

# Catalogue of meteorites in Dutch collections

P. W. C. van Calsteren

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This catalogue contains information on the meteorite collections presently on display or on storage in The Netherlands. It is organized in three separate listings. The first and shortest listing gives the meteorite names grouped according to their classification. The second listing is the main body of this catalogue and gives the meteorite names in alphabetical order with specific information on place and date of fall or find, classification, chemical and structural composition, registration number and weight. This information is mainly based on the 'Catalogue of Meteorites' by Hey (1966) and the 'Appendix to the Catalogue of Meteorites' by Hutchison, Bevan & Hall (1977). The third listing gives the meteorite names and their classification grouped separately for each of the eight participating institutions in numerical order of the registration numbers.

P. W. C. van Calsteren, Rijksmuseum van Geologie en Mineralogie, Hooglandse Kerkgracht 17, 2312 HS Leiden, The Netherlands.

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## Introduction

This catalogue is hardly the place to discuss the classification scheme that is currently in use and only a brief résumé will be given. Detailed information is given in Wasson (1974) and Buchwald (1975). The fundamental division of meteorites is in stones, stony-irons and irons if the meteorite contains a few %, about 50%, or more than 90% metallic iron, respectively; stones are further divided in chondrites and achondrites depending on the occurrence of chondrules (see Fig. 1). Further division of these four groups is based on petrological characteristics and/or chemical composition.

### CHONDRITES

They are divided in five chemical groups according to their oxidation state which is defined as the ratio of reduced Fe (in metal and sulfides) to oxidized Fe (in silicates). They are given the symbols E, H, L, LL, and C with the oxidation state increasing from E to C. These symbols have the same significance as the names enstatite chondrite, olivine-bronzite chondrite, olivine-hypersthene chondrite, amphoteric, and carbonaceous chondrite, respectively. The symbol C is followed by a second symbol according to a subdivision in four types: V stands for Vigaran-type, O stands for Ornans-type, M stands for Mighei-type, and I for Ivuna-type (see: Wasson, 1974). The symbols are followed by a cipher from 1 to 6 indicating the petrological type. The petrological type is correlated with the degree of recrystallization of the chondrules and the matrix of the chondrites. This chondrite classification scheme is known as the Van Schmus & Wood system (Van Schmus & Wood, 1967). The second listing also gives the composition of the most abundant silicate phase: indicated as fs is the mol. percentage ferrosilite in pyroxene and indicated as fa is the mol. percentage fayalite in olivine.

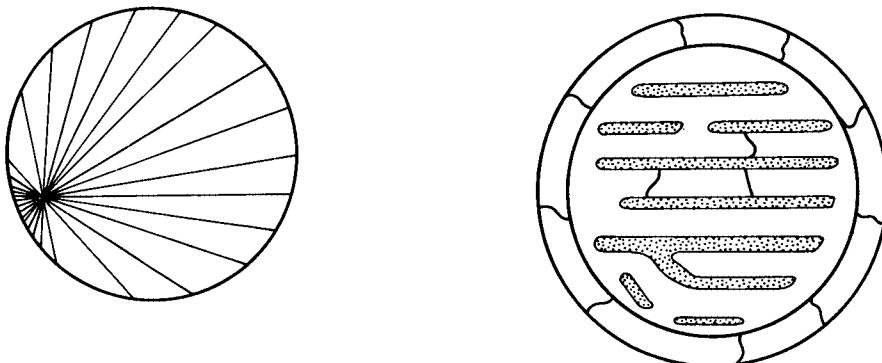


Fig. 1a. Radiating pyroxene chondrule; 1b barred olivine chondrule. Both types and several others occur in chondrite meteorites.

### ACHONDRIES

The achondrites are in chemical and mineralogical composition quite similar to terrestrial peridotites and gabbros and contain a very limited amount of metallic Fe. They are classified according to their mineralogical composition in five distinct groups and a few anomalous. An achondrite is classified as anomalous if less than five similar examples are known. The five groups are: aubrites and diogenites consisting of enstatite and hypersthene, respectively with at the most 5% olivine; ureilites consisting of olivine and pigeonite; eucrites and howardites consisting of pigeonite and hypersthene, respectively, and both containing plagioclase. Aubrites and ureilites are not represented in the present catalogue. Ca/Mg in the second listing gives the atomic ratio of calcium to magnesium; Femet gives the percentage metallic iron.

### STONY-IRONS

The stony-irons contain about equal amount of silicates and metallic Fe but quite large variations occur. They are divided in pallasites and mesosiderites, the former containing olivine as the silicate phase and the latter predominantly orthopyroxene; the siderophyre Steinbach is unique.

### IRONS

Iron meteorites are best classified according to their content of the elements nickel, gallium, germanium, and iridium (Wasson, 1974) but the latter three are present only in trace amounts and sophisticated techniques are necessary for their analysis. However, this chemical classification correlates well with a classification scheme based on structural characteristics that are macroscopically discernable. Both classifications are given in this catalogue (see Table 1). A generally used three-fold division of the iron meteorites is in hexahedrites, octahedrites and ataxites.

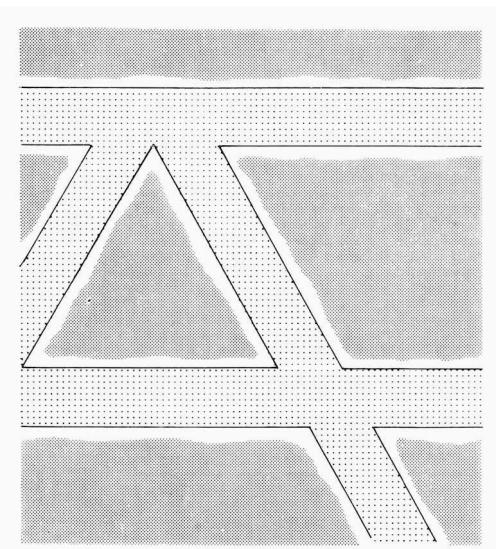


Fig. 2. Widmannstätten structure in octahedrite iron meteorites; stippled bands are kamacite, taenite is white, and the grey fields consist of plessite.

Table 1. Correlation between chemical and structural classification of iron meteorites (Wasson, 1974; Buchwald, 1975).

Group	Bandwidth, in mm	Structure	Ni %	Name
IA	1.0 - 3.1	Om-Ogg	6.4 - 8.7	medium to coarsest octahedrite
IB	0.01 - 1.0	D-Om	8.7 - 25	ataxite to medium octahedrite
IIA	> 50	H	5.3 - 5.7	hexahedrite
IIB	5 - 15	Ogg	5.7 - 6.4	coarsest octahedrite
IIC	0.06 - 0.07	Opl	9.3 - 11.5	plessitic octahedrite
IID	0.4 - 0.9	Of-Om	9.8 - 11.3	fine to medium octahedrite
IIIE	0.1 - 2	Anom	7.5 - 9.7	anomalous octahedrite
IIIA	0.9 - 1.3	Om	7.1 - 9.3	medium octahedrite
IIIB	0.6 - 1.3	Om	8.4 - 10.5	medium octahedrite
IIIC	0.2 - 0.4	Off-Of	10 - 13	finest to fine octahedrite
IIID	0.01 - 0.05	D-Off	16 - 23	ataxite to finest octahedrite
IIIE	1.3 - 1.6	Og	8.2 - 9.0	coarse octahedrite
IIIF	0.5 - 1.5	Om-Og	6.8 - 7.8	medium to coarse octahedrite
IVA	0.24 - 0.45	Of	7.4 - 9.4	fine octahedrite
IVB	0.006 - 0.03	D	16 - 26	ataxite

The octahedrites display a typical pattern of three structural elements viz. bands of kamacite ( $\alpha$ -Fe) with low Ni content and narrow zones of taenite ( $\gamma$ -Fe) with high Ni content around fields of plessite that consist of a fine-grained mixture of kamacite and taenite (see Fig. 2). This structure is known as the Widmanstatten structure. The bandwidth of the kamacite lamellae serves for the subdivision of this group from coarsest to finest (see Table 1). The hexahedrites do not show the octahedral configuration and consist of low-Ni kamacite. The ataxites are also devoid of the octahedral orientation but they consist mainly of the high-Ni phase taenite. A comparatively large number of the iron meteorites do not fit in this classification scheme and need individual description; they are classified as anomalous. In the second listing Ni gives the nickel percentage; the figure between brackets gives the bandwidth of the kamacite lamellae in mm.

The entire classification scheme of the meteorites serves only as a grouping system for individuals with similar characteristics and has no genetic or relational significance between the groups. There is, for instance, little evidence of a genetic relationship between howardites and aubrites, but there are a number of quite similar characteristics between the howardites and the mesosiderites suggesting a close relationship between these groups.

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## Listing of meteorites according to their classification

ENSTATITE CHONDRITES		
		L6
E4	Abee	Shelburne
E6	Khairpur	Alfianello
	Pillistfer	Chantonnay
		Drake Creek
		Edmondson
		Fisher
		Forsyth
		Grossliebenthal
		Holbrook
OLIVINE-BRONZITE CHONDRITES		
		L'Aigle
H4	Bath	Le Pressoir
	Beaver Creek	Long Island
	Kesen	Marion (Iowa)
	Ochansk	Mauerkirchen
	Tysnes Island	Mern
	Weston	Milena
H4, 5	Misshof	Mócs
H5	Allegan	Moradabad
	Ambapur Nagla	New Concord
	Assisi	Oesel
	Barbotan	Pavlograd
	Beardsley	Potter
	Cereseto	Temple
	Cronstad	Utrecht
	Farley	Waconda
	Forest City	L
	Gilgooin	Kuleschovka
	Hessle	
	Hugoton	
	Macáu	
	Pultusk	
	Richardton	AMPHOTERITES
	Ställdalen	LL3
	St. Germain-du-Pinel	Ngawi
H6	Djati-Pengilon	LL4
	Erxleben	Siena
	Kernouvé	Soko-Banja
	Nulles	Bandong
	Pipe Creek	Dhurmsala
	Tjabé	Ensisheim
	Trenzano	Jelica
H	Kangean	St. Mesmin
		Uden
CARBONACEOUS CHONDRITES		
OLIVINE-HYPERSTHENE CHONDRITES		
		Vigarano type
L3	Mezö-Madaras	CV3
L3 - 6	Hedjaz	Allende
L4	Bjurbole	Vigarano
	Dalgety Downs	Ornans type
	Jerome (Kansas)	CO3
	McKinney	Lancé
	Tennasilm	Mighei type
L5	Bluff	CM2
	Ergheo	Mighei
	Farmington	Nogoya
	Ghubara	Ivuna type
	Homestead	CI1
	Knyahinya	Orgueil
	Roy (1933)	
DIOGENITES		
		DIO
		Ellemeeet
		Tatahouine

<b>EUCRITES</b>			Elbogen Hraschina Rodeo
EUC	Juvinas Stannern		
<b>HOWARDITES</b>			<b>MEDIUM OCTAHEDRITES</b>
HOW	Frankfort (Stone) Pavlovka		
<b>MESOSIDERITES</b>			III A
MES	Crab Orchard Estherville Hainholz Mincy Vaca Muerte		
<b>PALLASITES</b>			III B
PAL	Admire Brenham Eagle Station Finmarken Imilac Krasnojarsk Molong Mount Vernon		
PAL-AN	Glorieta Mountain		
<b>COARSE OCTAHEDRITES</b>			III C
IA	Cañon Diablo Magura Sardis Sarepta Seeläsgen Silver Crown Smithville Toluca Vaalbult Youndegin		
IB	Bitburg		
<b>HEXAHEDRITES</b>			III D
IIA	Braunau Coahuila San Francisco del Mezquital		
<b>COARSEST OCTAHEDRITES</b>			IV A
IIB	Mount Joy Navajo Sao Julia de Moreira		
<b>FINE-MEDIUM OCTAHEDRITES</b>			IV B
IID	Bridgewater		
<b>MEDIUM OCTAHEDRITES</b>			Carthage Casas Grandes Fort Pierre Guilford County Henbury Lénártó Sacramento Mountains San Angelo Tonganoxic Trenton Verkhne Udinsk Augustinovka Joe Wright Mountain Mount Edith
<b>FINE OCTAHEDRITES</b>			Carlton
<b>COARSE OCTAHEDRITES</b>			III E
<b>MEDIUM OCTAHEDRITES</b>			Staunton
<b>FINE OCTAHEDRITES</b>			Nelson County
<b>FINE OCTAHEDRITES</b>			Gibeon Chinautla Steinbach
<b>ATAXITES</b>			
<b>ANOMALOUS IRONS</b>			Cape of Good Hope Hoba
<b>MEANOM</b>			Kendall County
<b>IRANOM</b>			Arispe Mbosi Prambanan Santa Catharina
<b>UNCLASSIFIED CHONDRIES</b>			Kediri

## Alphabetical catalogue of meteorites in Dutch collections

**Abee**, Alberta, Canada, 54°13'N, 113°0'W. Fell 10.6.1952, 11.05h.  
Stone, black polymict brecciated enstatite chondrite, E4, fs = 0.8.  
RGM 107331 — 4.60 g.

**Admire**, Lyon County, Kansas, U.S.A., 38.7°N, 96.1°W. Found 1881.  
Stony-iron, brecciated pallasite, PAL, fa = 12.1, Ni = 10.72.  
RGM 65903 — 99.03 g.

**Alfianello**, Brescia, Italy, approx. 45.5°N, 10.5°E. Fell 16.2.1833, 15.00h.  
Stone, intermediate olivine-hypersthene chondrite, L6, fa = 23.7.  
RGM 22511 — 153.1 g.  
U 833 — 43.0 g.

**Allegan**, Allegan County, Michigan, U.S.A., 42°32'N, 85°53'W. Fell 10.7.1899,  
08.00h.  
Stone, spherical olivine-bronzite chondrite, H5, fa = 17.5  
RGM 22517 — 124.5 g.  
RGM 65900 — 46.18 g.  
U 0075 — 69.0 g.

**Allende**, Chihuahua, Mexico, 26°58'N, 105°19'W. Fell 8.2.1969, between 01.05  
and 01.10h.  
Stone, carbonaceous chondrite, CV3, fa = 0.45.  
RGM 162885 — 341.29 g.  
D 9854 — 30.83 g.

**Ambapur Nagla**, Aligarh district, United Provinces, India, 27°40'N, 78°15'E.  
Fell 27.5.1895, 01.00h.  
Stone, crystalline olivine-bronzite chondrite, H5, fa = 19.  
U 0016 — 3.4 g.

**Arispe**, Sonora, Mexico, 30°20'N, 109°59'W. Found 1896.  
Iron, coarse octahedrite, IRANOM, Og (2.9), Ni = 6.54.  
RGM 105316 — 15.0 g.

**Assisi**, Perugia, Italy, 43°4'N, 12°37'E. Fell 25.5.1886, 07.00h.  
Stone, spherical olivine-bronzite chondrite, H5, fa = 17.9.  
U 00115 — 4.3 g.

**Augustinovka**, Ekaterinoslav, Ukraine, U.S.S.R., 48°4'N, 35°5'E. Found 1890.  
Iron, medium octahedrite, IIIB, Om (0.8), Ni = 9.56.  
U 0014 — 16 g.

**Bandong**, West Java, Indonesia, 6°55'S, 107°36'E. Fell 10.12.1871, 13.30h.  
Stone, olivine-hypersthene chondrite (amphoterite), LL6, fa = 29.4.  
U 8610 — 7 g.

**Barbotan**, Gers, France,  $43^{\circ}37'N$ ,  $0^{\circ}3'W$ . Fell 24.7.1790, 21.00h.  
Stone, veined grey olivine-bronzite chondrite, H5, fa = 19.  
Z 5503 — < 1 g.

**Bath**, Brown County, South Dakota, U.S.A.,  $45^{\circ}28'N$ ,  $98^{\circ}21'W$ . Fell 29.8.1892,  
16.00h.  
Stone, brecciated spherical olivine-bronzite chondrite, H4, fa = 17.8.  
U 987 — 2.7 g.

**Beardsley**, Rawlins County, Kansas, U.S.A.,  $39^{\circ}8'N$ ,  $101^{\circ}2'W$ . Fell 15.10.1929,  
23.30h.  
Stone, grey olivine-bronzite chondrite, H5, fa = 18.6.  
RGM 107 336 — 14.28 g.

**Beaver Creek**, West Kootenay district, British Columbia, Canada,  $51^{\circ}10'N$ ,  
 $117^{\circ}20'W$ . Fell 26.5.1893, 15.30h.  
Stone, crystalline spherical olivine-bronzite chondrite, H4, fa = 18.3.  
U 95 479 — 17.7 g.

**Bitburg**, Trier, Germany,  $49^{\circ}58'N$ ,  $6^{\circ}32'E$ . Known before 1805.  
Iron (reheated artifact), IB, Ni = 12.4.  
RGM 1078 — 50.80 g.  
RGM 1079 — 714.50 g.  
U 8813 — 530 g.  
G 4108 — 27 g.  
G 4a109 — 234 g.

**Bjurböle**, Borgå, Nyland, Finland,  $60^{\circ}4'N$ ,  $25^{\circ}8'E$ . Fell 12.2.1899, 22.30 h.  
Stone, spherical olivine-hypersthene chondrite, L4, fa = 24.5.  
U 161 — 67 g.  
G 1 — 48 g.  
G 2 — 50 g.  
G 3 — 93 g.

**Bluff**, Fayette County, Texas, U.S.A.,  $29^{\circ}9'N$ ,  $96^{\circ}8'W$ . Found about 1878.  
Stone, brecciated crystalline olivine-hypersthene chondrite, L5, fa = 25.  
U 98 108 — 75 g.

**Braunau**, Trutnov, Bohemia, Czechoslovakia,  $50^{\circ}6'N$ ,  $16^{\circ}3'E$ . Fell 14.7.1847,  
15.45h.  
Iron, hexahedrite, IIA, H, Ni = 5.49.  
U 93 209 — 21.5 g.

**Brenham** Township, Kiowa County, Kansas, U.S.A.,  $37^{\circ}6'N$ ,  $99^{\circ}2'W$ . Found  
1922.  
Stony-iron, pallasite, passing in some specimens into an iron, PAL, fa = 12.4,  
Ni = 11.1.  
RGM 22 519 — 36.69 g.  
U 92 240 — 158 g.  
D 115 — 86.20 g.

**Bridgewater**, Burke County, North Carolina, U.S.A.,  $35^{\circ}43'N$ ,  $81^{\circ}52'W$ . Found 1890.

Iron, medium octahedrite, IID, Om (0.65), Ni = 9.8.

D 1248 — 32.75 g.

**Cañon Diablo**, Coconino County, Arizona, U.S.A.,  $35^{\circ}3'N$ ,  $111^{\circ}2'W$ . Found 1891.

Iron, coarse octahedrite, IA, Og (2.0), Ni = 6.98.

RGM 11 877 — 14 g.

RGM 22 522 — 65 000 g.

RGM 105 572 — 0.68 g.

Z 5500 — 321.3 g.

Z 7102 — 2710 g.

Z 7103 — 80.27 g.

U 92 225 — 148 g.

U 94 111 — 37 g.

D 5900 — 11.05 g.

G 7120 — 281 g.

**Cape of Good Hope**, Cape Province, South Africa, approx.  $33\frac{1}{2}'S$ ,  $26'E$ . Found 1793.

Iron, nickel-rich ataxite, IVB, D (0.03), Ni = 16.92.

U 869 — 4 g.

**Carlton**, Hamilton County, Texas, U.S.A.,  $31^{\circ}55'N$ ,  $98^{\circ}2'W$ . Found 1887.

Iron, fine octahedrite, IIIC, Of (0.21), Ni = 13.0

U 95 480 — 41 g.

D 110 — 37.15 g.

**Carthage**, Smith County, Tennessee, U.S.A.,  $36^{\circ}16'N$ ,  $85^{\circ}59'W$ . Found 1840.

Iron, medium octahedrite, IIIA, Om (1.25), Ni = 8.24.

U 8287 — 58 g.

**Casas Grandes** de Malintzin, Chihuahua, Mexico,  $30^{\circ}4'N$ ,  $107^{\circ}8'W$ . Recognized 1867.

Iron, medium octahedrite, IIIA, Om (1.15), Ni = 7.77.

RGM 22 527 — 311.4 g.

D 9990 — 3.80 g.

**Cereseto**, Casale, Piedmont, Italy,  $45^{\circ}7'N$ ,  $8^{\circ}28'E$ . Fell 17.7.1840, 07.30h.

Stone, brecciated spherical olivine-bronzite, H5, fa = 19.

U 8271 — 10 g.

**Chantonay**, Vendée, France,  $46^{\circ}41'N$ ,  $1^{\circ}3'W$ . Fell 5.8.1812, 02.00h.

Stone, polymict brecciated grey olivine-hypersthene chondrite, L6, fa = 23.3.

U 8618 — 11 g.

D 1492 — 8.94 g.

**Chinautla**, Guatemala,  $14\frac{1}{2}^{\circ}\text{N}$ ,  $90\frac{1}{2}^{\circ}\text{W}$ . Found 1902.

Iron, fine octahedrite, IVA-AN, Of (0.35), Ni = 9.54.

Z 5501 — 49.4 g.

U 13 108 — 136 g.

D 5979 — 65.41 g.

**Coahuila**, Mexico,  $28^{\circ}42'\text{N}$ ,  $102^{\circ}44'\text{W}$ . Known 1837.

Iron, hexahedrite, IIA, H, Ni = 5.49.

U 8170 — 234 g.

**Crab Orchard** Mountains, Rockwood, Cumberland County, Tennessee, U.S.A.,  $35^{\circ}50'\text{N}$ ,  $84^{\circ}55'\text{W}$ . Found 1887.

Stony-iron, mesosiderite, MES, fs = 26 - 36, Ca/Mg = 34, Femet = 49.1, Ni = 7.02.

RGM 65 907 — 33.92 g.

**Cronstad**, Orange Free State, South Africa,  $27\cdot7^{\circ}\text{S}$ ,  $27\cdot3^{\circ}\text{E}$ . Fell 19.11.1877, 16.00h.

Stone, veined grey olivine-bronzite chondrite, H5, fa = 18.

D 6503 — 57.90 g.

D 6504 — 52.57 g.

**Dalgety Downs**, Gascoyne District, Western Australia,  $25^{\circ}20'\text{S}$ ,  $116^{\circ}11'\text{E}$ . Known in 1941.

Stone, olivine-hypersthene chondrite, L4, fa = 24.

RGM 107 362 — 206.92 g.

**Dhurmsala**, Kangra district, Punjab, India,  $32^{\circ}14'\text{N}$ ,  $76^{\circ}28'\text{E}$ . Fell 14.7.1860, 14.15h.

Stone, intermediate olivine-hypersthene chondrite, LL6, fa = 27.2.

U 8253 — 83.9.

**Djati-Pengilon**, Ngawi district, Java, Indonesia,  $7^{\circ}18'\text{S}$ ,  $111^{\circ}20'\text{E}$ . Fell 19.3.1884, 16.30h.

Stone, crystalline olivine-bronzite chondrite, H6, fa = 18.7.

RGM 22 507 — 493.68 g.

M 786 — 191.08 g.

Z 5498 — 89.9 g.

U 8761 — 120 g.

D 806 — 487 g.

G 6114 — 105 g.

**Drake Creek**, Nashville, Sumner County, Tennessee, U.S.A.,  $36\cdot4^{\circ}\text{N}$ ,  $86\cdot5^{\circ}\text{W}$ . Fell 9.5.1827, 16.00h.

Stone, polymict brecciated veined white olivine-hypersthene chondrite, L6, fa = 25.

RGM 22 508 — 2197.3 g.

RGM 63 375 — 3.05 g.

**Eagle Station**, Carroll County, Kentucky, U.S.A.,  $38^{\circ}37'N$ ,  $84^{\circ}58'W$ . Found 1880.  
Stony-iron, pallasite, PAL, fa = 20.0, Ni = 15.37.

U 8996 — 75 g.  
D 108 — 127.76 g.

**Edmondson**, Hale County, Texas, U.S.A.,  $34^{\circ}17'N$ ,  $101^{\circ}50'W$ . Found 1955;  
recognized 1965.

Stone, olivine-hypersthene chondrite, L6.  
RGM 107367 — 28.02 g.

**Elbogen**, Bohemia, Czechoslovakia,  $50^{\circ}11'N$ ,  $12^{\circ}44'E$ . Fell 1400 (?), recognized  
1811.

Iron, medium octahedrite, IID, Om (0.75), Ni = 10.2.  
M 787 — 38.90 g.

**Ellemeet**, Isle of Schouwen, Zeeland, The Netherlands,  $51\frac{3}{4}'N$ ,  $4^{\circ}E$ . Fell  
28.8.1925, 11.30h.

Stone, diogenite (hypersthene achondrite), DIO, fs = 26.  
RGM 164271 — 4 g.  
U 3843 — 235 g.

**Ensisheim**, Alsace, France,  $47^{\circ}52'N$ ,  $7^{\circ}21'E$ . Fell 16.11.1492, 11.30 h.

Stone, polymict brecciated crystalline olivine-hypersthene chondrite (amphoterite),  
LL6, fa = 29.2.  
U 8611 — 1.5 g.

**Ergheo**, Brava, Somalia,  $1^{\circ}10'N$ ,  $44^{\circ}10'E$ . Fell 0.6.1889.

Stone, crystalline olivine-hypersthene chondrite, L5, fa = 23.7.  
RGM 65908 — 81.92 g.  
Z 5499 — 338.0 g.  
U 229 — 139.5 g.

**Erxleben**, Magdeburg, Prussia, Germany,  $52^{\circ}13'N$ ,  $11^{\circ}15'E$ . Fell 15.4.1812,  
16.00h.

Stone, crystalline olivine-bronzite chondrite, H6, fa = 19.  
U 00114 — 4.2 g.

**Estherville**, Emmet County, Iowa, U.S.A.,  $43^{\circ}25'N$ ,  $94^{\circ}50'W$ . Fell 10.5.1870,  
17.00 h.

Stony-iron, mesosiderite, MES, fs = 16 - 28, Ca/Mg = 20.0, Femet = 51.0,  
Ni = 9.0.  
U 8231 — 17 g.

**Farley**, Colfax County, New Mexico, U.S.A.,  $36^{\circ}20'N$ ,  $104^{\circ}3'W$ . Found 1936.  
Stone, veined grey crystalline olivine-bronzite chondrite, H5, fa = 18.  
RGM 107371 — 16.56 g.

**Farmington**, Washington County, Kansas, U.S.A.,  $39^{\circ}45'N$ ,  $79^{\circ}2'W$ . Fell 25.6.1890, 13.00h.

Stone, polymict brecciated black olivine-hypersthene chondrite, L5, fa = 25.  
U 93 171 — 13.5 g.

**Finnmarken**, Arctic Norway,  $70^{\circ}N$ ,  $24^{\circ}E$ . Found 1902.

Stony-iron, pallasite, PAL, fa = 12.7, Ni = 10.67.

RGM 163 165 — 127.76 g.

U 034 — 575 g.

G 2b111 — 28 g.

**Fisher**, Polk County, Minnesota, U.S.A.,  $47^{\circ}49'N$ ,  $96^{\circ}51'W$ . Fell 9.4.1894, 16.00h.

Stone, veined intermediate olivine-hypersthene chondrite, L6, fa = 23.  
U 986 — 3.5 g.

**Forest City**, Winnebago County, Iowa, U.S.A.,  $43^{\circ}15'N$ ,  $93^{\circ}40'W$ . Fell 2.5.1890, 17.15h.

Stone, brecciated spherical olivine-bronzite chondrite, H5, fa = 18.3.

U 911 — 18.5 g.

U 92 226 — 67 g.

**Forsyth**, Monroe County, Georgia, U.S.A.,  $33^{\circ}1'N$ ,  $83^{\circ}58'W$ . Fell 8.5.1829, 15.30h.

Stone, veined white olivine-hypersthene chondrite, L6, fa = 23.  
U 01 144 — 1 g.

**Fort Pierre**, Stanley County, South Dakota, U.S.A.,  $44^{\circ}21'N$ ,  $100^{\circ}23'W$ . Found 1856.

Iron, medium octahedrite (reheated artifact), IIIA, Om (1.05), Ni = 7.6.  
U 941 — 35 g.

**Frankfort (stone)**, Franklin County, Alabama, U.S.A.,  $34^{\circ}29'N$ ,  $87^{\circ}50'W$ . Fell 5.12.1868, 15.00h.

Stone, howardite (pyroxene-plagioclase achondrite), HOW, fs = 22 - 35,  
Ca/Mg = 14, Femet = 0.00.  
U 01 143 — 1 g.

**Ghubara**, Oman,  $19^{\circ}13'40''N$ ,  $56^{\circ}8'34''E$ . Found 1954.

Stone, black olivine-hypersthene chondrite, L5, fa = 24.  
KNMI 1 — 78 000 g.

**Gibeon**, Great Namaqualand, South-West Africa,  $25\frac{1}{2}^{\circ}S$ ,  $18^{\circ}E$ . Known before 1836.

Iron, fine octahedrite, IVA, Of (0.30), Ni = 7.68.

RGM 22 526 — 73.8 g.

RGM 107 335 — 20.91 g.

U 0788 — 1324 g.

U 1047 — 1150 g.  
 D 11494 — 1467 g.  
 D 1245 — 238 g.  
 D 1248a — 113.43 g.  
 D 6505 — 3175 g.

**Gilgoin** Station, Brewarrina, County Clyde, New South Wales, Australia,  $30^{\circ}23'S$ ,  $147^{\circ}12'E$ . Found in 1889.

Stone, crystalline olivine-bronzite chondrite, H5, fa = 17.  
 RGM 63374 — 2.54 g.  
 RGM 65896 — 48.17 g.

**Glorieta Mountain**, Canoncito, Santa Fe County, New Mexico, U.S.A.,  $35^{\circ}36'N$ ,  $105^{\circ}48'W$ . Found 1884.

Iron, medium octahedrite passing in parts into a pallasite, PAL-AN, Om (0.85), Ni = 12.04, fa = 13.2.  
 D 1249 — 30.29 g.

**Grossliebenthal**, 19 km SSW of Odessa, Kherson, Ukraine, U.S.S.R.,  $46^{\circ}21'N$ ,  $30^{\circ}35'E$ . Fell 19.11.1881, 06.30h.

Stone, veined white olivine-hypersthene chondrite, L6, fa = 25.  
 U 95478 — 3.25 g.

**Guilford County**, North Carolina, U.S.A., approx.  $35^{\circ}34'N$ ,  $79^{\circ}50'W$ . Known before 1822.

Iron, medium octahedrite, IIIA, Om (1.1), Ni = 7.9.  
 U 9019 — 3.7 g.

**Hainholz**, Minden, Westphalia, Germany,  $52^{\circ}17'N$ ,  $8^{\circ}55'E$ . Found 1856.

Stony-iron, mesosiderite, MES, fs = 19 - 28, Ca/Mg = 31, Femet = 48.3, Ni = 8.12.  
 U 8812 — 2 g.  
 U 9898 — 16.2 g.

**Hedjaz**, Saudi-Arabia,  $27^{\circ}N$ ,  $36^{\circ}E$  (?). Fell 1910, spring, night.

Stone, polymict brecciated grey olivine-hypersthene chondrite, L3 - 6, fa = 24.  
 U 2737 — 20 g.

**Henbury**, Central Australia,  $24^{\circ}34'S$ ,  $133^{\circ}10'E$ . Found 1931.

Iron, medium octahedrite. Associated with craters and silica glass, IIIA, Om (0.95), Ni = 7.47.  
 RGM 26996 — 264.8 g.  
 Z 6661 — 23 000 g.  
 Z 6662a — 188.7 g.  
 Z 6662b — 203.7 g.  
 U 3834 — 243 g.  
 G STRA1 — 11 g.

**Hessle**, Uppsala, Sweden,  $59^{\circ}51'N$ ,  $17^{\circ}40'E$ . Fell 1.1.1869, 12.30h.

Stone, spherical olivine-bronzite chondrite, HS, fa = 17.9.

U 8582 — 26 g.

U 869 — 12 g.

**Hoba**, Grootfontein, South-West Africa,  $19^{\circ}35'S$ ,  $17^{\circ}55'E$ . Found 1920.

Iron, nickel-rich ataxite, IVB, D (0.02), Ni = 16.56.

RGM 107334 — 41.37 g.

**Holbrook**, Navajo County, Arizona, U.S.A.,  $34^{\circ}54'N$ ,  $110^{\circ}11'W$ . Fell 10.7.1912, 19.15h.

Stone, crystalline spherical olivine-hypersthene chondrite, L6, fa = 24.6.

Z 5507 — 35.18 g.

Z 7101 — 2271 g.

U 1318 — 505 g.

D 1252 — 77.64 g.

D 1253 — 3.63 g.

D 1254 — 18.35 g.

D 1255 — 60.70 g.

D 1256 — 36.33 g.

D 1257 — 30.78 g.

D 1258 — 27.19 g.

D 1259 — 21.89 g.

D 1260 — 24.95 g.

D 1261 — 16.97 g.

D 1262 — 14.43 g.

D 1263 — 13.78 g.

D 1264 — 8.61 g.

D 1265 — 8.31 g.

D 1266 — 8.08 g.

D 1267 — 9.30 g.

D 1268 — 9.14 g.

D 1269 — 2.68 g.

D 1270 — 6.81 g.

D 1271 — 6.90 g.

D 1272 — 47.67 g.

**Homestead**, Iowa County, Iowa, U.S.A.,  $41^{\circ}48'N$ ,  $91^{\circ}52'W$ . Fell 12.2.1875, 22.15h.

Stone, polymict brecciated grey olivine-hypersthene chondrite, L5, fa = 22.0.

RGM 65895 — 69.73 g.

RGM 107369 — 19.31 g.

U 8286 — 32 g.

**Hraschina**, Zagreb, Croatia, Yugoslavia,  $46^{\circ}6'N$ ,  $16^{\circ}20'E$ . Fell 26.5.1751, 18.00h.

Iron, medium octahedrite, IID, Om (0.75), Ni = 10.6.

M 788 — 129.02 g.

**Hugoton**, Stevens County, Kansas, U.S.A.,  $37^{\circ}12'N$ ,  $101^{\circ}21'W$ . Found 1927, recognized 1936.

Stone, polymict brecciated black olivine-bronzite chondrite, H5, fa = 16.  
RGM 107366 — 12.37 g.

**Imilac**, Desert of Atacama, Chile,  $24^{\circ}14'S$ ,  $68^{\circ}50'W$ . Known in 1822.

Stony-iron, pallasite, PAL, fa = 12.3, Ni = 9.8.

RGM 22520 — 73.1 g.  
U 8273 — 323 g.

**Jelica**, Serbia, Yugoslavia,  $43^{\circ}50'N$ ,  $20^{\circ}26'30"E$ . Fell 1.12.1889, 14.30h.

Stone, monomict brecciated olivine-hypersthene chondrite (amphoterite), LL6, fa = 32.3.  
U 9091 — 31 g.

**Jerome (Kansas)**, Gove County, Kansas, U.S.A.,  $38^{\circ}46'N$ ,  $100^{\circ}44'W$ . Found 1894.

Stone, crystalline spherical olivine-bronzite chondrite, L4, fa = 19.  
U 162 — 99 g.

**Joe Wright Mountain**, Independence County, Arkansas, U.S.A.,  $35^{\circ}46'N$ ,  $91^{\circ}30'W$ . Found 1884.

Iron, medium octahedrite, IIIB, Om (0.85), Ni = 9.10.  
U 912 — 19.3 g.

**Juvinas**, Libonnès, Entraigues, Ardèche, France,  $44^{\circ}43'N$ ,  $4^{\circ}18'E$ . Fell 15.6.1821, 15.00h.

Stone, momomict brecciated eucrite (pyroxene-plagioclase achondrite), EUC, fs = 61, Ca/Mg = 109, Femet = 0.04.  
D 3856 — 4.36 g.

**Kangean Island**, Indonesia,  $6^{\circ}54'S$ ,  $115\frac{1}{2}^{\circ}E$ . Fell 27.9.1908, 11.00h.

Stone, olivine-bronzite chondrite, H, fa = 19.  
D 14689 — 1590 g.

**Kediri**, Java, Indonesia,  $7^{\circ}45'S$ ,  $112^{\circ}1'E$ . Fell about 1940.

Stone, chondrite.  
M 1734 — 174.07 g.

**Kendall County**, Texas, U.S.A.,  $29^{\circ}24'N$ ,  $98^{\circ}30'W$ . Known 1887.

Iron, brecciated hexahedrite (reheated artifact), MEANOM, fs = 0.7, Ni = 5.43.  
U 9130 — 85 g.  
D 1246 — 51.75 g.

**Kernouvé**, Morbihan, France,  $48^{\circ}7'N$ ,  $3^{\circ}5'W$ . Fell 22.5.1869, 22.00h.

Stone, veined crystalline olivine-bronzite chondrite, H6, fa = 16.5  
U 8719 — 7.5 g.

**Kesen**, Iwate, Honshu, Japan,  $38^{\circ}53'N$ ,  $141^{\circ}35'E$ . Fell 12.6.1850, 05.00h.  
Stone, spherical olivine-bronzite chondrite, H4, fa = 16.1.  
U 8719 — 26 g.

**Khairpur**, Bahawalpur State, Pakistan,  $29^{\circ}32'N$ ,  $72^{\circ}18'E$ . Fell 23.9.1873, 05.00h.  
Stone, crystalline enstatite chondrite, E6, fs = 0.3.  
U 9022 — 15.5 g.

**Knyahinya**, Nagybereszna, Ungvár, Ukraine, U.S.S.R.,  $48^{\circ}54'N$ ,  $22^{\circ}24'E$ . Fell  
9.6.1866, 17.00h.  
Stone, polymict brecciated grey olivine-hypersthene chondrite, L5, fa = 24.4.  
RGM 65 901 — 66.30 g.  
D 1491 — 38.76 g.  
D 5899 — 18.66 g.

**Krasnojarsk**, Yeniseisk, Siberia, U.S.S.R.,  $56^{\circ}0'N$ ,  $91^{\circ}26'E$ . Found 1749.  
Stony-iron, pallasite, PAL, fa = 12.2, Ni = 8.8.  
RGM 22 521 — 491.0 g.  
RGM 81 919 — 51.95 g.  
U 0015 — 10.8 g.  
D 1493 — 41.46 g.  
G 2113 — 319 g.

**Kuleschovka**, Poltava, Ukraine, U.S.S.R.,  $50^{\circ}45'N$ ,  $33^{\circ}30'E$ . Fell 12.3.1811,  
11.00h.  
Stone, veined white olivine-hypersthene chondrite, L, fa = 25.  
U 8612 — 2 g.

**L'Aigle**, Orne, France,  $48^{\circ}46'N$ ,  $0^{\circ}38'E$ . Fell 26.4.1803, 13.00h.  
Stone, brecciated intermediate olivine-hypersthene chondrite, L6, fa = 22.9.  
U 03 — 89.9.  
D 3855 — 3.59 g.  
D 3857 — 112.71 g.  
D 5897 — 26.65 g.

**Lancé**, Vendôme, Loir-et-Cher, France,  $47^{\circ}42'N$ ,  $1^{\circ}4'E$ . Fell 23.7.1872, 17.20h.  
Stone, spherical carbonaceous olivine-pigeonite chondrite, CO3, UNEQU.  
U 0429 — 62.2 g.

**Lénártó**, Sáros, Czechoslovakia, approx.  $49^{\circ}N$ ,  $21^{\circ}E$ . Found 1814.  
Iron, medium octahedrite, IIIA, Om (1.15), Ni = 8.85.  
M 785 — 123.37 g.  
U 14 — 10 g.  
D 113 — 59.35 g.

**Le Pressoir**, Indre-et-Loire, France,  $47^{\circ}10'N$ ,  $0^{\circ}26'E$ . Fell 25.1.1845, 15.00h.  
Stone, spherical olivine-hypersthene chondrite, L6, fa = 24.  
U 8617 — 3 g.

**Long Island**, Philips County, Kansas, U.S.A., 39°56'N, 99°36'W. Found 1891.  
Stoned, veined intermediate olivine-hypersthene chondrite, L6, fa = 25.  
RGM 22 512 — 190.0 g.  
U 96 209 — 27.5 g.

**Macáu**, Rio Grande do Norte, Brazil, 5°12'S, 36°40'W. Fell 11.11.1836, 05.00h.  
Stone, veined intermediate olivine-bronzite chondrite, H5, fa = 19.  
U 36 — 16 g.

**Magura**, Árva, Czechoslovakia, 49°20'N, 19°29'E. Found 1840.  
Iron, coarse octahedrite, IA, Og (2.4), Ni = 6.67.  
RGM 65 894 — 68.31 g.  
U 8286 — 59 g.  
D 117 — 38.73 g.

**Marion (Iowa)**, Linn County, Iowa, U.S.A., 41°54'N, 91°36'W. Fell 25.2.1847,  
14.45h.  
Stone, veined white olivine-hypersthene chondrite, L6, fa = 24.  
RGM 22 510 — 102.1 g.

**Mauerkirchen**, Upper Austria, 48°11'N, 13°8'E. Fell 20.11.1768, 16.00h.  
Stone, white olivine-hypersthene chondrite, L6, fa = 24.  
M 789 — 15.62 g.  
U 8974 — 5.7 g.

**Mbosi**, Rungwe district, Tanzania, 9°7'S, 33°4'E. Found 1930.  
Iron, medium octahedrite, IRANOM, Om (0.80), Ni = 8.71.  
RGM 26 332 — 3.92 g.  
RGM 81 247 — 766.02 g.

**McKinney**, Collin County, Texas, U.S.A. 33°11'N, 96°43'W. Found 1870.  
Stone, black olivine-hypersthene chondrite, L4, fa = 24.  
RGM 22 513 — 90.12 g.  
RGM 63 371 — 63.77 g.  
U 9465 — 297 g.  
D 1247 — 60.49 g.  
D 6018 — 113.49 g.

**Mern**, Praestö, Denmark, 55°3'N, 12°4'E. Fell 29.8.1878, 14.30h.  
Stone, veined crystalline spherical olivine-hypersthene chondrite, L6, fa = 24.  
U 05 114 — 9 g.

**Mező-Madaras**, Transylvania, Romania, 46°30'N, 25°44'E. Fell 4.9.1852, 16.30h.  
Stone, polymict brecciated grey olivine-hypersthene chondrite, L3, fa = 16-29.  
U 8281 — 4 g.  
D 3854 — 110.09 g.

**Mighei**, Olviopol, Kherson, Ukraine, U.S.S.R.,  $48^{\circ}4'N$ ,  $30^{\circ}58'E$ . Fell 18.6.1889, 08.30h.

Stone, carbonaceous chondrite, CM2, fa = 0.69.

U 901 — 4 g.

**Milena**, Varazdin, Croatia, Yugoslavia,  $46^{\circ}11'N$ ,  $16^{\circ}6'E$ . Fell 26.4.1842, 15.00h.

Stone, white olivine-hypersthene chondrite, L6, fa = 24.

D 5896 — 3 g.

**Miney**, Taney County, Missouri, U.S.A.,  $36^{\circ}33'N$ ,  $93^{\circ}6'W$ . Found 1857.

Stony-iron, mesosiderite, MES, fs = 22 - 31, Ni = 7.2.

U 92 227 — 129 g.

**Misshof**, Courland, Latvia, U.S.S.R.,  $56^{\circ}40'N$ ,  $23^{\circ}0'E$ . Fell 10.4.1890, 15.30h.

Stone, spherical olivine-bronzite chondrite, H4,5, fa = 20.36 g.

RGM 65 906 — 20.36 g.

**Mócs**, Cluj, Transylvania, Romania,  $46^{\circ}48'N$ ,  $24^{\circ}2'E$ . Fell 3.2.1882, 16.00h.

Stone, veined white olivine-hypersthene chondrite, L6, fa = 24.4.

RGM 22 509 — 153.1 g.

RGM 65 892 — 62.15 g.

U 8289 — 44 g.

U 8290 — 12 g.

D 118 — 255 g.

**Molong**, County Ashburnham, New South Wales, Australia,  $33^{\circ}17'S$ ,  $148^{\circ}53'E$ .

Found 1912.

Stony-iron, pallasite, PAL, fa = 11.3.

RGM 63 373 — 161.84 g.

**Moradabad**, Moradabad district, United Provinces, India,  $28^{\circ}47'N$ ,  $78^{\circ}50'E$ . Fell 1808.

Stone, white olivine-hypersthene chondrite, L6, fa = 24.

U 8613 — 1 gr.

**Mount Edith**, Ashburton district, Western Australia,  $22^{\circ}30'S$ ,  $116^{\circ}10'E$ . Found 1913.

Iron, medium octahedrite, IIIB, Om (0.80), Ni = 9.4.

U 1483 — 30 g.

**Mount Joy**, Adams County, Pennsylvania, U.S.A.,  $39^{\circ}47'N$ ,  $77^{\circ}13'W$ . Found 1887.

Iron, coarsest octahedrite, IIB, Ogg (10), Ni = 5.68.

U 985 — 345 g.

**Mount Vernon**, Christian County, Kentucky, U.S.A.,  $36^{\circ}56'N$ ,  $87^{\circ}24'W$ . Known about 1868.

Stony-iron, pallasite, PAL, fa = 11.9, Ni = 12.88.

RGM 22 518 — 568.65 g.

**Navajo**, Apache County, Arizona, U.S.A.,  $35^{\circ}20'N$ ,  $109^{\circ}30'W$ . Found 1921.

Iron, coarsest octahedrite, IIB, Ogg (10), Ni = 5.50.

RGM 65 898 — 25.81 g.

RGM 65 899 — 25.64 g.

**Nelson County**, Kentucky, U.S.A.,  $37^{\circ}45'N$ ,  $85^{\circ}30'W$ . Found 1856.

Iron, coarsest octahedrite, IIIF, Ogg (1 - 10), Ni = 7.02.

U 8970 — 4 g.

**New Concord**, Muskingum County, Ohio, U.S.A.,  $40^{\circ}0'N$ ,  $81^{\circ}16'W$ . Fell 1.5.1860, 12.45h.

Stone, veined intermediate olivine-hypersthene chondrite, L6, fa = 23.6.

U 842 — 127 g.

**Ngawi**, Madioen, Java, Indonesia,  $7^{\circ}27'S$ ,  $111^{\circ}25'E$ . Fell 3.10.1883, 17.15h.

Stone, spherical olivine-pigeonite chondrite (amphoterite), LL3, UNEQU.

RGM 22 505 — 202.9 g.

RGM 22 506 — 510.34 g.

RGM 105 570 — 19.27 g.

**Nogoya**, Entre Rios, Argentina,  $32^{\circ}22'S$ ,  $59^{\circ}50'W$ . Fell 30.6.1879.

Stone, carbonaceous chondrite, CM2, fa = 0 - 44.

D 1250 — 3.26 g.

D 1251 — < 1 g.

**Nulles**, Catalonia, Spain,  $41^{\circ}38'N$ ,  $0^{\circ}45'E$ . Fell 5.11.1851, 17.30h.

Stone, brecciated grey olivine-bronzite chondrite, H6, fa = 19.

U 8270 — 18 g.

**Ochansk**, Perm, U.S.S.R.,  $57^{\circ}47'N$ ,  $55^{\circ}16'E$ . Fell 30.8.1887, 13.00h.

Stone, polymict brecciated spherical olivine-bronzite chondrite, H4, fa = 17.5.

U 8973 — 2 g.

U 9023 — 8 g.

**Oesel Island**, Estonia, U.S.S.R.,  $58^{\circ}30'N$ ,  $23^{\circ}0'E$ . Fell 11.5.1855, 15.30h.

Stone, white olivine-hypersthene chondrite, L6, fa = 25.

U 8616 — 3 g.

**Orgueil**, Montauban, Tarn-et-Garonne, France,  $43^{\circ}53'N$ ,  $1^{\circ}23'E$ . Fell 14.5.1864, 20.00h.

Stone, carbonaceous chondrite, CI1, fa = 0 - 13.

U 8282 — 1 g.

**Pavlograd**, Ekaterinoslav, Ukraine, U.S.S.R.,  $48^{\circ}32'N$ ,  $35^{\circ}59'E$ . Fell 19.5.1826.

Stone, white olivine-hypersthene chondrite, L6, fa = 25.

U 8272 — 102 g.

**Pavlovka**, Balashev, Saratov, U.S.S.R., approx. 52°2'N, 43°E. Fell 2.8.1882, 17.00h.

Stone, howardite (pyroxene-plagioclase achondrite), HOW.

U 8467 — 12 g.

**Pillistfer**, Esthonia, U.S.S.R., 58°40'N, 25°44'E. Fell 8.8.1863, 12.30h.

Stone, crystalline enstatite chondrite, E6, fs = 0.4.

U 05 113 — 9 gr.

**Pipe Creek**, Bandera County, Texas, U.S.A., 29°41'N, 98°55'W. Found 1887.

Stone, veined crystalline olivine-bronzite chondrite, H6, fa = 19.

U 01 142 — 10 g.

**Potter**, Cheyenne County, Nebraska, U.S.A., 41°14'N, 103°18'W. Found 1941.

Stone, polymict brecciated grey olivine-hypersthene chondrite, with large portions of black chondrite, L6, fa = 23.

RGM 107 365 — 36.05 g.

**Prambanan**, Surakarta, Java, Indonesia, approx. 7°34'S, 110°50'E. Known 1797.

Iron, finest octahedrite (reheated artifact), IRANOM?, Off (0.125), Ni = 9.4.

D 1499 — 113.15 g.

**Pultusk**, Warsaw, Poland, 52°43'N, 21°6'E. Fell 30.1.1868, 19.00h.

Stone, veined grey olivine-bronzite chondrite, H5, fa = 18.2.

RGM 65 904 — 63.07 g.

U 7919 — 39 g.

U 8459 — 567 g.

D 126 — 44.97 g.

D 1490 — 136.97 g.

D 5895 — 14.04 g.

D 12 692 — 31.03 g.

**Richardton**, Stark County, North Dakota, U.S.A., 46°53'N, 102°19'W. Fell

30.6.1918, 22.00h.

Stone, veined spherical olivine-bronzite chondrite, H5, fa = 16.2.

RGM 65 893 — 33.04 g.

**Rodeo**, Durango, Mexico, 24°10'N, 104°30'W. Found 1852.

Iron, medium octahedrite, IID, Om (0.65), Ni = 10.2.

U 0516 — 75 g.

**Roy (1933)**, Harding County, New Mexico, U.S.A., 35°57'N, 104°12'W. Found 1933.

Stone, crystalline spherical olivine-hypersthene chondrite, L5, fa = 25.

RGM 107 368 — 17.57 g.

**Sacramento Mountains**, Eddy County, New Mexico, U.S.A.,  $32^{\circ}55'N$ ,  $104^{\circ}40'W$ . Found 1896.

Iron, medium octahedrite, IIIA, Om (1.00), Ni = 7.82.

RGM 22 523 — 92.9 g.

U 0569 — 120 g.

U 2920 — 53 g.

D 12 689 — c. 200 g.

**San Angelo**, Tom Green County, Texas, U.S.A.,  $31^{\circ}25'N$ ,  $100^{\circ}21'W$ . Found 1897.

Iron, medium octahedrite, IIIA, Om (0.95), Ni = 7.52.

U 98 105 — 93 g.

**San Francisco del Mezquital**, Durango, Mexico,  $23^{\circ}50'N$ ,  $104^{\circ}30'W$ . Known before 1868.

Iron, hexahedrite (reheated artifact), IIA, H, Ni = 5.50.

U 9021 — 15.5 g.

**Santa Catharina**, Brazil,  $26^{\circ}13'S$ ,  $48^{\circ}36'W$ . Found 1875.

Iron, nickel-rich ataxite, IRANOM, Ni = 33.62.

U 98 106 — 55 g.

**Sao Juliao de Moreira**, Ponte de Lima, Minho, Portugal,  $41^{\circ}30'N$ ,  $8^{\circ}20'W$ . Known before 1883.

Iron, coarsest octahedrite, IIB, Ogg (6.0), Ni = 6.1.

RGM 163 632 — 9433 g.

U 97 221 — 211 g.

**Sardis**, Burke County, Georgia, U.S.A.,  $32^{\circ}56'56''N$ ,  $80^{\circ}51'54''W$ . Found 1940.

Iron, coarse octahedrite, IA, Og (2.5), Ni = 6.58.

D 7626 — c. 200 g.

**Sarepta**, Saratov, U.S.S.R.,  $48^{\circ}29'N$ ,  $44^{\circ}49'E$ . Found 1854.

Iron, coarse octahedrite, IA, Og (2.2), Ni = 6.55.

U 9017 — 11 g.

**Seeläsgen**, Schwiebus, Brandenburg, now in Poland,  $52^{\circ}16'N$ ,  $15^{\circ}33'E$ . Known before 1847.

Iron, coarse octahedrite, IA, Og (3.1), Ni = 6.47.

U 8285 — 14 g.

U 981 — 137 g.

D 112 — 138.46 g.

**Shelburne**, Grey County, Ontario, Canada,  $44^{\circ}3'N$ ,  $80^{\circ}10'W$ . Fell 13.8.1904, 20.00h.

Stone, polymict brecciated veined grey olivine-hypersthene chondrite, L5, fa = 24.

D 9991 — 10 g.

**Siena**, Tuscany, Italy,  $43^{\circ}19'N$ ,  $11^{\circ}20'E$ . Fell 16.6.1794, 19.00h.  
Stone, polymict brecciated intermediate olivine-hypersthene chondrite (amphoterite), LL4, fa = 28.7.  
U 01 141 — 5.5 g.

**Silver Crown**, Laramie County, Wyoming, U.S.A.,  $41^{\circ}14'N$ ,  $104^{\circ}59'W$ . Found 1887.  
Iron, coarse octahedrite, IA, Og (2.1), Ni = 6.98.  
U 165 — 52 g.

**Smithville**, De Kalb County, Tennessee, U.S.A.,  $35^{\circ}59'N$ ,  $85^{\circ}51'W$ . Found 1840.  
Iron, coarse octahedrite, IA, Og (2.2), Ni = 6.78.  
D 1244 — 288 g.

**Soko-Banja**, Aleksinac, Serbia, Yugoslavia,  $43^{\circ}40'N$ ,  $21^{\circ}52'E$ . Fell 13.10.1877, 14.00h.  
Stone, polymict brecciated spherical olivine-hypersthene chondrite (amphoterite), LL4, fa = 28.8.  
U 8614 — 4 g.

**Ställdalen**, Nya Kopparberg, Örebro, Sweden,  $59^{\circ}56'N$ ,  $14^{\circ}57'E$ . Fell 28.6.1876, 23.30h.  
Stone, brecciated grey olivine-bronzite chondrite, H5, fa = 17.7.  
U 163 — 40 g.

**Stannern**, Igau, Moravia, Czechoslovakia,  $49^{\circ}17'N$ ,  $15^{\circ}34'E$ . Fell 22.5.1808, 06.00h.  
Stone, monomict brecciated eucrite (pyroxene-plagioclase achondrite), EUC, fs = 62, Ca/Mg = 116, Femet = 0.02.  
RGM 63 372 — 13.62 g.  
M 782 — 36.34 g.  
M 791 — 429.66 g.  
Z 5504 — <1 g.  
U 08 — 150 g.  
D 119 — 46.43 g.

**Staunton**, Augusta County, Virginia, U.S.A.,  $38^{\circ}9'N$ ,  $79^{\circ}4'W$ . Found 1858-59.  
Iron, coarse octahedrite, IIIE, Og (1.6), Ni = 8.21.  
RGM 22 525 — 57.9 g.  
U 8284 — 148 g.

**Steinbach**, Erzgebirge, Saxony, Germany,  $50\frac{1}{2}'N$ ,  $12\frac{1}{2}'E$ . Found 1724.  
Stony-iron, bronzite-tridymite stony-iron (siderophyre), IVA-AN, H (0.33), Ni = 9.08.  
D 1489 — 57.42 g.  
D 11 853 — 68.25 g.

**St. Germain-du-Pinel**, Vitré, Ille-et-Vilaine, France, approx. 48°1'N, 1°9'W. Fell 4.7.1890, 15.30h.

Stone, spherical olivine-bronzite chondrite, H5, fa = 18.

U 12 112 — 13 g.

**St. Mesmin**, Aube, France, 48°27'N, 3°56'E. Fell 30.5.1866, 15.45h.

Stone, polymict brecciated intermediate olivine-hypersthene chondrite (amphoterite), LL6, fa = 29.0.

U 05 112 — 3.6 g.

**Tatahouine**, south Tunisia, 32°57'N, 10°25'E. Fell 27.7.1931, 01.30h.

Stone, monomict brecciated diogenite (hypersthene achondrite), DIO, fs = 25. RGM 13 237 — 12.28 g.

**Temple**, Bell County, Texas, U.S.A., 31°7'N, 97°18'W. Found 1959.

Stone, olivine-hypersthene chondrite, L6, fa = 24.5.

RGM 107 370 — 15.12 g.

**Tennasilm**, Estonia, U.S.S.R., 58°2'N, 26°57'E. Fell 28.6.1872, 12.00h.

Stone, veined spherical olivine-hypersthene chondrite, L4, fa = 21 - 27.

RGM 65 902 — 16.50 g.

U 8655 — 1.7 g.

**Tjabé**, Padang, Rembang, Java, Indonesia, 7°5'S, 111°32'E. Fell 19.9.1869, 21.00h.

Stone, crystalline olivine-bronzite chondrite, H6, fa = 19.

Z 5502 — 173.7 g.

U 8615 — 1.5 g.

D 6274 — 32.79 g.

**Toluca**, Mexico State, Mexico, 19°34'N, 99°34'W. Known before 1776.

Iron, coarse octahedrite, IA, Og (1.40), Ni = 8.07.

RGM 22 524 — 424.8 g.

M 784 — 151.93 g.

Z 5506 — 49.44 g.

Z 5508 — <1 g.

Z 5510 — 132.58 g.

Z 7946 — 639.6 g.

U 7918 — 61 g.

U 8283 — 188 g.

U 8460 — 54 g.

D 111 — 52.75 g.

D 1498 — 1462 g.

D 2608 — 2481 g.

G 1121 — 137 g.

**Tonganoxie**, Leavenworth County, Kansas, U.S.A., 39°5'N, 95°7'W. Found 1886.

Iron, medium octahedrite, IIIA, Om (1.1), Ni = 7.82.

U 98 104 — 213 g.

**Trenton**, Washington County, Wisconsin, U.S.A., 43°22'N, 88°8'W. Found 1858.  
Iron, medium octahedrite, IIIA, Om (1.15), Ni = 8.34.  
U 8972 — 18 g.

**Trenzano**, Brescia, Italy, 45°28'N, 10°20'E. Fell 12.11.1856, 16.00h.  
Stone, veined spherical olivine-bronzite chondrite, H6, fa = 19.  
RGM 22515 — 86.8 g.  
U 841 — 6 g.

**Tysnes Island**, Hardanger fiord, Norway, 60°N, 5°37'E. Fell 20.5.1884, 20.30h.  
Stone, polymict brecciated grey olivine-bronzite chondrite, H4, fa = 20.  
U 8847 — 7.3 g.

**Uden**, North Brabant, The Netherlands, 51°39'N, 5°37'E. Fell 12.6.1840, 10.30h.  
Stone, white olivine-hypersthene chondrite (amphoterite), LL6, fa = 30.3.  
N 5968 — 579.2 g.

**Utrecht**, The Netherlands, 52°7'N, 5°11'E. Fell 2.6.1843, 20.00h.  
Stone, veined spherical olivine-hypersthene chondrite, L6, fa = 24.  
RGM 22514 — 25.3 g.  
Z 5505 — <1 g.  
U 43 — 2170 g.

**Vaalbult**, Prieska division, Cape Province, South Afrika, 29 $\frac{3}{4}$ S, 22 $\frac{1}{2}$ E. Found before 1921.  
Iron, coarse octahedrite, IA, Og (2.0), Ni = 6.98.  
RGM 107333 — 18.12 g.

**Vaca Muerte**, Taltal, Atacama, Chile, 25 $\frac{3}{4}$ S, 70 $\frac{1}{2}$ W. Recognized 1861.  
Stony-iron, mesosiderite, MES, fs = 23.44, Ca/Mg = 44, Femet = 42.8,  
Ni = 8.8.  
RGM 65891 — 16.91 g.  
U 8971 — 17.7 g.  
U 9018 — 11.5 g.  
U 9897 — 181 g.  
U 98107 — 17 g.  
U 98109 — 81 g.

**Verkhne Udinsk**, Transbaikal, Siberia, U.S.S.R., 54°46'N, 113°59'E. Found 1854.  
Iron, medium octahedrite, IIIA, Om (1.15), Ni = 7.46.  
U 8288 — 23 g.

**Vigarano**, Ferrara, Italy, 44°50'N, 11°30'E. Fell 22.1.1910, 21.30h.  
Stone, black spherical olivine-pigeonite chondrite, CV3, UNEQU.  
RGM 22516 — 35.76 g.  
U 1129 — 60 g.

**Waconda**, Mitchell County, Kansas, U.S.A.,  $39^{\circ}20'N$ ,  $98^{\circ}10'W$ . Found 1873.  
Stone, polymict brecciated spherical olivine-hypersthene chondrite, L6, fa = 25.  
U 98 110 — 66 g.

**Weston**, Fairfield County, Connecticut, U.S.A.,  $41^{\circ}13'N$ ,  $73^{\circ}23'W$ . Fell  
14.12.1807, 06.30h.  
Stone, polymict brecciated spherical olivine-bronzite chondrite, H4, fa = 18.3.  
U 9020 — 10.6 g.

**Youndeggin**, Avan, South West Division, Western Australia,  $32^{\circ}6'S$ ,  $117^{\circ}43'E$ .  
Found 1884.  
Iron, coarse octahedrite, IA, Og (2.3), Ni = 6.38.  
U 9341 — 38 g.

### Listing of the various meteorite collections in The Netherlands

Rijksmuseum van Geologie en Mineralogie  
Hooglandsekerkgracht 17  
2312 HS Leiden

Number	Name	Class
RGM 1 078	Bitburg	IB
RGM 1 079	Bitburg	IB
RGM 11 877	Cañon Diablo	IA
RGM 13 237	Tatahouine	DIO
RGM 22 505	Ngawi	LL3
RGM 22 506	Ngawi	LL3
RGM 22 507	Djati-Pengilon	H6
RGM 22 508	Drake Creek	L6
RGM 22 509	Mócs	L6
RGM 22 510	Marion (Iowa)	L6
RGM 22 511	Alfianello	L6
RGM 22 513	McKinney	L4
RGM 22 514	Utrecht	L6
RGM 22 515	Trenzano	H6
RGM 22 516	Vigarano	CV3
RGM 22 517	Allegan	H5
RGM 22 518	Mount Vernon	PAL
RGM 22 519	Brenham	PAL
RGM 22 520	Imilac	PAL
RGM 22 521	Krasnojarsk	PAL
RGM 22 522	Cañon Diablo	IA
RGM 22 523	Sacramento Mountains	IIIA
RGM 22 524	Toluca	IA
RGM 22 525	Staunton	IIIIE
RGM 22 526	Gibeon	IVA
RGM 22 527	Casas Grandes	IIIA
RGM 26 332	Mbosi	IRANOM

RGM	26 996	Henbury	IIIA
RGM	63 371	McKinney	L4
RGM	63 372	Stannern	EUC
RGM	63 373	Molong	PAL
RGM	63 374	Gilgoin	H5
RGM	63 375	Drake Creek	L6
RGM	65 891	Vaca Muerte	MES
RGM	65 892	Mócs	L6
RGM	65 893	Richardton	H5
RGM	65 894	Magura	IA
RGM	65 895	Homestead	L5
RGM	65 896	Gilgoin	H5
RGM	65 898	Navajo	IIB
RGM	65 899	Navajo	IIB
RGM	65 900	Allegan	H5
RGM	65 901	Knyahinya	L5
RGM	65 902	Tennasilm	L4
RGM	65 903	Admire	PAL
RGM	65 904	Pultusk	H5
RGM	65 906	Misshof	H4, 5
RGM	65 907	Crab Orchard	MES
RGM	65 908	Ergheo	L5
RGM	81 247	Mbosi	IRANOM
RGM	81 919	Krasnojarsk	PAL
RGM	105 316	Arispe	IRANOM
RGM	105 570	Ngawi	LL3
RGM	105 572	Cañon Diablo	IA
RGM	107 331	Abee	E4
RGM	107 333	Vaalbult	IA
RGM	107 334	Hoba	IVB
RGM	107 335	Gibeon	IVA
RGM	107 336	Beardsley	H5
RGM	107 362	Dalgety Downs	L4
RGM	107 365	Potter	L6
RGM	107 366	Hugoton	H5
RGM	107 367	Edmondson	L6
RGM	107 368	Roy (1933)	L5
RGM	107 369	Homestead	L5
RGM	107 370	Temple	L6
RGM	107 371	Farley	H5
RGM	162 885	Allende	CV3
RGM	163 165	Finmarken	PAL
RGM	163 632	Sao Juliao de Moreira	IIB
RGM	164 271	Ellemeet	DIO

Number	Name	Class
G 1	Bjurböle	L4
G 2	Bjurböle	L4
G 3	Bjurböle	L4
G 1121	Toluca	IA
G 2B111	Finmarken	PAL
G 2113	Krasnojarsk	PAL
G 4108	Bitburg	IB
G 4a109	Bitburg	IB
G 6114	Djati-Pengilon	H6
G STRA1	Henbury	IIIA

Geologisch Instituut  
 Universiteit van Amsterdam  
 Nieuwe Prinsengracht 130  
 1018 VZ Amsterdam

Number	Name	Class
Z 5498	Djati-Pengilon	H6
Z 5499	Ergheo	L5
Z 5500	Cañon Diablo	IA
Z 5501	Chinautla	IVA-AN
Z 5502	Tjabé	H6
Z 5503	Barbotan	H5
Z 5504	Stannern	EUC
Z 5505	Utrecht	L6
Z 5506	Toluca	IA
Z 5507	Holbrook	L6
Z 5508	Toluca	IA
Z 5510	Toluca	IA
Z 6661	Henbury	IIIA
Z 6662a	Henbury	IIIA
Z 6662b	Henbury	IIIA
Z 7101	Holbrook	L6
Z 7102	Cañon Diablo	IA
Z 7103	Cañon Diablo	IA
Z 7120	Cañon Diablo	IA
Z 7946	Toluca	IA

Instituut voor Mijnbouwkunde  
 Mijnbouwstraat 20  
 2628 RX Delft

Number	Name	Class
D 108	Eagle Station	PAL
D 110	Carlton	IIIC
D 111	Toluca	IA
D 112	Seeläsgen	IA

D	113	Lénártó	III A
D	115	Brenham	PAL
D	117	Magura	IA
D	118	Mócs	L6
D	119	Stannern	EUC
D	126	Pultusk	H5
D	806	Djati-Pengilon	H6
D	1244	Smithville	IA
D	1245	Gibeon	IVA
D	1246	Kendall County	MEANOM
D	1247	McKinney	L4
D	1248	Bridgewater	IID
D	1248a	Gibeon	IVA
D	1249	Glorietta Mountain	PAL-AN
D	1250	Nogoya	CM2
D	1251	Nogoya	CM2
D	1252	Holbrook	L6
D	1253	Holbrook	L6
D	1254	Holbrook	L6
D	1255	Holbrook	L6
D	1256	Holbrook	L6
D	1257	Holbrook	L6
D	1258	Holbrook	L6
D	1259	Holbrook	L6
D	1260	Holbrook	L6
D	1261	Holbrook	L6
D	1262	Holbrook	L6
D	1263	Holbrook	L6
D	1264	Holbrook	L6
D	1265	Holbrook	L6
D	1266	Holbrook	L6
D	1267	Holbrook	L6
D	1268	Holbrook	L6
D	1269	Holbrook	L6
D	1270	Holbrook	L6
D	1271	Holbrook	L6
D	1272	Holbrook	L6
D	1489	Steinbach	IVA-AN
D	1490	Pultusk	H5
D	1491	Knyahinya	L5
D	1492	Chantonnay	L6
D	1493	Krasnojarsk	PAL
D	1498	Toluca	IA
D	1499	Prambanan	IRANOM
D	2608	Toluca	IA
D	3854	Mezö-Madaras	L3
D	3855	L'Aigle	L6
D	3856	Juvinas	EUC
D	3857	L'Aigle	L6
D	5895	Pultusk	H5

D	5896	Milena	L6
D	5897	L'Aigle	L6
D	5899	Knyahinya	L5
D	5900	Cañon Diablo	IA
D	5979	Chiautla	IVA-AN
D	6018	McKinney	L4
D	6274	Tjabé	H6
D	6503	Cronstad	H5
D	6504	Cronstad	H5
D	6505	Gibeon	IVA
D	7626	Sardis	IA
D	9854	Allende	CV3
D	9990	Casas Grandes	IIIA
D	9991	Snelburne	L5
D	11 494	Gibeon	IVA
D	11 853	Steinbach	IVA-AN
D	12 689	Sacramento Mountains	IIIA
D	12 692	Pultusk	H5
D	14 689	Kangean	H

Koninklijk Nederlands Meteorologisch Instituut  
Wilhelminalaan 10  
3732 GK De Bilt

Number	Name	Class
KNMI 1	Ghubara	L5

Noordbrabantsch Museum  
Bethaniestraat 4  
5211 LJ 's-Hertogenbosch

Number	Name	Class
N 5968	Uden	LL6

Teyler's Stichting  
Spaerne 16  
2011 CH Haarlem

Number	Name	Class
M 782	Stannern	EUC
M 784	Toluca	IA
M 785	Lénártó	IIIA
M 786	Djati-Pengilon	H6
M 787	Elbogen	IID
M 788	Hraschina	IID
M 789	Mauerkirchen	L6

M 791	Stannern	EUC
M 1734	Kediri	?

Vening Meinesz Laboratorium voor Geofysica en Geochemie  
 Huizingalaan 121  
 3572 LL Utrecht

\* The first five samples of the Utrecht List are from an 'old collection'; in all other numbers the first two digits are the last two digits of the date and the other ones give the order within that year. The numbers from 79.. till 98.. have to be read as 1879.. to 1898.. respectively and the numbers from 00.. to 38.. as 1900.. to 1938.., respectively.

Number *	Name	Class
U 03	L'Aigle	L6
U 08	Stannern	EUC
U 14	Lénártó	IIIA
U 36	Macáu	H5
U 43	Utrecht	L6
U 7918	Toluca	IA
U 7919	Pultusk	H5
U 8170	Coahuila	IIA
U 8231	Estherville	MES
U 8253	Dhurmsala	LL6
U 8269	Homestead	L5
U 8270	Nulles	H6
U 8271	Cereseto	H5
U 8272	Pavlograd	L6
U 8273	Imilac	PAL
U 8281	Mező-Madaras	L3
U 8282	Orgueil	CI1
U 8283	Toluca	IA
U 8284	Staunton	IIIE
U 8285	Seeläsgen	IA
U 8286	Magura	IA
U 8287	Carthage	IIIA
U 8288	Verkhne Udinsk	IIIA
U 8289	Mócs	L6
U 8290	Mócs	L6
U 833	Alfianello	L6
U 841	Trenzano	H6
U 842	New Concord	L6
U 8459	Pultusk	H5
U 8460	Toluca	IA
U 8467	Pavlovka	HOW
U 8582	Hessle	H5
U 869	Cape of Good Hope	IVB
U 8610	Bandong	LL6
U 8611	Ensisheim	LL6
U 8612	Kuleschovka	L

U 8613	Moradabad	L6
U 8614	Soko-Banja	LL4
U 8615	Tjabé	H6
U 8616	Oesel	L6
U 8617	Le Pressoir	L6
U 8618	Chantonnay	L6
U 8619	Hessle	H5
U 8655	Tennasilm	L4
U 8719	Kernouvé	H6
U 8761	Djati-Pengilon	H6
U 8812	Hainholz	MES
U 8813	Bitburg	IB
U 8847	Tysnes Island	H4
U 8970	Nelson County	IIIF
U 8971	Vaca Muerte	MES
U 8972	Trenton	IIIA
U 8973	Ochansk	H4
U 8974	Mauerkirchen	L6
U 8996	Eagle Station	PAL
U 901	Michei	CM2
U 9017	Sarepta	IA
U 9018	Vaca Muerte	MES
U 9019	Guilford County	IIIA
U 9020	Weston	H4
U 9021	San Francisco del M.	IIA
U 9022	Khairpur	E6
U 9023	Ochansk	H4
U 9091	Jelica	LL6
U 911	Forest City	H5
U 912	Joe Wright Mountain	IIIB
U 9130	Kendall County	MEANOM
U 92225	Cañon Diablo	IA
U 92226	Forest City	H5
U 92227	Mincy	MES
U 92240	Brenham	PAL
U 9341	Youndegin	IA
U 9364	Kesen	H4
U 93171	Farmington	L5
U 93200	Braunau	IIA
U 941	Fort Pierre	IIIA
U 9465	McKinney	L4
U 94111	Cañon Diablo	IA
U 95478	Grossliebenthal	L6
U 95480	Carlton	IIIC
U 95497	Beaver Creek	H4
U 96209	Long Island	L6
U 97221	Sao Juliao de Moreira	IIB
U 981	Seeläsgen	IA
U 985	Mount Joy	IIB
U 986	Fisher	L6

U 987	Bath	H4
U 9897	Vaca Muerte	MES
U 9898	Hainholz	MES
U 98104	Tonganoxie	IIIA
U 98105	San Angelo	IIIA
U 98106	Santa Catharina	IRANOM
U 98107	Vaca Muerte	MES
U 98108	Bluff	L5
U 98109	Vaca Muerte	MES
U 98110	Waconda	L6
U 0014	Augustinovka	IIIB
U 0015	Krasnojarsk	PAL
U 0016	Ambapur Nagla	H5
U 0075	Allegan	H5
U 00114	Erxleben	H6
U 00115	Assisi	H5
U 01141	Siena	LL4
U 01142	Pipe Creek	H6
U 01143	Frankfort (Stone)	HOW
U 01144	Forsyth	L6
U 034	Finmarken	PAL
U 0429	Lancé	CO3
U 0516	Rodeo	IID
U 0569	Sacramento Mountains	IIIA
U 05112	St. Mesmin	LL6
U 05113	Pillistfer	E6
U 05114	Mern	L6
U 0788	Gibeon	IVA
U 1047	Gibeon	IVA
U 1129	Vigarano	CV3
U 12112	St. Germain-du-Pinel	H5
U 1318	Holbrook	L6
U 13108	Chinautla	IVA-AN
U 1483	Mount Edith	IIIB
U 161	Bjurböle	L4
U 162	Jerome (Kansas)	L4
U 163	Ställdalen	H5
U 165	Silver Crown	IA
U 229	Ergheo	L5
U 2737	Hedjaz	L3 - 6
U 2920	Sacramento Mountains	IIIA
U 3834	Henbury	IIIA
U 3843	Ellemeet	DIO

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