3	1.3	–	47.6	VR2
Dho 842	12/13/2001	19°11.3′	54°47.9′	136.75	8	L5	S2	W3	24.1	20.4	1.4	–	67	VR2
Dho 843	12/13/2001	19°10.6′	54°40.7′	147	3	L6	S4	W3/4	24.4	22.6	1.5	–	95.5	VR2
Dho 844	04/04/2001	18° 23.5′	54° 09.6′	182	1	L6	S3	W4	25.7	22.6	1.4	–	40.3	VR2
Dho 845	04/05/2001	18° 24.5′	54° 07.8′	190	2	H4	S2	W4	19.4	18.9	1.2	–	80.6	VR2
Dho 846	04/05/2001	18° 20.6′	54° 05.6′	156	1	H6	S3	W3	17.1	16.5	0.9	–	31.8	VR2
Dho 847	04/13/2001	18° 27.7′	54° 00.6′	130	1	H6	S3	W3	18.5	17.5	1.4	–	24.5	VR2
Dho 848	04/08/2001	18° 12.1′	54° 16.8′	162	10	L5	S2	W2	25.6	22.6	1.3	–	32	VR2
Dho 849	04/09/2001	18° 10.9′	54° 05.8′	146	1	L6	S2	W3	24.6	23.6	1.5	–	31	VR2
Dho 850	11/15/2002	18°37.1′	54°09.3′	208	1	LL3	–	–	–	–	–	See special entry	42	Vernad6
Dho 851	04/13/2001	18°27.5′	54°34.3′	62	1	H5	S2	W3	18.5	17.9	1.2	–	13	VR2
Dho 852	04/03/2001	18° 14.6′	54° 08.1′	122	1	H4	S3	W3	19.3	17.7	1	–	59.1	VR2
Dho 853	04/04/2001	18° 58.8′	54° 32.5′	50	1	L6	S4	W2	25.4	22.2	1.4	–	10	VR2
Dho 854	04/07/2001	18°52.8′	54°37.0′	142	1	L6	S1	W2	23.9	21	1.5	–	36	VR2
Dho 855	04/11/2001	18° 18.7′	54° 08.7′	196	1	LL4	S3	W3	29.6	24.8	1.4	–	30.5	VR2
Dho 856	04/12/2001	18° 23.7′	54° 16.2′	145	1	L6	S2	W2	24.6	21.9	1.4	–	35	VR2
Dho 857	04/04/2001	18° 23.7′	54° 08.2′	126	1	H6	S1	W2	19	17.4	1.3	–	22.9	VR2
Dho 858	04/11/2001	18° 13.3′	54° 06.0′	88	1	H3.9	S2	W4	16.8	15.3	0.5	–	24	VR2
Dho 859	12/12/2001	19°10.7′	54°49.5′	93.5	5	H5	S2	W3/4	18.9	16.7	1.6	–	41	VR2
Dho 860	02/06/2003	19°18.0′	54°40.1′	394	1	Chondrite	W1	15–28	12–27	–	–	Impact melt breccia	86	Vernad3
Dho 861	12/15/2001	19°01.9′	54°30.7′	182	1	H6	S2	W3	17.8	17.1	1.2	–	72	VR2
Dho 862	12/15/2002	19°09.6′	54°35.2′	50	1	H5	S2	W3	19.3	17.5	1.5	–	11	VR2
Dho 863	12/17/2002	19°23.0′	54°35.6′	102	1	L5	S4	W1	24.1	21	1.3	–	19.8	VR2
Dho 864	11/14/2002	18°09.8′	54°09.6′	1233	1	L6	S6	W4	23.9	21	1.5	Ca-Px: $Fs_{7.8}Wo_{44.1}$ mv, rw	324	Vernad3
Dho 908	01/2003	19°19.9′	54°47.0′	245	9	Lunar	–	–	31± 9	27 ± 7.5	–	(2)	20	Mun2
Dho 909	02/02/2003	19°19.809′	54°46.783′	3.9	1	Lunar	–	–	26.5 ± 5	24.0 ± 5	–	Breccia; $An_{94–98}$	0.9	Mun2
Dho 910	03/01/2003	19°19.904′	54°46.734′	142	1	Lunar	–	–	34 ± 9	30 ± 7	–	(3)	20	Mun2
Dho 911	03/04/2003	19°19.9′	54°46.6′	194	9	Lunar	–	–	26 ± 3	22 ± 5	–	(4)	20	Mun2
Dho 912	02/08/2003	18°58.7′	54°24.5′	19	1	H4	S2	W2	17.7	16.3	1.3	Ca-Px: Fs_5Wo_{47}	7	Vernad3
Dho 913	02/08/2003	18°41.7′	54°15.0′	88	1	H4	S2	W3	17.7	16.2	1.2	Ca-Px: Fs_6Wo_{43}	20.8	Vernad3
Dho 914	02/11/2003	18°54.8′	54°25.0′	76	1	LL6	S4	W1	28.3	24	1.9	Ca-Px: $Fs_{10.1}Wo_{40.9}$, sv	16	Vernad3
Dho 915	02/10/2003	19°12.3′	54°31.6′	8	1	H5	S4	W2	19	16.8	1.2	Ca-Px: Fs_6Wo_{44}, sv	3.8	Vernad3
Dho 916	11/10/2002	19°05.8′	54°47.5′	1350	1	H4	S4	W1	18.3	16.5	1.2	Ca-Px: Fs_6Wo_{44}	238	Vernad3
Dho 917	02/10/2003	19°18.4′	54°33.1′	12	1	LL6	S6	W3	30.5	25.2	1.8	Ca-Px: $Fs_{10.3}Wo_{42.4}$, mv	5.4	Vernad3

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 918	02/10/2003	19°15.6′	54°29.3′	134	1	LL5–6	S3	W2	30.3	25.2	1.6	Ca-Px: $Fs_{9.8}Wo_{45.2}$, breccia, mv	33.5	Vernad3
Dho 919	02/09/2003	18°40.0′	54°09.6′	60	1	H5	S6	W1	17.8	16.5	1.2	Ca-Px: $Fs_{5.5}Wo_{44.5}$, mv	24.5	Vernad3
Dho 920	02/08/2003	18°55.1′	54°24.5′	26	1	L6	S6	W2–3	24.1	20.6	1.4	Ca-Px: $Fs_{8.4}Wo_{44.0}$, mv, rw	11	Vernad3
Dho 921	02/08/2003	18°37.5′	54°25.8′	144	1	L6	S6	W3	24.6	21	1.5	Ca-Px: $Fs_{7.7}Wo_{44.5}$, mv, rw	20	Vernad3
Dho 922	02/06/2003	19°24.3′	54°34.2′	2270	1	L6	S6	W4	23.1	20.2	2.8	Ca-Px: $Fs_{8.2}Wo_{43.3}$, mv, rw	430	Vernad3
Dho 924	11/08/2002	19°09.8′	54°40.1′	185	1	L6	S1	W1	24.1	22.4	1.8	–	50	VR1
Dho 925	02/06/2003	19°23.8′	54°33.8′	49	1	–	–	–	–	–	–	See special entry	10.1	Vernad5
Dho 926	11/16/2002	19°04.4′	54°44.9′	411	1	L5	S3	W2	24.1	20.9	1.7	–	134	VR1
Dho 927	11/16/2002	19°08.2′	54°33.8′	795	1	H5	S1	W3/4	17.3	17.5	1.4	–	229	VR1
Dho 928	11/10/2002	19°06.8′	54°45.0′	178	1	L5	S2	W2/3	24.3	22.2	1.7	–	61	VR1
Dho 929	11/14/2002	18°31.0′	54°13.7′	602	1	L5	S2	W2/3	24.6	22.6	1.5	–	122	VR1
Dho 930	02/11/2003	19°23.4′	54°33.5′	18	1	–	–	–	–	–	–	See special entry	5.48	Vernad4
Dho 931	11/11/2002	19°06.3′	54°49.1′	105	1	L6	S4	W2	24.2	22.1	1.4	–	43.5	VR1
Dho 932	04/06/2001	19°10.0′	54°52.3′	64	1	L4	S2	W3	21.6	19.3	2.8	–	15.1	VR1
Dho 933	04/26/2000	19°17.3′	54°41.7′	48	1	H4	S2	W2	19.5	18.1	1.3	–	9.6	VR1
Dho 934	04/27/2000	18°55.5′	54°35.9′	68	2	H4	S3	W3	18	17.7	1.4	–	18	VR1
Dho 935	11/09/2002	19°06.3′	54°48.7′	>1500	Many	H5	S3	W3	19.2	17.7	1.4	–	960	VR1
Dho 936	04/27/2000	18°53.6′	54°43.9′	62	1	H4	S2	W3	17.7	16.8	1.4	–	14.7	VR1
Dho 999	01/30/2001	18° 16.090′	54° 9.040′	20.89	1	H5	S1	W4	16.5	13.4	1.3	–	NHB	Bern1
Dho 1000	01/07/2002	18° 29.267′	54° 10.851′	527.35	16	H4	S1	W4	18.1	16.8	1.2	–	NHB	Bern1
Dho 1001	01/08/2002	18° 33.346′	54° 0.046′	606.97	1	L6	S4	W3	23.9	20.2	1.5	–	NHB	Bern1
Dho 1002	01/31/2001	18° 33.543′	54° 5.895′	61.82	1	L6	S4	W4	24.7	21.2	1.4	–	NHB	Bern1
Dho 1003	01/29/2001	18° 55.593′	54° 15.744′	7.61	1	H5	S2	W3	21.6	19.2	1.3	–	NHB	Bern1
Dho 1004	01/28/2001	19° 2.688′	54° 30.443′	113.68	2	H3	S4	W4	19.3	16.5	1.2	–	NHB	Bern1
Dho 1005	01/28/2001	19° 3.771′	54° 29.825′	35.37	1	H3	S4	W4	19.1	15.8–17.9	1.3	–	NHB	Bern1
Dho 1006	12/19/2002	18° 32.576′	54° 0.064′	155.668	9	L6	S4	W2	25.4	21.6	1.6	–	NHB	Bern7
Dho 1007	01/07/2003	18° 32.718′	54° 1.21′	87.767	1	L4	S3	W4	24.3	22.6	1.6	–	NHB	Bern8
Dho 1008	12/21/2002	18° 32.923′	54° 1.621′	76.451	13	L5	S1	W4	24.4	22.2	1.6	–	NHB	Bern7
Dho 1009	01/21/2003	18° 33.234′	54° 0.789′	334.226	1	L4	S1	W4	24.8	23.7	1.6	Paired with Dho 1013	NHB	Bern9
Dho 1010	12/21/2002	18° 33.250′	54° 0.152′	2298.4	1	H4	S1	W3	17.4	15.7	1.4	–	NHB	Bern7
Dho 1011	12/21/2002	18° 33.287′	54° 2.563′	292.797	2	L3	S1	W3	7.4–29.7	15.7–24.6	0.0–3.0	Cpx	NHB	Bern7
Dho 1012	12/21/2002	18° 33.295′	54° 1.758′	144.865	1	L6	S3	W1	24.8	21.2	1.5	–	NHB	Bern7
Dho 1013	01/21/2003	18° 33.312′	54° 0.943′	194.046	13	L4	S1	W4	24.4	21.8	1.5	Paired with Dho 1009	NHB	Bern9
Dho 1014	12/21/2002	18° 33.404′	54° 0.050′	298.274	1	L4	S2	W4	25.7	21.5	1.5	–	NHB	Bern7
Dho 1015	12/21/2002	18° 33.544′	54° 4.897′	63.526	1	EH4	S2	W3	0.4–0.6	0.5–4.1	0.4–1.6	Plag: $An_{0.04}$; See separate entry	NHB	Bern7
Dho 1016	01/07/2003	18° 33.565′	54° 2.708′	125.207	1	L5	S2	W3	24.2	21.2	1.6	–	NHB	Bern8
Dho 1017	12/30/2002	19° 10.322′	54° 47.677′	273.299	1	H4	S2/3	W3	19.9	15.8	0.7	Cpx	NHB	Bern8
Dho 1018	07/11/2001	18°42.913′	54°22.580′	506	1	H5	S3	W3	18.5	16.5	–	–	9	Mun1
Dho 1019	07/11/2001	18°43.562′	54°22.719′	194	1	H5/6	S3	W3–4	19	18	–	–	10.5	Mun1
Dho 1020	07/15/2001	18°44.216′	54°28.744′	105	1	H6	S1	W3–4	18.5	16.5	–	Calc. v.	9	Mun1
Dho 1021	07/15/2001	18°43.976′	54°35.245′	61	1	L3	S2	W3–4	22.2 ± 6	18.8 ± 3.7	–	–	6	Mun1
Dho 1022	02/03/2001	19°14.981′	54°39.297′	271	1	H(L)3-an	S2	W4	18.5 ± 1.3	16.5 ± 5.5	–	(5)	44	Mun1
Dho 1023	03/22/2001	19°17.288′	54°31.699′	69.7	1	L(LL)3	S2	W4	12.5 ± 7.5	11.5 ± 9.5	–	–	14	Mun1
Dho 1024	10/10/2002	19°18.371′	54°29.687′	1173	1	H5/6	S2	W3	20	17.5	–	–	23	Mun1

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 1025	10/10/2002	19°18.525′	54°30.107′	39	1	L6	S3	W2–3	25.5	21.5	–	Sv	7	Mun1
Dho 1026	01/30/2003	18°39.571′	54°14.778′	10500	1	H6	S3	W3	19.5	17	–	Calc.v.	23	Mun1
Dho 1027	01/30/2003	18°39.602′	54°14.732′	14944	240	H5/6	S3	W2	19.5	17	–	Calc.v.	34.8	Mun1
Dho 1028	01/29/2003	18°39.417′	54°14.324′	183.1	10	L5	S3	W3–4	24.5	21	–	Sv, calc.v,	27.5	Mun1
Dho 1029	01/29/2003	18°23.891′	54°04.705′	2516.2	4	H5	S2	W4	18	16	–	–	27.5	Mun1
Dho 1030	02/05/2003	19°19.958′	54°46.693′	281.1	2	H5	S3	W4	18	16	–	Calc.v.	35.5	Mun1
Dho 1031	01/26/2003	19°20.102′	54°47.455′	492.6	7	L5	S3	W4	24.5	21	–	Sv	21.8	Mun1
Dho 1032	01/30/2003	18°25.710′	54°10.249′	81.1	1	L4/5	S2	W4	25.5	21	–	–	21.8	Mun1
Dho 1033	01/30/2003	18°44.378′	54°15.920′	67.8	2	H6	S3	W2–3	20	17.5	–	Sv	15.4	Mun1
Dho 1034	01/28/2003	19°18.615′	54°45.292′	489.8	1	L6	S4	W4	26	21.5	–	–	28.6	Mun1
Dho 1035	01/30/2003	18°41.965′	54°15.906′	420.1	12	H(L)3	S3	W4	21 ± 4	15.5 ± 3.5	–	(6)	24.7	Mun1
Dho 1036	02/02/2003	19°20.169′	54°47.496′	61.5	2	LL6	S2	W3	31	25	–	Sv, br, imp.melt	12.3	Mun1
Dho 1037	02/02/2003	19°18.053′	54°38.363′	26.4	1	H5/6	S3	W3	19	17	–	–	5.4	Mun1
Dho 1038	02/01/2003	19°18.273′	54°37.894′	886.2	9	L6	S4	W4	26	23	–	Calc.v.	26.7	Mun1
Dho 1039	09/22/2000	18°19.827′	54°31.608′	296	1	H6	S2	W4	20	18	–	Br, sv, calc.v	21	Mun1
Dho 1040	10/03/2000	18°47.184′	54°37.773′	361	1	H5	S2	W3	19	17	–	–	21.4	Mun1
Dho 1041	10/07/2000	18°51.837′	54°38.566′	215	1	H6	S3	W2–3	19.5	17.5	–	Calc.v	21.6	Mun1
Dho 1042	09/24/2000	18°56.321′	54°44.421′	332	1	H6	S3	W3	20.5 ± 2.2	17.5	–	Sv, calc.v	22.2	Mun1
Dho 1043	09/26/2000	18°55.142′	54°42.646′	205	2	H4/5	S2	W3–4	19	17	–	Sv, calc.v	21.9	Mun1
Dho 1044	10/03/2000	18°51.895′	54°38.979′	208	1	L5/6	S4	W3–4	25.5	21.5	–	Sv	18	Mun1
Dho 1045	10/07/2000	18°49.172′	54°36.828′	170	1	H5/6	S3	W2–3	19.5	17	–	Sv	20.5	Mun1
Dho 1046	10/11/2000	18°51.291′	54°38.411′	248	1	H5/6	S3	W4	19	17	–	Sv, calc.v	23	Mun1
Dho 1047	10/09/2000	18°47.584′	54°37.637′	296	1	H4/5	S2	W3	18.5	16.5	–	Calc.v	19.5	Mun1
Dho 1048	10/06/2000	18°43.023′	54°42.120′	267	2	H5/6	S3	W3	18.5	17	–	Sv	30.9	Mun1
Dho 1049	10/05/2000	18°55.579′	54°42.102′	121	1	L5	S2	W4	25	21.5	–	Calc.v	22.5	Mun1
Dho 1050	09/27/2000	18°53.482′	54°37.448′	76	1	H5	S3	W3–4	20	15.5 ± 5	–	Sv	15.2	Mun1
Dho 1051	10/08/2000	18°54.541′	54°36.971′	38	1	L4/5	S3	W3–4	25	21.5	–	Calc.v	8.5	Mun1
Dho 1052	10/11/2000	18°55.372′	54°37.720′	41	1	L6	S3	W4	26	21.5	–	Sv, calc.v	8.5	Mun1
Dho 1053	09/27/2000	18°56.183′	54°43.448′	44.5	4	H4/5	S2	W3	19	17	–	–	10.8	Mun1
Dho 1054	09/28/2000	18°55.845′	54°40.320′	65	1	H3–6	S2	W3	19.5 ± 2.8	17 ± 1.7	–	Br, calc.v, sv	14.6	Mun1
Dho 1055	10/04/2000	18°58.297′	54°41.572′	114	1	H4/5	S2	W4	18.5	16.5	–	Calc.v	24.6	Mun1
Dho 1056	10/07/2000	18°44.828′	54°45.148′	54	2	LL6	S3	W3–4	31	25	–	Calc. v, sv, br	12.3	Mun1
Dho 1057	10/06/2000	18°48.913′	54°38.002′	28	1	L6	S3	W3–4	25	21.5	–	Sv	6.9	Mun1
Dho 1058	10/05/2000	18°51.422′	54°38.679′	41	1	H4/5	S3	W4	19.5	17	–	Calc.v, sv	10.3	Mun1
Dho 1059	09/27/2000	18°51.141′	54°38.928′	149	1	L5/6	S4	W3	25.5	21	–	Calc.v, sv	7.8	Mun1
Dho 1060	10/09/2000	19°00.149′	54°32.302′	195	1	H5	S2	W2–3	19	17	–	Sv	26.2	Mun1
Dho 1061	10/11/2000	18°51.283′	54°38.847′	66	1	L6	S3	W4	25	21.5	–	Calc.v	15.5	Mun1
Dho 1062	09/24/2000	18°50.275′	54°40.220′	43	1	L6	S4	W3–4	25.5	21.5	–	Calc.v	11.4	Mun1
Dho 1063	10/06/2000	18°51.223′	54°45.147′	38	1	H6	S4	W3	18.5	16.5	–	Calc.v	12	Mun1
Dho 1064	09/27/2000	18°51.797′	54°40.796′	105	1	L6	S4	W4	24.5	20.5	–	Calc.v	3.2	Mun1
Dho 1065	10/07/2000	18°52.424′	54°35.163′	753	3	H5	S4	W2	18	16	–	–	21.5	Mun1
Dho 1066	09/26/2000	18°51.001′	54°37.327′	305	1	H5/6	S2	W3	19	16.5	–	Calc.v	25.1	Mun1
Dho 1067	10/10/2000	18°54.249′	54°42.227′	96	1	H4–6	S3	W1–2	19.5	17.5	–	Sv, br	44	Mun1
Dho 1068	10/07/2000	18°57.772′	54°45.080′	52	1	L4/5	S3	W1	26	22	–	–	11	Mun1
Dho 1069	10/08/2000	18°57.040′	54°45.120′	182	2	LL5	S3	W3–4	30.5	25	–	Sv	21.1	Mun1
Dho 1070	09/24/2000	19°00.520′	54°46.177′	308	1	H6	S3	W4	19.5	17	–	Calc.v	20.6	Mun1
Dho 1071	09/24/2000	18°51.237′	54°38.846′	4180	2	L6	S4	W3–4	25.5	21.5	–	Calc.v	30.7	Mun1
Dho 1072	09/25/2000	18°51.484′	54°38.598′	680.5	1	LL6	S2	W3	31	25	–	Sv	25.1	Mun1

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Dho 1073		19°19.981′	54°46.930′	2.72	1	CV3	S2	W2–3	14 ± 11	5 ± 6	–	Sample too small for safe classification	0.5	Mun1
Dho 1074	07/17/2001	18°44.372′	54°11.728′	1150	1	H5	S4	W3–4	18.5	16.5	–	Calc.v.	22.8	Mun1
Dho 1075	07/17/2001	18°45.297′	54°11.473′	76.5	1	L6	S4	W4	24.5	21.5	–	Calc.v.	15.5	Mun1
Dho 1076	07/17/2001	18°44.283′	54°11.620′	243	1	H3–5	S2	W3	17 ± 1	17 ± 5	–	Br	28.1	Mun1
Dho 1077	07/17/2001	18°43.829′	54°10.940′	118.9	1	L5/6	S4	W3–4	24.5	20.5	–	Calc.v.	22.8	Mun1
Dho 1078	07/18/2001	18°44.728′	54°11.634′	72.2	2	H5/6	S3	W3	19	17	–	–	23.1	Mun1
Dho 1079	07/18/2001	18°44.623′	54°12.028′	2132	1	H4/5	S2	W3–4	17.5	15.5 ± 1.7	–	–	46.7	Mun1
Dho 1080	07/18/2001	18°44.439′	54°11.982′	127.2	1	H3	S2	W4	17.5 ± 1.5	15 ± 2.5	–	–	20.4	Mun1
Dho 1081	07/18/2001	18°44.699′	54°11.880′	833	1	L5	S3	W3–4	24.5	20.5	–	Calc.v.	29.5	Mun1
Dho 1082	07/18/2001	18°44.529′	54°11.652′	2493.5	1	H4/5	S3	W3	17.5	16	–	–	28.5	Mun1
Dho 1083	07/19/2001	18°44.329′	54°11.692′	257.8	1	L6	S4	W4	24.5	20.5	–	Partly S5	22.1	Mun1
Dho 1084	10/04/2003	18°43.326′	54°27.646′	90	1	Lunar	–	–	43 ± 5	30 ± 9	–	$An_{92–98}$	18	Mun1
Dho 1085	10/01/2003	19°19.686′	54°46.631′	197	4	Lunar	–	–	34 ± 10	31 ± 8	–	$An_{93–99}$	20	Mun1
Jiddat al Harasis (JaH)														
JaH 055	02/2004	19°39.1′	55°41.4′	200 kg	Many	L4–5	S2	W3	25.6	21.7	1.8	Largest stone ~70 kg	1506	Vrl
JaH 076	10/29/2002	19°3.002′	55°26.661′	300.557	3	L6	S5	W4	25.4	22	1.7	–	NHB	Bern2
JaH 077	12/22/2002	19°39.964′	55°39.100′	307.802	1	L4	S1	W2	24.8	20.9	1.1	–	NHB	Bern7
JaH 078	01/17/2003	19°54.869′	55°39.767′	882.7	1	L6	S4	W2	25	21.3	1.6	Paired with JaH 079	NHB	Bern9
JaH 079	01/17/2003	19°54.873′	55°39.868′	3959.857	5	L6	S4	W2	25.9	22.2	1.6	Paired with JaH 078	NHB	Bern9
JaH 080	01/08/2003	19°35.042′	55°40.788′	23.41	1	L6	S2	W4	25.1	21	1.7	Cpx	NHB	Bern8
JaH 081	01/17/2003	19°57.299′	55°41.342′	35.954	3	H6	S1–3	W3–4	19.5	17.4	1.4	–	NHB	Bern9
JaH 082	01/08/2003	19°33.936′	55°41.834′	18.586	1	H4	S2	W4	17	15.3	1	–	NHB	Bern8
JaH 084	12/05/2002	19°39.311′	55°45.185′	59.473	1	CO3	S1	W1	3.2–39.2	1.1–4.9	0.9–2.7	See separate entry	NHB	Bern1
JaH 085	12/05/2002	19°39.511′	55°45.186′	51.895	1	H4	S2	W3	19	17.2	1.3	Cpx	NHB	Bern1
JaH 086	01/17/2002	19°43.437′	55°47.634′	123.34	1	H6	S3	W4	19.3	18	1.3	–	NHB	Bern1
JaH 087	10/11/2002	19°35.319′	56°10.553′	1532.7	1	H4–6	S1/2	W3	18.7	17.3	1.1	–	NHB	Bern2
JaH 088	10/21/2002	19°21.426′	56°16.119′	185.397	1	L6	S5	W4	25.2	22.5	1.4	–	NHB	Bern2
JaH 089	01/13/2002	19°56.342′	56°25.685′	170.69	1	Melt br	S3–4	W2	25.2	19.7	2.3–6.9	See separate entry	NHB	Bern1
JaH 090	10/18/2002	19°43.007′	56°36.372′	92667.6	15	L5	S2	W2/3	25.1	22.8	1.7	Paired with JaH 091	NHB	Bern2
JaH 091	10/19/2002	19°41.617′	56°39.259′	123374.4	>1000	L5	S2	W3	25	21.3	1.6	Paired with JaH 090	NHB	Bern2
JaH 092	01/12/2002	19°12.340′	56°43.833′	204.55	5	H4–5	S1	W4	18.4	16.2	1.2	Cpx	NHB	Bern1
JaH 093	10/11/2002	19°57.753′	56°45.399′	246.769	1	L5	S1	W3	24.8	20.4	1.3	Cpx	NHB	Bern2
JaH 094	10/11/2002	19°59.015′	56°46.379′	3713.745	8	L6	S3	W3	24.9	22.3	1.4	Paired with JaH 095	NHB	Bern2
JaH 095	10/12/2002	19°59.015′	56°46.379′	1211.574	5	L6	S3	W3	24.8	22	1.4	Paired with JaH 094	NHB	Bern2
JaH 096	10/23/2002	19°27.617′	56°49.676′	1853.5	1	L6	S3	W3	24.9	20.5	1.5	–	NHB	Bern2
JaH 097	10/23/2002	19°27.697′	56°49.923′	674.3	1	L5	S3	W2–3	24.9	21.5	1.3	Cpx	NHB	Bern2
JaH 098	10/16/2002	19°13.716′	56°5.539′	7521.315	30	H4	S2	W2/3	19.7	18.8	1.3	–	NHB	Bern2
JaH 099	10/25/2002	19°31.613′	56°50.131′	1595.377	5	H4(–5)	S1	W4	17.9	15.8	1.2	–	NHB	Bern2
JaH 100	10/24/2002	19°30.851′	56°51.121′	1362.5	1	H4(–5)	S1	W3	17.8	15.8	1.1	–	NHB	Bern2
JaH 101	01/13/2003	19°45.044′	56°57.991′	3563	1	L6	S2	W3	25.5	23.5	1.6	–	NHB	Bern9
JaH 102	01/12/2002	19°30.711′	56°58.907′	1007.33	67	H5	S2	W4	19.1	16.5	1.3	–	NHB	Bern1
JaH 103	01/13/2003	19°51.474′	56°59.984′	2711	1	L4	S2	W3	22.4	18.9	1.5	–	NHB	Bern9
JaH 104	01/13/2003	19°54.835′	56°59.995′	19.908	2	H6	S3	W3	20.2	17.8	1.3	–	NHB	Bern9
JaH 105	10/16/2002	19°10.761′	56°7.066′	59.412	1	H6	S2	W3	20.9	18.5	2	–	NHB	Bern2
JaH 106	10/11/2002	19°35.669′	56°9.420′	263.723	1	H4	S2	W2	18.7	15.5	0.9	–	NHB	Bern2
JaH 107	10/10/2002	19°34.794′	56°9.767′	77.872	1	H6	S2	W4	19.2	17.3	1.5	–	NHB	Bern2

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
JaH 108	01/17/2002	19°44.152′	55°49.732′	817.2	1	H6	S1–S2	W3	20.8	18.3	1.3	Cpx	NHB	Bern1
JaH 109	10/09/2002	19°56.752′	56°55.628′	729.7	1	H4	S2	W4	18.3	15.2	1.8	–	NHB	Bern2
Ramadah al Sahmah (RaS)														
RaS 001	01/09/2003	20°12.138′	56°22.001′	97.533	3	L6	S4	W3	24.5	21.3	1.5	–	NHB	Bern9
RaS 002	01/18/2003	20°14.599′	56°27.099′	200.511	1	H6	S1	W4	18.1	16.1	1.7	–	NHB	Bern9
RaS 003	01/18/2003	20°15.817′	56°27.843′	39.814	1	H5	S1	W3	19.2	17.1	1.5	–	NHB	Bern9
RaS 004	01/18/2003	20°15.843′	56°27.789′	475.964	4	H4	S2	W4	18.8	18.2	1.1	–	NHB	Bern9
RaS 005	01/08/2003	20°2.217′	56°17.326′	275.278	1	H5	S3	W3	18.9	17.3	1.2	–	NHB	Bern8
RaS 006	01/08/2003	20°3.255′	56°18.528′	17.946	1	H5	S2	W3	18.9	16.6	1.3	Cpx	NHB	Bern8
Sayh al Uhaymir (SaU)														
SaU 077	02/14/2001	21°00.71′	57°19.80′	23.2	1	H6	S2	W4	19.5	17.5	–	–	5	Mun2
SaU 117	01/04/2000	20°32.2′	56°41.0′	344	1	H5	S2	W2	18.7	17.6	0.7	–	61.7	VR2
SaU 118	09/12/2001	20°59.9′	57°19.3′	242	17	LL3	S4	W3	28	23.5	1.1	–	115.5	VR1
								Range:	25.7–33.3					
SaU 119	01/20/2002	21°00.2′	57°18.9′	472	1	H4	S2	W4	16.6	16.4	1.4	–	98.2	VR2
SaU 121	01/20/2002	21°00.5′	57°18.6′	688	1	H4	S2	W3	17.1	16	1.2	–	125.4	VR2
SaU 122	03/31/2001	21°04.2′	57°18.8′	130	1	L6	S3	W3	24.9	22.5	1.4	–	23	VR2
SaU 123	04/01/2001	21°01.2′	57°16.9′	120	1	L6	S3	W3	24.4	22.6	1	–	34.6	VR2
SaU 124	04/02/2001	21°00.5′	57°00.0′	184	1	H5	S3	W3	19.7	16.7	1.1	–	27	VR2
SaU 125	11/19/2003	21°00.4′	57°19.3′	31.7	1	Martian	–	–	–	–	–	Paired with SaU 005/ 008/051/060/090/094/ 120/125	7.9	VR1
SaU 126	11/01/2002	20°58.8′	57°20.0′	100	1	L6	S2	W3	24.1	21.8	1.7	–	39.2	VR2
SaU 127	12/01/2002	21°05.3′	57°17.5′	176	1	H4/5	S3	W2	18	16.5	0.8	–	38	VR2
SaU 128	01/20/2002	20°59.9′	57°18.9′	82	3	H6	S2	W3	19.3	17.3	1.4	–	52.5	VR2
SaU 129	02/13/2003	21°05.4′	56°54.9′	92	1	H5	S2	W3	18.5	17	1.2	Ca-Px: $Fs_{6.1}Wo_{45.2}$	24.7	Vernad3
SaU 130	01/11/2004	21°00.2′	57°19.1′	278.5	4	Martian	–	–	–	–	–	paired with SaU 005/ 008/051/060/090/094/ 120/125	26.5	VR1
SaU 131	01/11/2004	21°04.2′	57°16.2′	168	2	CV3	–	–	–	–	–	Paired with SaU 085	40	VR1
SaU 147	04/01/2002	21°02′46.9″	57°18′37.2″	87	1	H/L4	S3	W3	19.5	17.2	1.34	Impact melt pools, veins; $Fs_{9–16}Wo_{34–9}$	18.3	Bart6
SaU 184	01/16/2002	20°28.580′	57°21.608′	226.22	1	L6	S3	W3	25.5	20.6	1.5	–	NHB	Bern1
SaU 185	01/16/2002	20°30.891′	57°16.643′	1575.3	1	L/H4–5	S1–S3	W2	19.4–24.5	17.2–20.6	1.0–1.6	Br	NHB	Bern1
SaU 186	01/14/2002	20°33.873′	57°10.675′	3166.74	1	H4–6	S2	W4	19.4	16.3	1.5	Cpx, br	NHB	Bern1
SaU 187	01/16/2002	20°34.167′	57°19.300′	4211	1	L4–5	S2	W2	25.8	21.7	1.7	–	NHB	Bern1
SaU 188	01/16/2002	20°35.262′	57°5.851′	127.92	1	EL4	S2	W1–W3	26.8	0.5–4.4	0.2–0.8	See separate entry	NHB	Bern1
SaU 189	01/16/2002	20°36.145′	57°22.742′	694.9	1	LL7	S5	W4	27.3	22.2	1.5	Plag >200 μm	NHB	Bern1
SaU 190	12/2001	20°51.800′	56°12.200′	262	1	L5	S4	W2	24	20.4	1.4	–	NHB	Bern2
SaU 191	01/15/2002	20°57.957′	57°19.473′	284.83	1	H6	S1	W4	19.4	16.9	1.4	–	NHB	Bern1
SaU 192	01/15/2002	20°57.958′	57°19.542′	349.28	1	H6	S1	W4	19.3	17.7	1.5	–	NHB	Bern1
SaU 193	12/2001	20°51.810′	56°12.210′	52	1	L4	S4	W2	23	19.5	0.7	–	NHB	Bern2
SaU 194	02/09/2001	21°2.147′	57°19.695′	198.36	1	L6	S2, 3	W4	25.5	21.1	1.1	–	NHB	Bern2
SaU 195	01/15/2002	21°2.378′	57°18.651′	48.09	1	H5	S2	W3	20.3	16.8	1.5	–	NHB	Bern1
SaU 196	01/15/2002	21°2.580′	57°20.584′	407.77	1	L6	S2	W4	24.9	21	1.5	–	NHB	Bern1
SaU 197	01/14/2002	21°3.757′	57°16.428′	34.69	1	L6	S3	W2	25.2	20.7	1.5	Cpx, br	NHB	Bern1
SaU 198	01/14/2002	21°3.757′	57°16.453′	36.03	1	L6	S3	W2	24.5	20.8	1.4	–	NHB	Bern1
SaU 199	01/14/2002	21°3.917′	57°16.824′	75.13	1	L6	S3	W2	24.5	21.3	1.3	–	NHB	Bern1

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
SaU 200	01/14/2002	21°4.033′	57°17.007′	16.08	1	L6	S3	W1	24.7	20.4	1.3	–	NHB	Bern1
SaU 201	01/14/2002	21°4.178′	57°17.474′	44.71	1	L6	S3	W2	25.3	20.9	1.5	–	NHB	Bern1
SaU 202	01/22/2001	21°4.252′	57°18.670′	335.86	7	CV3	S2	W2	1.8–8.5	1.8–6.3	1.1–1.4	See separate entry	NHB	Bern1
SaU 203	01/14/2002	21°4.261′	57°17.691′	22.79	1	L6	S3	W3	26.9	21.3	1.5	–	NHB	Bern1
SaU 204	01/03/2002	21°5.010′	57°15.165′	139.96	1	H5	S3	W3	19.4	16.7	1.5	–	NHB	Bern1
SaU 205	11/17/2002	20°0.240′	56°45.721′	137.796	1	L6	S5–6	W3	25.4	21.1	1.5	–	NHB	Bern2
SaU 206	01/14/2003	20°11.691′	57°12.132′	76.044	1	H4–5	S1	W4	19.5	17.4	1.2	–	NHB	Bern9
SaU 207	11/30/2002	20°12.075′	56°57.686′	606.922	1	H4	S1	W3	17.7	15.5	0.8	–	NHB	Bern1
SaU 208	01/18/2003	20°17.701′	56°30.453′	48.645	1	H4	S1	W4	18.9	17.3	1.5	–	NHB	Bern9
SaU 209	12/07/2007	20°19.901′	57° 4.844′	5585	1	H5	S1	W2	17.8	15.7	1.7	–	NHB	Bern6
SaU 210	01/14/2003	20°2.146′	57°13.223′	97.271	1	L6	S3	W3	25.4	21.2	1.5	–	NHB	Bern9
SaU 211	11/19/2002	20°22.115′	56°53.201′	319	1	H4	S2	W3	18.1	16.4	1.1	–	NHB	Bern2
SaU 212	10/31/2002	20°24.166′	57°2.244′	2027.064	3	L5	S4	W3	24.4	22.5	1.3	–	NHB	Bern2
SaU 213	09/22/2002	20°24.862′	57°3.947′	187.503	1	H4	S1	W3	17.6	15.8	1	–	NHB	Bern2
SaU 214	01/10/2003	20°25.252′	57°21.556′	1081.8	1	L5	S1	W4	24.7	21	1.6	–	NHB	Bern9
SaU 215	01/09/2003	20°25.453′	56°33.711′	188.381	2	H5	S2	W3	19.6	18.5	1.4	–	NHB	Bern9
SaU 216	09/23/2002	20°25.645′	57°6.178′	29.868	1	H4	S2	W4	18.3	16.8	1.3	–	NHB	Bern2
SaU 217	01/09/2003	20°26.005′	56°35.23′	181.258	2	H5	S2	W3	19.6	16.9	1.3	–	NHB	Bern9
SaU 218	11/12/2002	20°26.548′	57°13.977′	86.332	1	L4	S2	W3	25	21	1.8	–	NHB	Bern2
SaU 219	09/22/2002	20°29.044′	56°56.574′	2934	1	H4	S1	W3	18.2	16.1	1.2	–	NHB	Bern2
SaU 220	11/11/2002	20°29.118′	57°12.855′	185.358	1	H3	S2	W3	15.7–22.4	15.3–25.5	0.5–3.7	Cpx	NHB	Bern2
SaU 221	09/25/2002	20°29.360′	57°24.038′	1945.348	9	L5	S2	W3	24.1	20.8	1.2	–	NHB	Bern2
SaU 222	09/25/2002	20°29.425′	57°23.613′	77.782	1	L6	S2	W3	25.2	21.2	1.5	–	NHB	Bern2
SaU 223	09/20/2002	20°29.480′	57°22.171′	2309.195	10	L5	S3	W4	24	20.2	1.3	–	NHB	Bern2
SaU 224	09/21/2002	20°29.610′	57°15.112′	688.1	1	L5	S2	W2	24.5	20.9	1.9	–	NHB	Bern2
SaU 225	11/20/2002	20°3.621′	56°56.951′	306.69	1	H4	S2	W4	18.8	16.5	1.7	–	NHB	Bern1
SaU 226	11/18/2002	20°3.753′	56°57.196′	93.473	2	H6	S2	W4	19.3	16.8	1.5	–	NHB	Bern2
SaU 227	12/01/2002	20°30.031′	57°16.231′	646.1	1	H5(4–6)	S1/2	W3	18	16.1	1.5	Br; paired with SaU 241 and SaU 244	NHB	Bern1
SaU 228	09/26/2002	20°30.133′	57°22.423′	450.932	1	H6	S1	W2	18.7	16.4	1.5	–	NHB	Bern2
SaU 229	12/08/2002	20°30.463′	57°9.076′	149	1	H6	S1	W3	18.9	17.1	1.4	–	NHB	Bern2
SaU 230	09/25/2002	20°30.701′	57°19.106′	711.2	1	L6	S3	W3	25.3	20.9	1.7	–	NHB	Bern2
SaU 231	11/12/2002	20°30.793′	57°22.054′	307.277	3	L4	S3	W3	24.3	20.3	1.7	–	NHB	Bern2
SaU 232	11/12/2002	20°31.006′	57°21.906′	60.919	1	H5	S3	W4	19.8	17.4	1.4	–	NHB	Bern2
SaU 233	11/13/2002	20°31.576′	57°23.159′	74.76	1	H4	S2	W4	20.8	19.1	1.2	–	NHB	Bern2
SaU 234	12/02/2002	20°32.385′	57°18.405′	647.7	1	L6	S4	W2	25.5	21.6	1.4	Cpx; paired with SaU 258	NHB	Bern1
SaU 235	12/16/2002	20°32.509′	57°11.935′	2370.062	80	L6	S4	W4	25.5	21.3	1.6	–	NHB	Bern1
SaU 236	12/16/2002	20°32.624′	57°7.710′	210.492	1	H6	S2	W3	18.2	17	1.6	–	NHB	Bern1
SaU 237	09/24/2002	20°33.217′	57°19.46′	431.9	1	L5	S3	W4	25.6	22.1	1.3	–	NHB	Bern2
SaU 238	11/13/2002	20°33.370′	57°18.60′	3436	1	L4	S2	W2	24.2	21.8	1.6	–	NHB	Bern2
SaU 239	01/09/2003	20°33.41′	56°50.844′	2094.8	1	L4	S2	W2	29.8	18.6	1.2	Cpx	NHB	Bern9
SaU 240	09/26/2002	20°33.656′	57°19.956′	341.646	1	H4,5	S2	W4	19.3	19.3	1.2	–	NHB	Bern2
SaU 241	12/02/2002	20°33.740′	57°22.564′	1391.8	1	H5(4–6)	S2	W3	18.4	16.6	1.4	Br; paired with SaU 227 and SaU 244	NHB	Bern1
SaU 242	01/10/2003	20°33.765′	57°17.142′	2737	1	L4	S1	W2	24.8	21.6	2	–	NHB	Bern9
SaU 243	09/25/2002	20°33.939′	57°21.498′	419.163	1	H5	S2	W2	19.4	16.9	1.4	–	NHB	Bern2
SaU 244	12/02/2002	20°34.080′	57°22.453′	63.051	1	H5(4–6)	S2	W3	18.5	16.5	1.4	Br; paired with SaU 227 and SaU 241	NHB	Bern1

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
SaU 245	12/02/2002	20°34.361′	57°22.163′	566.648	2	L6	S1	W4	25.4	20.9	1.5	–	NHB	Bern1
SaU 246	12/16/2002	20°34.761′	57°11.088′	614.429	1	H3/4	S1/2	W3	18.2–23.2	15.2–19.8	0.6–1.4	Cpx	NHB	Bern1
SaU 247	12/16/2002	20°34.779′	57°11.090′	183.08	1	L6	S3	W3	25.1	21.2	1.5	–	NHB	Bern1
SaU 248	01/10/2003	20°34.862′	57°24.177′	773.9	1	L6	S4	W3	24.7	20.8	1.7	Paired with SaU 251/ 255/262/273	NHB	Bern9
SaU 249	12/02/2002	20°34.968′	57°21.640′	486.212	2	H5	S1	W4	18.1	15.9	1.3	–	NHB	Bern1
SaU 250	01/10/2003	20°34.979′	57°18.99′	16200	2	H4–6	S2	W3	18	16.6	1.6	Cpx	NHB	Bern9
SaU 251	01/11/2003	20°35.248′	57°21.175′	485.923	1	L6	S4	W3	25.6	21.7	1.6	Paired with SaU 248/ 255/262/273	NHB	Bern9
SaU 252	09/24/2002	20°35.456′	57°11.852′	22.559	1	H4–(5)	S2	W3	18.8	17.6	2.2	–	NHB	Bern2
SaU 253	09/27/2002	20°35.782′	57°9.698′	2128.9	1	H5	S2	W3	18.1	16.2	1.5	Paired with SaU 256	NHB	Bern2
SaU 254	09/20/2002	20°35.934′	57°1.228′	964.189	4	L6	S4	W2	25	21.3	1.5	–	NHB	Bern2
SaU 255	01/10/2003	20°35.975′	57°22.515′	461.13	1	L6	S4	W4	25.5	21.5	1.7	Paired with SaU 248/ 251/262/273;cpx	NHB	Bern9
SaU 256	09/27/2002	20°36.038′	57°9.555′	392.5	1	H5	S2	W3	18.9	17.3	1.5	Paired with SaU 253	NHB	Bern2
SaU 257	01/10/2003	20°36.303′	57°19.305′	175.121	1	H5	S2	W4	18.3	17.4	1.4	–	NHB	Bern9
SaU 258	12/02/2002	20°36.796′	57°20.347′	3864.213	1	L6	S4	W3	25.5	21.1	1.3	Paired with SaU 234	NHB	Bern1
SaU 259	12/16/2002	20°37.362′	56°56.875′	1415.132	1	H4	S1	W4	18.9	17.3	1.2	–	NHB	Bern1
SaU 260	01/12/2003	20°38.166′	57°12.846′	460.134	1	L6	S2	W4	25.5	22	1.5	Paired with SaU 279	NHB	Bern9
SaU 261	11/14/2002	20°40.106′	57°9.562′	499.437	3	L3	S2	W3	24.2–27.3	19.9–33.4	0.1–4.5	–	NHB	Bern2
SaU 262	01/11/2003	20°38.185′	57°17.236′	1069.5	1	L6	S4	W3	25	20.9	1.8	Paired with SaU 248/ 251/255/273	NHB	Bern9
SaU 263	12/03/2002	20°41.717′	57°10.994′	400.803	7	H5	S3	W3	19	16.7	1.6	–	NHB	Bern1
SaU 264	11/09/2002	20°41.770′	57°11.694′	3548.079	6	LL6	S1–2	W4	31	25.2	3.3	Very high Wo content; cpx	NHB	Bern2
SaU 265	12/28/2002	20°42.392′	57°11.035′	6289.877	37	H4–6	S1	W3	18.3	16.8	1.5	–	NHB	Bern8
SaU 266	12/28/2002	20°42.428′	57°10.99′	25013.96	1	H5	S3	W3	18.3	16.4	1.4	–	NHB	Bern8
SaU 267	11/09/2002	20°43.323′	57°12.608′	223.004	1	L6	S2	W3	24.4	20.5	1.4	Cpx	NHB	Bern2
SaU 268	12/03/2002	20°43.577′	57°9.583′	71.102	1	H5(4–6)	S1	W4	18.4	16.7	1.3	Br	NHB	Bern2
SaU 269	01/12/2003	20°43.666′	57°11.305′	1033	1	H4–5	S1/2	W3	18.5	16.1	1.5	Cpx; paired with SaU 270	NHB	Bern9
SaU 270	01/12/2003	20°43.751′	57°11.34′	43508.19	55	H4–6	S1/2	W4	19.1	16.7	1.5	Cpx; paired with SaU 269	NHB	Bern9
SaU 271	11/09/2002	20°46.131′	57°15.601′	314.634	1	H4	S1	W3	19.3	17.8	1.3	–	NHB	Bern2
SaU 272	01/12/2003	20°47.2′	57°12.843′	7563	1	H5	S2	W2	19.3	17	1.3	–	NHB	Bern9
SaU 273	01/11/2003	20°47.417′	57°11.645′	97.454	1	L6	S4	W4	25.3	21.4	1.7	Paired with SaU 248/ 251/255/262;cpx	NHB	Bern9
SaU 274	11/10/2002	20°48.786′	57° 9.811′	56.753	1	L4	S2	W4	25.3	21.8	1.7	–	NHB	Bern2
SaU 275	11/10/2002	20°56.697′	57°21.351′	303.227	1	H6	S1	W3	19.5	17.2	1.3	–	NHB	Bern2
SaU 276	10/31/2002	20°6.010′	56°50.265′	286.405	1	H6	S1	W3	18.6	16.4	1.5	–	NHB	Bern2
SaU 277	12/07/2002	20°9.995′	57°4.527′	11643	1	H6	S1	W3	19.5	16.8	1.3	–	NHB (50/ 80g)	Bern6
SaU 278	11/11/2002	21°15.703′	57°10.732′	27860.8	158	L5	S4	W3	25.1	20.9	1.3	–	NHB	Bern2
SaU 279	01/11/2003	21°2.673′	57°16.41′	79.557	1	L6	S2	W3	24.7	21.2	1.5	Paired with SaU 260	NHB	Bern9
SaU 280	11/10/2002	21°3.756′	57°18.751′	193.021	1	H4	S1	W4	17.6	16.1	1.1	–	NHB	Bern2
SaU 281	2001	21°00.00′	57°12.00′	162.56	1	EH3	–	–	–	–	–	See separate entry	20.3	Be2
Shalim														
Shalim 005	09/30/1998	18°12.859′	55°42.793′	344.66	15	H5	S1	W4	18.6	16.4	1.2	–	NHB	Bern1
Shalim 006	10/31/1998	18°26.837′	55°55.298′	374.42	1	H6	S2	W3	19.3	16.6	1.5	Cpx	NHB	Bern1
Shalim 007	10/31/1998	18°31.579′	55°55.979′	323.85	1	H6	S1	W3	18.9	16.3	1.4	–	NHB	Bern1

Table 5. Meteorites from Oman. *Continued.*

Name	Date found (mm/dd/yy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Comments[a]	Type (g)	Info[b]
Shişr														
Shişr 002	02/08/2001	18°35.25′	53°54.85′	88.6	1	H5	S2	W4	18.5	16.5	–	–	18	Mun2
Shişr 022	01/09/2002	18°10.032′	53°50.733′	255.25	1	L5	S3	W4	24.9	20.7	1.7	–	NHB	Bern1
Shişr 023	01/08/2002	18°33.172′	53°59.246′	841	1	L5	S4	W3	23.9	20.4	1.5	–	NHB	Bern1
Shişr 024	01/08/2002	18°33.284′	53°59.812′	900.84	2	L5	S4	W3	24.6	20.2	1.7	–	NHB	Bern1
Shişr 025	01/08/2002	18°6.444′	53°49.914′	7293.48	8	L6	S3	W2	25	21.3	1.5	–	NHB	Bern1
Shişr 026	01/08/2002	18°7.382′	53°45.287′	396.56	1	H4	S2	W3	18.5	15.8	1.3	–	NHB	Bern1
Shişr 027	01/09/2002	18°8.478′	53°54.723′	61.39	1	H6	S1	W4	18.4	16.5	1.5	–	NHB	Bern1
Shişr 028	01/08/2002	18°8.566′	53°48.452′	818.11	10	LL6	S3	W4	27.6	23.2	1.3	–	NHB	Bern1
Shişr 029	01/09/2002	18°9.006′	53°48.028′	204.71	1	H5	S1	W2	18.9	17.5	1.2	–	NHB	Bern1
Shişr 030	01/09/2002	18°9.216′	53°46.492′	176.28	1	H5	S1–S2	W2	19.2	16.8	1.3	–	NHB	Bern1
Shişr 031	01/01/2003	18°12.801′	53°50.805′	503.757	2	L6	S3	W4	26.4	22.2	1.6	–	NHB	Bern8
Shişr 032	08/25/2003	18°2.46′	53°41.56′	69.516	1	H5	S2	W1	18.7	17.2	1.3	–	NHB	Bern3
Shişr 033	10/25/2002	18°20.835′	53°44.862′	1097.722	65	CR	S2	W2–3	2.0–7.9	1.2–12.1	0.4–3.5	See separate entry	NHB	Bern2
Shişr 036	10/26/2002	18°30.453′	53°59.595′	10175	56	H3	S2	W2–3	10.5–23.8	3.0–19.6	0.2–4.6	–	NHB	Bern2
Shişr 037	10/26/2002	18°32.521′	53°56.248′	1508.6	1	L5	S2	W4	25.2	20.9	1.6	–	NHB	Bern2
Shişr 038	10/26/2002	18°32.753′	53°56.027′	379.853	1	L5	S2	W4	25	22.7	1.5	–	NHB	Bern2
Shişr 039	10/25/2002	18°32.834′	53°57.422′	2123.195	3	L4–5	S3	W3	25	20.9	1.6	–	NHB	Bern2
Shişr 040	10/25/2002	18°32.866′	53°57.007′	121.414	1	L4–5	S1	W4	24.9	20.9	1.6	–	NHB	Bern2
Shişr 041	10/25/2002	18°33.169′	53°56.130′	1400.2	1	L5	S3	W2	24.5	20.5	1.7	–	NHB	Bern2
Shişr 042	01/21/2003	18°34.471′	53°48.966′	393.857	11	L6	S2	W4	24.5	22.7	1.5	–	NHB	Bern9
Shişr 043	01/21/2003	18°35.546′	53°48.748′	8407	1	IIIAB	–	–	–	–	–	See separate entry	NHB	Bern9
Shişr 044	01/01/2003	18°9.19′	53°50.517′	88.478	2	H4	S2	W4	20.2	17	1.6	–	NHB	Bern8
Uraq al Hadd (UaH)														
UaH 001	01/03/2003	18°26.659′	52°58.683′	2335.639	7	LL5	S2	W2	29.2	23.7	1.4	–	NHB	Bern8
UaH 002	1996	18°30′	52°10′	3700	1	H3	S1, 2	W1	14.2–20.3	11.9–21.2	0.4–1.7	See separate entry	NHB	Bern10

[a]Notes: (1) Oxygen isotopes (R. N. Clayton, UChi): $\delta^{18}O = +14.29$; $\delta^{17}O = +6.35$; $\Delta = -0.97$; (2) breccia; An_{93-99}; $\delta^{18}O = +6.71$; $\delta^{17}O = +3.30$; $\Delta = -0.19$ (R. N. Clayton, UChi); (3) breccia; An_{94-100}; $\delta^{18}O = +5.48$, $\delta^{17}O = +2.76$, $\Delta = -0.09$ (R. N. Clayton, UChi); (4) possibly a recrystallized melt breccia; An_{93-98}; $\delta^{18}O = +6.40$, $\delta^{17}O = +3.25$, $\Delta = -0.08$ (R. N. Clayton, UChi); (5) olivine and pyroxene composition like an H chondrite but chondrules too large for H chondrite. Average apparent chondrule diameter: 420 μm. Oxygen data (R. N. Clayton, UChi): $\delta^{18}O = +7.18$; $\delta^{17}O = +3.09$; (6) H(L)3 means: probably an H3 chondrite, but possibly an L3 chondrite; original metal abundance cannot be obtained because of weathering. br = breccia; sv = shock veins; calc. v. = strong calcite veining; ringw. = ringwoodite; imp. melt = impact melt clasts; an = anomalous.

[b]See abbreviations for analysts and specimen locations.

Table 6. Meteorites from the Algerian Sahara.

Name	Date found (mm/dd/yyyy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Comments[a]	Type (g)	Info[b]
Acfer													
Acfer 325	1989	27°30′	3°37′	32	1	LL6	S3	W3	29	28.6	–	30	DP1
Acfer 326	1989	27°30′	3°37′	139	1	L6	S3	W2	25.8	23.1	–	97	DP1
Acfer 342	11/2002	27°35′26″	4°39′46″	1276	1	L6	–	W1/2	25.1	-	–	21.4	Pa15
Acfer 343	11/2002	27°37′11″	4°15′54″	140	2	H3–5	S3	W1	16.7 (7–26)	18.8 (4-27)	Breccia	21.7	Pa15
Acfer 344	11/2002	27°44′00″	4°11′54″	410	2	H3	S2	W4	18.3	18 (14–20.3)	–	16.8	Pa15
Acfer 345	11/2002	27°27′53″	3°48′51″	53	1	LL5	–	W3	27.5	22.9	–	12.3	Pa15
Acfer 346	11/2002	27°35′26″	4°39′46″	546	7	LL6	–	W5	29.5	–	–	20.3	Pa15
Acfer 353	10/2001	27°29.35′	3°53.40′	11935	Many	Euc	–	W2	–	–	(1)	46	PSF1
Acfer 354	10/2001	27°30.03′	3°52.94′	252	1	LL5	S3	W3	30.3	23.7	–	20.5	PSF2
Acfer 355	02/2002	27°35.38′	3°46.86′	161	1	LL5	S4	W3	30.6	27	–	20	PSF3
Acfer 356	02/2002	27°36.74′	4°31.71′	120	1	EL6	S3	W2	4.6	1.4	–	20	PSF3
Acfer 357	10/2001	27°30.05′	4°52.48′	62	1	LL5	S3	W3	33.3	28.7	–	17	PSF2
Acfer 358	11/15/2002	27°46′	4°25′	70	1	H6	S4	W1	18.5	16.9	–	14.3	ENSL2
Acfer 359	11/17/2002	27°42′	4°29′	67	1	H6	S3/4	W2	18.6	17.3	–	13.6	ENSL2
Acfer 361	12/28/2002	27°25.775′	3°52.281′	138	1	H4	S3	W4	20.2	16.3	–	20	Pa16
Acfer 362	12/28/2002	27°28.668′	3°42.099′	242.8	1	H5	S2	W1	19.9	18.5	–	22.2	Pa16
Acfer 363	12/30/2002	27°34.898″	4°17.633′	389.9	1	LL4	S4	W2	27.4	22.6	–	26	Pa16
Djebel Chaab (Cha)													
Cha 001	01/12/2003	25°13.420′	0°50.736′	1388	1	L/LL6	S1	W3	26.1	23.1	–	24	Pa16
Cha 002	01/11/2003	25°09.355′	0°49.328′	30616	49	LL6	S4	W2	26.3	22.2	–	41.9	Pa16
El Atchane													
El Atchane 010	12/21/2002	29°49.101′	4°22.937′	30.5	2	L3	S4	W2	25.6	16.7–27.5	–	8	Pa16
El Atchane 011	12/22/2002	30°01.179′	4°33.337′	2886.4	1	H5	S4	W1/2	17.5	15.8	–	30	Pa16
El Atchane 012	12/23/2002	29°07.596′	4°43.064′	331.2	2	EL6	Shocked	W2	–	0.6	–	21.4	Pa16
Tanezrouft (Tnz)													
Tnz 058	05/17/02	25°20′	0°33′	2350	1	L6	S5	W1/2	26	22	–	23.2	Pa8
Tnz 062	11/2002	25°25′32″	0°05′51″	974	1	L5	–	W2	24.6	–	–	21	Pa15
Tnz 063	11/2002	25°11′45″	0°14′12″	1135	1	H4	S2	W4/5	17.9	16.6	–	20.2	Pa15
Tnz 065	11/2002	25°24′27″	0°08′11″	30000	5	L4	S1–3	W1	23.1	20–21	–	22.3	Pa15
Tnz 066	11/2002	25°11′34″	0°47′10″	1600	1	H6	–	W5	17.6	–	–	21	Pa15
Tnz 067	11/27/2002	25°32′	00°25′	50	1	L	–	W1	24	19.1	Impact melt rock	10.1	ENSL2
Tnz 068	11/27/2002	25°15′	00°06′	236	1	H4/5	S6	W3	18.8	16	–	21.7	ENSL2
Tnz 069	11/27/2002	25°17′	00°06′	180	1	H5	S3	W2	18.4	16.6	–	20.6	ENSL2
Tnz 070	11/26/2002	25°35′	00°24′	240	1	L6	S4	W2	25	19.6	–	22.2	ENSL2
Tnz 071	11/27/2002	25°16′	00°06′	107	1	L5	S4	W3	22.7	19.6	–	20.9	ENSL2

[a](1) Cumulate eucrite; plag Ab_{87}, opx $Fs_{60–62}$, cpx $Fs_{27–30}$; $\delta^{18}O = +3.34$, $\delta^{17}O = +1.52$.

[b]See abbreviations for analysts and specimen locations.

Table 7. Meteorites from the Libyan Sahara.

Name	Date found (mm/dd/yyyy)	Latitude (N)	Longitude (E)	Wt. (g)	Pieces	Class	Shock	WG	Fa (mol%)	Fs (mol%)	Comments	Type (g)	Info[a]
Dar al Gani (DaG)													
DaG 969	10/1998	26°58.81′	16°20.98′	145	1	L/LL6	S3	W2	26.2	24.2	–	67	DP1
DaG 970	10/1998	26°53.98′	16°34.69′	251	1	L5	S3	W2	25.8	19.9	–	22	DP1
DaG 971	10/1999	26°53.62′	16°37.57′	202	1	L6	S4	W2	25.7	24.9	–	22	DP1
DaG 972	10/1999	27°05.88′	16°07.30′	121	1	L5	S3	W2	24.4	20.6	–	20	DP1
DaG 973	10/1999	27°27.03′	16°13.43′	82	1	Euc	–	W1	23.6	42.2	–	16	DP1
DaG 974	10/1999	27°01.77′	16°22.33′	107	2	CR	S1	W4	9.3	12.9	–	24	DP1
DaG 981	11/10/2001	27°12.59′	16°25.59′	931	1	L5	S3	W2	25.0	21.0	–	27	Ham1
DaG 984	03/27/2002	26°48.63′	16°48.29′	763	1	L6	S3/4	W3	24.2	20.3	–	38.7	Ham1
DaG 985	03/27/2002	26°58.40′	16°32.50′	96	1	L6	S3	W2	23.6	20.0	–	9.1	Ham1
DaG 986	03/28/2002	27°01.16′	16°30.80′	60	1	H5	S2	W3	18.1	–	–	13.12	Ham1
DaG 987	03/28/2002	27°03.85′	16°23.62′	2031	2	H5	S3	W2	18.2	16.7	–	37.43	Ham1
DaG 988	03/28/2002	27°04.20′	16°23.59′	3128	100	H5	S2	W2	18.2	–	–	87.89	Ham1
DaG 989	03/28/2002	27°06.75′	16°19.90′	764	1	LL6	S2	W3	30.1	26.2	–	57.47	Ham1
DaG 990	03/28/2002	27°06.78′	16°20.17′	219	5	LL6	S2	W3	30.5	25.1	–	32.43	Ham1
DaG 991	03/28/2002	27°19.84′	16°16.83′	236	1	H5	S3	W3/4	19.0	16.7	–	14.25	Ham1
DaG 992	03/28/2002	27°21.85′	16°16.82′	82	1	L6	S3	W3	24.5	20.3	–	18.16	Ham1
DaG 993	03/28/2002	27°27.22′	16°19.38′	317	1	LL5	S2–3	W2	28.4	23.8	–	93.18	Ham1
DaG 994	03/29/2002	27°29.23′	16°26.72′	7769	85	H4/5	S2	W3	17.4	15.2	–	253.24	Ham1
DaG 1006	10/1999	27°12.18′	15°54.04′	4150	1	CO3	–	W2	20.1–99.7	1.3–46.6	–	20	PSF2
DaG 1007	10/1999	27°09.51′	16°27.37′	124	1	L6	S2	W2	20.6	18.2	–	20	PSF2
DaG 1008	10/1999	27°55.02′	16°29.26′	108	2	H5	S3	W3	16.8	15.6	–	19	PSF2
DaG 1009	10/1999	27°56.87′	16°30.59′	85	1	L5	S2	W2	22.2	17.8	–	15	PSF2
DaG 1010	10/2000	27°02.48′	16°23.26′	119	1	Ure	–	W2	20.7	18.5	–	23	PSF2
DaG 1020	04/25/2000	27°55′29″	16°57′27″	55.8	1	H5	–	–	18.4	16	–	10.1	Vr16
DaG 1021	04/27/2000	27°00′39″	16°10′54″	101.1	2	H5	–	–	19.2	16.5	–	21.1	Vr16
DaG 1024	10/1999	27°11.28′	16°24.14′	142	1	LL5	S4	3	31.6	25.8	–	20	PSF2
DaG 1025	10/1999	26°54.38′	16°41.19′	173	1	LL4	S4	3	27.6	24.2	–	25	PSF2
DaG 1029	10/2000	27°55.14′	16°41.04′	68	1	LL5	S4	4	28.9	22.5	–	16	PSF2
DaG 1030	1998	27°13.30′	16°15.00′	10.09	1	CK4/5	–	–	-	–	See separate entry	2.4	Be2
DaG 1031	1998	27°08.81′	16°03.01′	20.15	1	EL4	–	–	-	–	See separate entry	4.6	Be2
DaG 1032	2000	27°02.10′	16°22.88′	321	Many	H3/4	S4	W1/2	15.5 (14.6–16.1)	9.8 (0.7–15.2)	–	26	Be2
DaG 1033	1999	27°28.06′	16°10.21′	38.9	1	H4	S2	W1	17.6	15.4	–	8.2	Be2
DaG 1034	1999	27°40.04′	15°57.03′	232	1	LL6	S4	W3	30.6	24	–	23.6	Be2
DaG 1035	1999	27°13.94′	16°11.76′	36	1	H4	S2	W2	17.6	15.5	–	7.4	Be2
DaG 1036	1999	27°02.02′	16°23.00′	222	1	Ure	S3/4	–	17.6	16.7	Moderately weathered	20.5	Be2
DaG 1037	1999	27°20.00′	16°13.00′	4012.4	10	Martian	–	–	–	–	See separate entry	20	Be2
DaG 1038	1999	27°20.00′	16°15.00′	80	1	L4	S1	W2	24.8	21.3	–	20	Be2
Hammadah al Hamra (HaH)													
HaH 292	10/2000	29°01.26′	10°32.27′	3570	Many	H4	S2	W3	17.3	15.8	–	39	DP1
HaH 328	10/1999	28°57.50′	10°35.5′	30440	8	H5	S3	W3	18.6	17.2	–	72	PSF2
HaH 329	10/1999	29°12.68′	11°53.92′	121	3	L5	S3	W2	26.5	23.7	–	26	PSF2
Murzuq Idhån	10/1997	23°48.00′	12°19.00′	35	1	H4	S3	W2	19.2	16.7	–	7	DP1

[a]See abbreviations for analysts and specimen locations.

Table 8. Ordinary chondrite finds from South America.

Name	Find site	County, State, Country	Latitude (S)	Longitude (W)	Mass (g)	Date found (mm/dd/yyyy)	Pieces	Class	Shock	WG	Fa mol%	Fs mol%	Wo mol%	Finder	Type (g)	Info[a]
La Yesera 001	Deflation surface	Antofagasta, Chile	23°16.23′	70°28.98′	205	03/15/2003	1	H6	S2	W3	18.2	17.7	–	R. Martinez de los Rios	40	SIA
La Yesera 002	Deflation surface	Antofagasta, Chile	23°16.23′	70°28.98′	2625	03/15/2003	67	LL5	S2	W2	28.2	25.1	–	R. Martinez de los Rios	20	SIA
Viedma	Beach	Rio Negro Province, Argentina	41°4′	62°51′	6900	01/01/2003	1	L5	–	–	24.9	21.1	–	Anonymous	72.7	NHMV1

[a]See abbreviations for analysts and specimen locations.

Appendix 1. Antarctic meteorites collected by ANSMET.

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
LAP 02204	L5	1313.7	A/B	A	–	–
LAP 02205	Lunar-B	1226.3	B	B/C	50	26–80
LAP 02206	CV3	1284.6	B	A	0–46	1–2
LAP 02207	LL5	2920.4	A	A	–	–
LAP 02212	LL5	1456	A/B	A	–	–
LAP 02215	LL5	484.1	A/B	A	–	–
LAP 02216	Diog	612.6	B	A/B	–	23
LAP 02217	LL5	653.4	B	A	–	–
LAP 02219	LL5	540.5	B	A	–	–
LAP 02220	LL5	154.3	B	A/B	–	–
LAP 02221	LL5	184.2	B	A/B	–	–
LAP 02222	LL5	450.5	B	A/B	–	–
LAP 02223	LL5	138.787	A/B	A/B	–	–
LAP 02224	Lunar-B	252.5	A	A/B	–	23–88
LAP 02225	EH im	313.5	B	B	–	0–1
LAP 02226	Lunar-B	244.1	B	B	–	35–43
LAP 02227	LL5	308.5	A/B	A/B	–	–
LAP 02228	CV3	335.8	B	A/B	1–45	0–1
LAP 02229	LL5	252.4	B/C	A/B	–	–
LAP 02231	H5	256.7	B	A/B	17	16
LAP 02233	AUB	18.056	B	C	–	0
LAP 02237	H5	24.366	B	A/B	19	16–18
LAP 02238	R	26.553	B	A	27–46	18–36
LAP 02239	CM2	39.272	B	A/B	0–46	3–9
LAP 02310	H5	16.841	B/C	B	–	–
LAP 02311	LL5	3.588	B/C	B	–	–
LAP 02312	L5	21.857	B/C	B	–	–
LAP 02313	LL6	4.926	B	B	–	–
LAP 02314	LL5	6.381	A	A	–	–
LAP 02315	L4	19.795	B/C	A/B	–	–
LAP 02316	LL6	5.609	A	A	–	–
LAP 02317	LL5	3.211	A	A	–	–
LAP 02318	H5	7.705	C	C	19	16
LAP 02319	LL5	10.56	A	A	–	–
LAP 02333	CM2	131.43	B	A/B	0–55	1
LAP 02337	L4	164.8	B	B	26	22
LAP 02430	L6 metal	1.277	C	B	24	21
LAP 02431	L5	7.459	B	B	–	–
LAP 02432	LL5	6.32	B	B	–	–
LAP 02433	LL5	9.122	B	B	–	–
LAP 02434	L5	0.249	B	B	–	–
LAP 02435	L5	9.234	C	B	–	–
LAP 02436	Lunar-B	58.97	A	A/B	36	30–80
MAC 02460	LL6	54.226	B	B	30	25
MAC 02497	L5	13.731	B/C	B/C	23	20
MAC 02522	Eu-ub	5.695	B	B	–	38–51
MAC 02527	Eu-br	3.377	B	A	–	61

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MAC 02530	L5	4.278	C	A	–	–
MAC 02532	H6	0.239	B	B	–	–
MAC 02533	L5	0.594	B	B	–	–
MAC 02534	L5	1.107	C	A	–	–
MAC 02535	CM2	14.367	B/CE	B	0–52	0–1
MAC 02536	L5	1.231	C	A	–	–
MAC 02538	L5	54.515	C	A/B	–	–
MAC 02539	LL6	96.61	B	A/B	–	–
MAC 02550	H6	7.606	C	B	–	–
MAC 02551	LL5	6.739	B	B	–	–
MAC 02552	CM2	0.314	B	B	2–3	–
MAC 02554	H6	0.243	C	C	–	–
MAC 02555	H5	1.729	C	A	–	–
MAC 02557	H6	1.485	C	C	–	–
MAC 02559	L5	0.938	B	B	–	–
MAC 02603	H5	3.077	C	B	–	–
MAC 02604	H6	32.941	C	B	–	–
MAC 02605	H6	34.415	C	B	–	–
MAC 02606	CM2	7.158	A	B	0–2	–
MAC 02607	H5	6.357	C	B	–	–
MAC 02608	H6	29.704	C	B	–	–
MAC 02630	H5	133.367	C	A	–	–
MAC 02631	H6	74.831	C	B	–	–
MAC 02632	H6	102.912	C	A/B	–	–
MAC 02633	H5	29.535	C	B/C	–	–
MAC 02634	L5	12.321	B	A/B	–	–
MAC 02635	EL3	17.891	C	B	–	1–4
MAC 02636	H5	45.511	C	B	–	–
MAC 02637	H5	14.007	C	A	–	–
MAC 02638	H6	6.776	C	B	–	–
MAC 02639	H5	4.697	C	B	–	–
MAC 02666	How	20.273	B	B	–	23–55
MAC 02667	LL6	7.508	B	B	29	23
MAC 02703	How	19.269	B	B	–	26–40
MAC 02750	L im	9.096	C	B	16–29	19–22
MAC 02751	H5	2.133	C	A	–	–
MAC 02752	L5	19.441	B	A/B	–	–
MAC 02753	L5	9.749	B	B	–	–
MAC 02754	H5	14.077	C	B	–	–
MAC 02756	L5	11.78	B/C	B	–	–
MAC 02757	H5	1.078	C	A	–	–
MAC 02758	L5	1.161	C	B	–	–
MAC 02759	H5	1.906	C	B	–	–
MAC 02830	H5	321.4	C	B	–	–
MAC 02831	H5	142.57	C	B/C	–	–
MAC 02832	H5	148.144	C	C	–	–
MAC 02833	H3.7	134.096	B/C	A/B	13–27	2–16

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MAC 02834	H6	125.422	C	B	–	–
MAC 02835	H6	66.681	C	A/B	–	–
MAC 02836	H6	62.982	C	A/B	–	–
MAC 02837	EL3	188.639	C	C	–	0–1
MAC 02838	L5	157.178	B/C	A/B	–	–
MAC 02839	EL3	110.356	C	C	–	0–6
MET 00667	LL6	22.05	B/C	A	–	–
MET 00668	LL6	6.62	A/B	A/B	–	–
MET 00669	H6	14.33	B/C	A	–	–
MET 00700	H6	54.005	C	B/C	–	–
MET 00701	L5	15	C	B	–	–
MET 00702	H6	42.994	C	B	–	–
MET 00703	H5	32.142	C	B	–	–
MET 00704	LL5	5.271	B	A/B	–	–
MET 00705	L6	6.624	B	B/C	–	–
MET 00706	L5	12.447	C	B	–	–
MET 00707	L4	15.15	B/C	B	–	–
MET 00708	LL6	20.539	B/C	B	–	–
MET 00710	L5	16.898	C	A/B	–	–
MET 00711	CO3	17.013	B	A	5–34	1–11
MET 00712	H6	11.97	B	A	–	–
MET 00713	H6	14.075	C	B	–	–
MET 00714	H6	32.481	C	B	–	–
MET 00715	H6	35.203	C	B	–	–
MET 00716	LL6	5.986	B/C	B/C	–	–
MET 00717	L5	26.061	B	A/B	–	–
MET 00718	H6	28.414	C	A/B	–	–
MET 00719	LL6	36.913	B/C	B	–	–
MET 00811	LL6	8.8	B	B	–	–
MET 00813	H5	8.58	C	A/B	–	–
MET 00814	LL4	5.155	B/C	B	–	–
MET 00815	LL6	67.05	C	B	–	–
MET 00816	H6	54.684	C	B	–	–
MET 00817	H5	52.612	C	B	19	17
MET 00818	LL6	21.151	C	B	–	–
MET 00819	L5	58.589	C	B	–	–
MET 00830	H6	36.5	C	A	–	–
MET 00831	LL4	19.184	A	A	–	–
MET 00832	H6	30.9	C	A	–	–
MET 00833	H6	24.444	C	A	–	–
MET 00835	LL5	36.475	B	B	–	–
MET 00836	H5	29.142	C	A/B	–	–
MET 00837	H6	14.814	C	B	–	–
MET 00838	LL5	12.574	C	A/B	–	–
MET 00839	L4	26.346	B	B	–	–
MET 00840	H5	10.492	C	B	–	–
MET 00841	L6	6.414	C	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 00842	H6	20.256	C	B	–	–
MET 00843	LL6	15.502	C	A/B	–	–
MET 00844	L4	21.009	B	A/B	–	–
MET 00845	L5	5.842	B/C	B	–	–
MET 00846	L5	18.356	A/B	B	–	–
MET 00847	LL5	38.338	B	A/B	–	–
MET 00848	H6	14.108	C	B	–	–
MET 00849	H6	12.416	C	B	–	–
MET 00850	LL6	31.786	C	B	–	–
MET 00851	LL6	44.827	C	B/C	–	–
MET 00852	H6	9.447	C	A/B	–	–
MET 00853	L5	7.927	C	A/B	–	–
MET 00854	H6	10.371	C	A/B	–	–
MET 00856	L6	38.902	C	B	–	–
MET 00857	LL6	21.72	C	B	–	–
MET 00858	L5	37.106	C	B	–	–
MET 00860	H6	14.35	C	A/B	–	–
MET 00861	LL5	17.493	B	B	–	–
MET 00862	H6	2.217	C	B/C	–	–
MET 00863	H6	46.058	C	B	–	–
MET 00865	H6	14.723	C	A/B	–	–
MET 00866	L5	58.089	C	B	–	–
MET 00867	H5	21.336	C	B	19	17
MET 00868	LL5	17.891	B	B	–	–
MET 00869	H6	13.643	C	B	–	–
MET 00870	H6	24.832	C	A/B	–	–
MET 00871	LL5	23.253	B	B	–	–
MET 00872	H6	14.287	C	B	–	–
MET 00873	H6	23.354	C	A/B	–	–
MET 00874	H6	17.082	C	B	–	–
MET 00875	H5	12.347	C	B	–	–
MET 00876	H6	22.131	C	B	–	–
MET 00877	L5	28.7	B	B	–	–
MET 00878	H6	13.812	C	B	–	–
MET 00879	H6	26.377	C	B	–	–
MET 00920	H5	29.964	C	A/B	–	–
MET 00921	H4	10.234	C	A/B	–	–
MET 00922	H5	13.853	C	A/B	–	–
MET 00923	H6	13.39	C	B	–	–
MET 00924	H5	18.348	C	B	–	–
MET 00925	H5	11.563	C	B	–	–
MET 00926	H6	25.267	C	A/B	–	–
MET 00928	H6	28.989	C	B	–	–
MET 00929	H5	6.244	C	A/B	–	–
MET 00930	H5	17.243	C	A/B	–	–
MET 00931	L6	6.919	CE	A/B	–	–
MET 00932	LL6	12.511	C	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 00933	L5	21.364	B/C	B	–	–
MET 00934	H6	30.307	C	A/B	–	–
MET 00935	LL6	3.336	C	B	–	–
MET 00936	LL6	4.783	B	B	–	–
MET 00937	H6	22.126	B/C	B	–	–
MET 00938	H6	45.881	B/C	B	–	–
MET 00939	H6	4.757	C	B	–	–
MET 00940	H4	50.841	A/B	A/B	–	–
MET 00941	H6	38.596	C	B	–	–
MET 00942	LL6	68.333	C	B	–	–
MET 00943	H6	22.266	C	B	–	–
MET 00945	LL5	20.247	A/B	B	–	–
MET 00946	L5	5.103	C	B	–	–
MET 00947	H6	91.7	C	B	–	–
MET 00948	L5	24.21	B	A/B	–	–
MET 00949	LL6	33.64	B/C	A/B	–	–
MET 00950	LL5	7.847	B	A/B	–	–
MET 00951	EL6	25.03	C	A/B	–	0–1
MET 00952	L5	12.595	B/C	B	–	–
MET 00953	L4	30.524	B	A	–	–
MET 00954	LL6	47.916	B/C	B	–	–
MET 00955	L5	7.783	C	B/C	–	–
MET 00956	H6	50.84	C	A/B	–	–
MET 00957	LL5	25.993	A	A/B	–	–
MET 00958	L5	6.953	C	B	–	–
MET 00959	LL6	51.37	B/C	B	–	–
MET 00960	H6	44.938	C	B/C	–	–
MET 00961	LL5	25.415	A	A	–	–
MET 00962	H5	46.827	C	B	–	–
MET 00963	LL6	19.717	B	B	–	–
MET 00964	L5	8.473	C	B	–	–
MET 00965	H6	28.143	C	B	–	–
MET 00966	LL5	20.224	B/C	B	–	–
MET 00967	LL6	69.654	B/C	B	–	–
MET 00969	LL6	44.825	B/C	B	–	–
MET 00970	L5	15.385	A/B	A	–	–
MET 00971	H6	28.36	B/C	A/B	–	–
MET 00972	L6	1.567	B/C	A	–	–
MET 00973	L5	6.988	A/B	A/B	–	–
MET 00974	H5	40.6	C	A/B	–	–
MET 00975	L6	40.742	B/C	A/B	–	–
MET 00976	H5	24.932	C	B	–	–
MET 00977	H5	13.168	B/C	A/B	–	–
MET 00978	LL5	24.119	B/C	A	–	–
MET 00979	LL5	10.589	B/C	A	–	–
MET 00980	L6	74.78	B	A	–	–
MET 00981	LL5	42.275	A/B	A	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 00982	L5	8.667	B	A/B	–	–
MET 00983	L5	9.786	B/C	A/B	–	–
MET 00984	L6	29.015	B/C	A/B	–	–
MET 00985	H6	25.398	B/C	A/B	–	–
MET 00986	LL6	38.634	B/C	A	–	–
MET 00987	L5	31.134	B/C	A/B	–	–
MET 00988	LL6	12.793	A/B	A	–	–
MET 00989	L5	36.111	B	A	–	–
MET 00990	LL6	42.565	B/C	A/B	–	–
MET 00991	LL5	25.265	A/B	A/B	–	–
MET 00992	H6	44.989	B/C	A/B	–	–
MET 00993	LL5	59.162	A/B	A/B	–	–
MET 00994	L5	65.074	A/B	A/B	–	–
MET 00995	LL6	53.703	B/C	A	–	–
MET 00996	LL6	11.413	A/B	A/B	–	–
MET 00997	H5	41.286	B/C	A	19	16
MET 00998	L5	38.127	A/B	A	–	–
MET 00999	L5	8.887	B	A	–	–
MET 01001	LL6	1591	A/B	A	–	–
MET 01002	L5	3922.7	A/B	A/B	–	–
MET 01003	LL5	2835	A	B/C	–	–
MET 01004	LL5	1554.3	B/C	A/B	–	–
MET 01005	L5	19000	A/B	B	–	–
MET 01006	H6	409.9	C	A/B	–	–
MET 01007	L6	390.3	CE	C	–	–
MET 01008	LL5	323.2	C	A/B	–	–
MET 01009	LL5	343	B	B	–	–
MET 01010	LL6	239.5	A/B	B	–	–
MET 01011	LL5	136.608	B	A	–	–
MET 01012	L5	254.7	B/C	A	–	–
MET 01013	L5	151.815	B/C	B/C	–	–
MET 01014	H5	180.056	C	A	–	–
MET 01015	LL5	211.726	B/C	A/B	–	–
MET 01016	LL5	159.309	B	A/B	–	–
MET 01017	CR2	238	C	C	3–19	2–26
MET 01018	EH3	222.4	B/C	A/B	0–1	0–2
MET 01019	L5	164.5	C	B	–	–
MET 01020	H6	739.4	B/C	A/B	–	–
MET 01021	LL5	1116.6	A/B	A/B	–	–
MET 01022	LL5	1060.3	A/B	A/B	–	–
MET 01023	H6	452.8	B	A	–	–
MET 01024	L5	362.2	C	A/B	–	–
MET 01025	LL5	518.5	B	A	–	–
MET 01026	LL5	196.2	B/C	B	–	–
MET 01027	L4	430.9	B/C	B	–	–
MET 01028	LL5	164.2	B	B/C	–	–
MET 01029	LL5	218.3	B/C	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 01030	LL5	1360.2	A/B	A	–	–
MET 01031	L5	443	B	A	–	–
MET 01032	L5	247	BE	A	–	–
MET 01033	L5	323.9	B	A	–	–
MET 01034	L6	168.72	A/B	A	–	–
MET 01035	LL6	151.59	A/B	A	–	–
MET 01036	LL6	329.3	B	C	–	–
MET 01037	LL6	421	B	A/B	–	–
MET 01038	LL6	388	B	B	–	–
MET 01039	L5	356.2	B/C	B	–	–
MET 01040	LL5	216.07	A/B	A/B	–	–
MET 01041	L5	198.56	B/C	A/B	–	–
MET 01042	L5	160.59	B/C	A/B	–	–
MET 01043	LL6	227.59	B/CE	A/B	–	–
MET 01044	LL6	127.85	A/B	A	–	–
MET 01045	LL5	201.04	A/B	A/B	–	–
MET 01046	LL5	169	A/B	A/B	–	–
MET 01047	L5	263.7	B/C	A/B	–	–
MET 01048	L5	198.58	B/C	A	–	–
MET 01049	LL6	321.8	A/B	A/B	–	–
MET 01050	LL6	1375.1	A/B	A	–	–
MET 01051	L3.6	621.1	B/C	A/B	7–35	2–19
MET 01052	L5	619.6	B/C	A/B	–	–
MET 01053	L5	460.6	B	A/B	–	–
MET 01054	L5	358.5	B/C	A/B	–	–
MET 01055	LL5	224.9	A/B	A	–	–
MET 01056	L3.6	397.1	B/C	A/B	1–27	7–25
MET 01057	L3.6	189.29	B/C	A/B	1–25	2–25
MET 01058	L5	216.42	B	A/B	–	–
MET 01059	L5	441.2	B	A	24	20
MET 01060	LL5	351.4	A/B	A	–	–
MET 01061	H5	205.4	C	A/B	–	–
MET 01062	L5	194	C	B	–	–
MET 01063	H5	173.03	C	A/B	–	–
MET 01064	H6	242.4	C	B	–	–
MET 01065	L5	395.2	B/CE	A/B	–	–
MET 01066	LL5	570.4	B	A	–	–
MET 01067	LL5	125.83	A/B	A	–	–
MET 01068	LL5	186.59	A/B	A	–	–
MET 01069	L5	117.06	B/C	A/B	–	–
MET 01088	IIIAB	5.783	B	A	–	–
MET 01089	IIIAB	4.149	B	A	–	–
MET 01092	H6	8.111	C	A/B	–	–
MET 01093	H6	69.975	C	A/B	–	–
MET 01094	L5	15.758	C	A/B	–	–
MET 01095	LL6	44.953	B	B	–	–
MET 01096	LL5	48.646	B	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 01097	LL5	41.653	A	A	–	–
MET 01098	H5	21.113	C	A/B	–	–
MET 01099	L5	17.454	C	A/B	–	–
MET 01100	L5	20.73	B	A/B	–	–
MET 01101	L5	12.48	A/B	A	–	–
MET 01102	L5	36.79	B/C	A	–	–
MET 01103	LL5	29.64	AE	A	–	–
MET 01104	LL6	7.33	A	A	–	–
MET 01105	L5	1.67	A/B	A	–	–
MET 01106	L5	42.25	B/C	A	–	–
MET 01107	L5	32.61	A/B	A/B	–	–
MET 01108	LL5	9.28	A	A	–	–
MET 01109	L5	1.94	B/C	A	–	–
MET 01110	LL6	7.76	A/B	A/B	–	–
MET 01111	L5	32.31	B	A	–	–
MET 01112	L5	54.86	B/CE	A	–	–
MET 01113	L4	97.37	B	A/B	–	–
MET 01114	LL5	56.2	A/B	A/B	–	–
MET 01115	L5	111.58	B/C	A	–	–
MET 01116	LL5	62.57	A/B	A	–	–
MET 01117	LL4	84.09	B	A/B	–	–
MET 01118	L5	82.91	B/C	A/B	–	–
MET 01119	H5	114.52	B/C	A	–	–
MET 01120	H6	78.84	C	B	–	–
MET 01121	L5	93.091	B	B	–	–
MET 01122	LL5	142.982	B/C	C	–	–
MET 01123	LL5	35.005	B	B/C	–	–
MET 01124	H5	41.649	C	B	–	–
MET 01125	H6	26.742	C	B	–	–
MET 01126	L5	12.314	B/C	B	–	–
MET 01127	LL5	15.453	B	B	–	–
MET 01128	L5	13.967	C	B	–	–
MET 01129	L5	6.967	C	B	–	–
MET 01130	L5	58.67	C	B	–	–
MET 01131	L5	15.49	B	B	–	–
MET 01132	LL5	23.677	A	A/B	–	–
MET 01133	LL6	16.594	B	B	–	–
MET 01134	H5	10.211	C	B	–	–
MET 01135	L5	43.658	B	A/B	24	21
MET 01136	H5	19.134	C	B	–	–
MET 01138	LL6	26.289	B	B/C	–	–
MET 01139	L5	60.538	C	B/C	–	–
MET 01140	LL5	80.404	A/B	A/B	–	–
MET 01141	LL5	41.19	A/B	A/B	–	–
MET 01142	H5	65.78	B/C	B	–	–
MET 01143	H6	44.021	C	A/B	–	–
MET 01144	LL5	29.613	A/B	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 01145	LL5	19.425	B	B	–	–
MET 01146	L5	4.86	B/C	B	–	–
MET 01147	LL5	34.446	B	A/B	–	–
MET 01148	L5	18.002	B/C	B	–	–
MET 01149	CK3	10.251	A	B	2–39	–
MET 01150	LL5	22.86	A/B	A	–	–
MET 01151	LL6	18.31	A/B	A/B	–	–
MET 01152	H5	11.56	B/C	A	–	–
MET 01153	LL6	4.01	A/B	A	–	–
MET 01154	Meso	0.35	B	A	–	26–31
MET 01155	L5	12.29	B/C	A	–	–
MET 01156	L6	12.68	B/C	A	–	–
MET 01157	L5	3.83	B	A	–	–
MET 01158	H5	0.64	B	A	–	–
MET 01159	H5	11.94	B/C	A	–	–
MET 01160	LL5	35.579	A/B	A/B	–	–
MET 01161	L5	92.229	B/C	B	–	–
MET 01162	LL5	33.076	A	A/B	–	–
MET 01163	LL5	29.845	A	A/B	–	–
MET 01164	L5	34.491	B/C	A/B	–	–
MET 01165	LL5	31.542	B	A/B	–	–
MET 01166	L5	39.965	B	A	–	–
MET 01167	LL6	43.263	A/B	A/B	–	–
MET 01168	L5	11.509	B	A	–	–
MET 01169	LL6	65.666	A/B	A/B	–	–
MET 01170	L5	34.89	A/B	A	–	–
MET 01171	H6	32.89	B/CE	A	–	–
MET 01172	L5	12.98	B/C	A/B	–	–
MET 01173	H6	9.37	B/CE	A	–	–
MET 01174	LL5	26.25	A/B	A	–	–
MET 01175	H6	49.25	B/C	A/B	–	–
MET 01176	H6	24.27	B/C	A/B	–	–
MET 01177	H6	15.81	B/C	A/B	–	–
MET 01178	H6	11.91	B/CE	B/C	–	–
MET 01179	H5	12.38	B/C	A	–	–
MET 01180	H5	11.47	C	A/B	–	–
MET 01181	LL5	63.4	A/B	A	–	–
MET 01182	H3.8	69.86	A/B	A	1–23	1–23
MET 01183	EH3	1.4	B/C	A/B	–	1–2
MET 01184	H5	1.48	B/C	A	–	–
MET 01185	LL6	79.31	A/B	A/B	–	–
MET 01186	L5	23.91	B	A/B	–	–
MET 01187	L5	38.62	A/B	A	–	–
MET 01188	L5	25.12	A/B	A/B	–	–
MET 01189	LL5	11.43	A/B	A	–	–
MET 01190	LL6	7.872	B	B	–	–
MET 01191	LL5	65.421	B	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 01192	L6	25.246	B	B/C	–	–
MET 01193	LL5	32.001	B	A/B	–	–
MET 01194	LL5	47.582	B	B	–	–
MET 01195	Acap	98.725	C	B	9	8–9
MET 01196	H5	58.066	C	A	–	–
MET 01197	H6	46.449	B/C	B	–	–
MET 01198	Acap	98.489	C	B	9	9
MET 01199	L5	18.078	B	B	–	–
MET 01200	L5	22.92	A/B	A	–	–
MET 01201	L5	27.35	B/C	A	–	–
MET 01202	L5	14.52	B/C	A	–	–
MET 01203	L5	45.44	B	A	–	–
MET 01204	L5	124.02	A/B	A/B	–	–
MET 01205	LL5	13.2	A/B	A/B	–	–
MET 01206	H5	60.61	B/C	A/B	–	–
MET 01207	LL5	45.71	A/B	A	–	–
MET 01208	L5	41.81	B/C	A	–	–
MET 01209	L5	5.95	B/C	A	–	–
MET 01210	Lunar-A	22.83	B	A	–	37–84
MET 01211	L3.6	10.6	B	A	2–21	4–6
MET 01212	Acap	31.37	B/C	A	8–9	8
MET 01213	H5	14.22	B/C	A	–	–
MET 01214	L5	28.89	A/B	A	–	–
MET 01215	L5	159.07	B/C	A	–	–
MET 01216	L5	8.8	A/B	A/B	–	–
MET 01217	H5	47.75	B/C	A	–	–
MET 01218	LL5	8.05	A/B	A	–	–
MET 01219	LL5	23.14	A/B	A	–	–
MET 01220	LL5	12.453	B	A/B	–	–
MET 01221	H6	1.252	C	A/B	–	–
MET 01222	L5	10.79	B	B	–	–
MET 01223	LL5	14.382	A	A	–	–
MET 01224	H6	14.1	C	B	–	–
MET 01225	LL6	10.203	A	A	–	–
MET 01226	H6	14.689	C	B	–	–
MET 01227	L5	17.139	B	B	–	–
MET 01228	LL6	13.83	A	A	–	–
MET 01229	H6	8.499	C	A	–	–
MET 01230	H5	9.663	C	A/B	–	–
MET 01231	LL5	7.71	B/C	B	–	–
MET 01232	Acap	7.618	C	A/B	8–9	8
MET 01233	L5	10.59	C	B	–	–
MET 01234	L5	7.008	C	A/B	–	–
MET 01235	LL5	3.136	C	C	–	–
MET 01236	L5	11.624	C	B	–	–
MET 01237	L5	13.369	C	B	–	–
MET 01238	L5	12.894	C	A/B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 01239	L5	18.739	C	C	–	–
MET 01240	L5	60.305	C	B	–	–
MET 01241	L5	45.258	C	B	–	–
MET 01242	H6	105.368	C	A/B	–	–
MET 01243	H6	11.566	C	B	–	–
MET 01244	Acap	76.49	C	A/B	9	9
MET 01245	H5	54.654	C	B	–	–
MET 01246	LL5	37.952	B/C	A	–	–
MET 01247	H5	44.926	C	B	–	–
MET 01248	LL5	20.468	A/B	A/B	–	–
MET 01249	H5	1.527	C	B	–	–
MET 01250	L5	4.763	B	B	–	–
MET 01251	H6	21.308	C	B/C	–	–
MET 01252	LL5	13.026	B	B	–	–
MET 01253	H6	103.139	C	B	–	–
MET 01254	H6	18.956	C	A/B	–	–
MET 01255	L5	6.853	B	B	–	–
MET 01256	LL6	166.97	A/B	A/B	–	–
MET 01257	H5	1.683	C	B	–	–
MET 01258	H6	26.581	C	A/B	–	–
MET 01259	H6	31.669	C	A/B	–	–
MET 01260	L5	25.542	B	B	–	–
MET 01261	LL5	24.248	A/B	A/B	–	–
MET 01262	L5	9.735	C	B	–	–
MET 01263	H6	11.341	C	B	–	–
MET 01264	H5	20.55	B/C	B/C	19	17
MET 01265	H4	12.301	B	B	20	12–18
MET 01266	H5	32.153	B	B	–	–
MET 01267	LL6	4.567	C	C	–	–
MET 01268	H6	8.007	C	B	–	–
MET 01269	H4	18.586	B	B	18	17
MET 01270	L5	76.727	C	B	–	–
MET 01271	L5	141.839	C	B	–	–
MET 01272	L5	113.168	C	B	–	–
MET 01273	H6	113.103	C	B	–	–
MET 01274	H6	131.881	C	B	–	–
MET 01275	L5	47.299	C	C	–	–
MET 01276	H5	61.44	A	A	19	17
MET 01277	L5	54.587	C	A/B	–	–
MET 01278	LL6	42.989	A/B	A	–	–
MET 01279	LL5	30.616	B/C	A/B	–	–
MET 01280	L5	63.18	B/C	A	–	–
MET 01281	L5	37.49	B/C	A/B	–	–
MET 01282	L5	27.66	B/C	A/B	–	–
MET 01283	H6	17.03	B/C	A	–	–
MET 01284	LL5	19.39	B/C	A	–	–
MET 01285	L5	53.39	B	A/B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 01286	LL5	82.58	B/C	A/B	–	–
MET 01287	L5	29.81	A/B	A/B	–	–
MET 01288	L5	17.7	B/C	A	–	–
MET 01289	LL5	23.74	A/B	A	–	–
MET 01290	H6	17.16	B/CE	A	–	–
MET 01291	H6	18.94	B/C	A	–	–
MET 01292	LL6	7.75	A/B	A	–	–
MET 01293	H5	17.82	B/CE	A	–	–
MET 01294	H6	9.73	B/C	A/B	–	–
MET 01295	H5	29.99	B/C	A	–	–
MET 01296	H5	10.92	B/C	A	–	–
MET 01297	LL6	19.41	A/B	A	–	–
MET 01298	L5	7.43	B/C	A	–	–
MET 01299	L5	13.96	B/CE	A	–	–
MET 01300	L6	4.158	B	A/B	–	–
MET 01301	L5	5.462	C	B	–	–
MET 01302	LL5	4.587	A/B	A/B	–	–
MET 01303	LL5	6.861	B	B	–	–
MET 01304	LL6	9.196	A	B	–	–
MET 01305	L5	39.198	C	B	–	–
MET 01306	H5	4.849	C	B	18	16
MET 01307	LL6	8.717	A/B	A	–	–
MET 01308	L5	13.523	C	B	–	–
MET 01309	H5	4.863	C	A/B	–	–
MET 01310	L5	8.15	A/B	A/B	–	–
MET 01311	H5	14.34	B/C	A/B	–	–
MET 01312	L5	11.95	B/C	A	–	–
MET 01313	H5	6.48	B/C	A	–	–
MET 01314	H5	3.43	B/C	A	–	–
MET 01315	L5	4.52	A/B	A	–	–
MET 01316	L5	5.6	B/C	A/B	–	–
MET 01317	H5	1.31	B/C	A/B	–	–
MET 01318	L5	10.57	A/B	A/B	–	–
MET 01319	L5	14.67	B/C	A	–	–
MET 01320	LL5	3.28	A/B	A	–	–
MET 01321	H5	15.44	B/C	A	–	–
MET 01322	L3.6	8.41	B/C	A	13–45	1–18
MET 01323	L5	7.03	A/B	A	–	–
MET 01324	L5	10.86	A/B	A/B	–	–
MET 01325	L5	29.79	B	A	–	–
MET 01326	L5	10.86	B	A	–	–
MET 001000	L5	16.3	B/C	A/B	–	–
MET 001001	L5	4.768	C	B	–	–
MET 001002	H6	17.932	B/C	B	–	–
MET 001003	L6	13.367	B/C	A	–	–
MET 001004	L5	27.046	C	B	–	–
MET 001005	LL5	29.251	A	A	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 001006	L5	10.571	B	A/B	–	–
MET 001007	L5	18.396	B	B	–	–
MET 001008	H6	10.668	C	A/B	–	–
MET 001009	L5	19.058	C	B	–	–
MET 001010	LL6	1.11	A/B	A	–	–
MET 001011	LL5	11.58	A/B	A	–	–
MET 001013	H6	10.11	B/C	A	–	–
MET 001014	H5	10.41	B/C	A	–	–
MET 001015	H6	22.01	B/C	A	–	–
MET 001016	H5	11.46	B/C	A	–	–
MET 001017	H6	18.68	B/C	A	–	–
MET 001018	H6	11.54	B/C	A	–	–
MET 001019	H5	23.04	B/C	A	–	–
MET 001020	L5	55.915	B	A/B	–	–
MET 001021	LL5	23	A/B	A/B	–	–
MET 001022	H5	19.329	C	A/B	–	–
MET 001023	LL6	35.355	B/C	C	–	–
MET 001024	LL6	19.712	B/C	C	–	–
MET 001025	LL5	31.661	B/C	C	–	–
MET 001026	L5	51.374	B/C	B	–	–
MET 001027	H5	18.188	C	A/B	–	–
MET 001028	H6	7.264	C	B	–	–
MET 001029	H5	34.761	C	B	–	–
MET 001030	H6	20.714	C	A/B	–	–
MET 001031	Meso	6.336	C	B	–	30
MET 001032	H6	9.744	C	B	–	–
MET 001033	H6	16.708	C	A/B	–	–
MET 001034	LL5	29.934	B	C	–	–
MET 001035	H6	22.635	C	A/B	–	–
MET 001036	H6	35.877	C	A/B	–	–
MET 001037	H6	18.106	C	A/B	–	–
MET 001039	H6	27.66	C	C	–	–
MET 001040	L5	43.25	A/B	A	–	–
MET 001041	H6	11.6	B/C	A	–	–
MET 001042	H6	25.08	B/C	A	–	–
MET 001043	H6	58.76	B/C	A	–	–
MET 001044	H6	12.61	B/C	A	–	–
MET 001045	H6	7.18	B/C	A	–	–
MET 001046	LL5	6.57	B	A	–	–
MET 001047	H5	22.92	B/C	A	–	–
MET 001048	H6	11.03	B/C	A	–	–
MET 001049	H4	37.6	B	A/B	–	–
MET 001050	LL6	67.633	CE	C	–	–
MET 001051	H6	11.18	C	A/B	–	–
MET 001052	L6	26.461	B/C	A/B	–	–
MET 001053	L5	17.552	B/C	B	–	–
MET 001054	H6	4.773	B/C	B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 001055	L5	6.753	B/C	B	–	–
MET 001056	H5	18.664	C	A/B	–	–
MET 001057	LL6	27.526	B	B	–	–
MET 001058	LL6	37.412	C	C	–	–
MET 001059	H6	26.38	C	B	–	–
MET 001061	H6	23.149	C	A/B	–	–
MET 001062	H6	40.711	C	B	–	–
MET 001063	L6	12.715	C	B/C	–	–
MET 001064	H6	14.248	C	B	–	–
MET 001065	H6	10.11	C	A/B	–	–
MET 001066	H6	19.632	C	B	–	–
MET 001067	H5	33.403	C	A/B	–	–
MET 001068	L5	7.205	B	A/B	–	–
MET 001069	H6	10.637	C	B	–	–
MET 001070	LL5	6.77	A/B	A	–	–
MET 001071	L5	7.45	A/B	A	–	–
MET 001072	LL6	34.16	B/C	A/B	–	–
MET 001073	H6	31.95	B/C	A	–	–
MET 001074	H6	19.74	B/C	A/B	–	–
MET 001075	H6	7.14	B/C	A	–	–
MET 001076	H6	8.61	B/C	A	–	–
MET 001077	H6	40.59	B/C	A/B	–	–
MET 001078	L6	22.55	B	A	–	–
MET 001079	LL6	18.63	B	A	–	–
MET 001080	L6	9.257	C	B	–	–
MET 001081	H5	8.292	C	B/C	–	–
MET 001082	LL5	17.022	B	B	–	–
MET 001083	LL5	9.657	B	B/C	–	–
MET 001084	LL5	8.306	A	B	–	–
MET 001085	H5	29.471	C	A/B	–	–
MET 001086	LL5	9.75	B/C	B	–	–
MET 001088	H6	34.237	B/C	B	–	–
MET 001089	H6	20.981	C	B	–	–
MET 001090	H6	33.643	C	A/B	–	–
MET 001091	H6	25.66	C	B	–	–
MET 001092	H5	0.61	C	A/B	–	–
MET 001093	L5	12.373	B	A/B	–	–
MET 001094	H5	14.535	C	B	–	–
MET 001095	H5	8.925	C	B	–	–
MET 001096	LL5	17.894	B	B	–	–
MET 001097	L6	36.208	B/C	A/B	–	–
MET 001098	L6	9.275	B/C	A/B	–	–
MET 001099	H6	16.298	C	B	–	–
MET 001100	L6	15.089	B/C	B	–	–
MET 001101	H6	36.798	C	A/B	–	–
MET 001102	H5	7.096	C	A/B	19	17
MET 001103	H6	22.927	C	A/B	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 001104	H5	19.829	C	B	–	–
MET 001105	LL5	10.555	B	B	–	–
MET 001106	LL4	45.665	A/B	A/B	–	–
MET 001107	H6	16.341	C	B	–	–
MET 001108	LL6	20.213	A/B	B	–	–
MET 001109	L6	11.955	B/C	B	–	–
MET 001110	H6	19.032	C	A/B	–	–
MET 001111	H5	36.181	C	B	–	–
MET 001112	H6	11.353	C	A/B	–	–
MET 001113	LL6	12.468	B/C	B	–	–
MET 001114	H5	56.559	C	A/B	–	–
MET 001115	LL6	38.647	C	B	–	–
MET 001116	LL6	23.106	C	B	–	–
MET 001117	H5	18.67	B/C	A/B	–	–
MET 001118	H5	11.477	C	B	–	–
MET 001119	LL4	18.524	B	B	–	–
MET 001120	H6	28.41	C	C	–	–
MET 001121	H5	24.358	C	B	–	–
MET 001122	H5	14.823	C	B	–	–
MET 001123	H6	32.612	C	B	–	–
MET 001124	H6	5.62	C	B	–	–
MET 001125	H6	24.581	C	B	–	–
MET 001126	H5	21.874	C	B	–	–
MET 001127	H6	16.957	C	B	–	–
MET 001128	L6	5.305	C	B	–	–
MET 001129	LL5	11.438	C	B	–	–
MET 001130	H6	54.54	B/C	A/B	–	–
MET 001131	H6	18.5	B/C	A	–	–
MET 001132	H6	10.47	B/C	A	–	–
MET 001133	L5	4.45	B	A	–	–
MET 001134	LL4	7.28	A/B	A	–	–

Appendix 1. Antarctic meteorites collected by ANSMET. *Continued.*

Generic	Class	Weight	Weathering	Fracturing	Fa	Fs
MET 001135	H6	3.84	B/C	A	–	–
MET 001137	LL5	1.54	B	A	–	–
MET 001138	L5	0.371	B	A	24	21
ODE 01502	H4	123.451	B/C	B	18	16
PCA 02007	Lunar-A	22.372	B	A/B	–	19–50
PCA 02008	Diog	19.097	B	A/B	–	23–26
PCA 02009	How	22.509	A/B	A/B	–	17–60
PCA 02010	CM2	70.772	B	B	1–36	1–6
PCA 02011	CM2	2.613	A/B	A/B	1–43	0–2
PCA 02012	CM2	58.922	B	A	0–31	5
PCA 02013	How	40.961	B	B	–	22–61
PCA 02014	How	21.244	B	B	24	23–57
PCA 02015	How	16.794	B	B	–	22–59
PCA 02016	How	23.865	B	B	33	33–59
PCA 02017	Diog	2.352	A/B	A/B	26–29	17–25
PCA 02018	How	3.055	B	A/B	–	22–57
PCA 02019	How	11.701	B	A/B	28	24–55
PCA 02060	H6	25.851	C	A/B	–	–
PCA 02061	L5	5.477	B/C	A/B	–	–
PCA 02062	H6	2.139	C	A/B	–	–
PCA 02063	H6	5.631	C	A/B	–	–
PCA 02064	H5	5.52	C	A/B	–	–
QUE 02150	H6	1.96	C	A	–	–
QUE 02151	H6	3.838	C	B	–	–
QUE 02152	L6	0.495	A/B	A	–	–
QUE 02153	LL5	1.009	B	B	–	–
QUE 02154	LL5	2.092	B	B	–	–
QUE 02155	LL5	9.622	C	B	–	–
QUE 02156	LL5	4.776	B/C	B	–	–
QUE 02157	LL5	7.827	B/C	B	–	–
QUE 02159	H6	3.603	C	B	–	–