APPENDIX

Appendix 1.

480 well-examined iron meteorites arranged according to their chemical group and nickel content.

All iron meteorites which are sufficiently well analyzed are divided below into thirteen groups plus an additional group incorporating the anomalous meteorites. Compare also the statistics given in Table 27.

After the tables were completed, the following meteorites were examined and classified, see in particular the Supplement in Volume 3: Black Mountain and Monturaqui (group I), Aswan and Lucky Hill (III A), Aprelskij (III B), Magnesia (III C), Paneth's Iron (III E), Rembang (IV A), De Hoek, Etosha, Redfields, Repeev Khutor (Anomalous) and Imilac (pallasite).

Individual columns have the following meanings:

1. Name. The letter C indicates crater association.
2. Structural classification symbol, see Table 26a.
3. Total weight recovered, in kilograms. The letter M indicates a multiple fall.
4. Date of discovery or first report. The prefix F indicates an observed fall.
5. Bulk nickel percentage.
6. Bulk phosphorus percentage.
7. In group I and I-Anom, the germanium content in parts per million (ppm). In all other groups the iridium content in ppm.
8. Kamacite bandwidth in millimeters (mm).
9. Details of the kamacite structure: N = Neumann bands. ϵ = shock-hatched structure. A = annealed. P = plastic deformation. R = recrystallized (an associated number gives the average grain size in mm). α_2 = unequilibrated structure, usually from artificial reheating. Mart = martensite.
10. The microhardness (100 g load) of the primary kamacite lamellae. v = variable from heterogeneous cold-working.
11. The microhardness (50 or 100 g loads) of 40-60 μ wide taenite lamellae. A plus indicates that taenite was present but for some reason, usually too small grains, was not measured. A "D" indicates that the hardness (100 g load) was taken on a duplex, ataxitic matrix, integrating over many $\alpha + \gamma$ units.
12. Troilite. 1 = monocrystalline. 2 = monocrystalline with multiple twinning. 3 = monocrystalline with shear deformation and undulating extinction. 4 = recrystallized. 5 = melted, usually as the result of shock-heating. A plus indicates that troilite was present but not available for examination under the microscope.
13. C = carbides. Co = cohenite. Cg = carbide under decomposition to graphite. H = haxonite. G = graphite. Gc = graphite with distinct cliftonitic development. S = silicates.
14. F = fusion crust preserved in significant amounts. α_2 = heat-affected zone preserved in significant amounts. – = fusion crust and heat-affected zone lost by terrestrial corrosion. If in parentheses, the zones have been found only occasionally on small samples under the microscope.

GROUP I

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ge ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Duel Hill (1873)	Og	11	1873	6.51	0.2		2.4	N	190	+		Co	α_2 (F)
Ballinger	Og	1.3	1929	6.54	0.26	326	2.6	N,A	164	+		Cg	–
Osseo	Og	46.3	1931	6.56	0.16	450	2.8	N,P	225-350	455	+	Co,G	α_2, F
Seeläsgen	Og	102	1847	6.59	0.19	475	3.1	N,A	140	165	2-5	Co,G	α_2
Bolivia	Og	21.3	1927	6.6	0.2	377	2.7	N,R	190v	+		Cg	–
Linwood	Og	46	1940	6.6	0.2	374	2.8	N	190	+	4	Gc,S	α_2, F
Kaalijärv, C	Og	0.2,M	1928	6.6	0.2		2.0	ϵ,R	160-300	350		Co	–
Sardis	Og	800	1940	6.63	0.24	400	2.5	N	205	+	3-5	Co,G	–
Magura	Og	1,600,M	1840	6.67	0.24	483	2.4	ϵ	200-350	+	1,2,3	Co,G,Gc,S	–
Cosby's Creek	Og	400,M	1837	6.67	0.29	431	2.5	N	170	+	1,2	Co,G	–
Campo del Cielo	Og	44,000,M	1576	6.68	0.25	407	3.0	N,P	180v	380	4,5	H,Co,G,S	α_2, F
Burgavli	Og	27.8	1941	6.68	0.12	519	2.6	N,A	175	350	+	G	–
Seligman	Og	2.2	1949	6.69	0.2	423	2.3	N	174	+	+	Co,G,Gc	α_2 (F)
Lexington County	Og	4.8	1880	6.69	0.2	307	2.1	N	176	315	+	G,Gc,Co	–
Morasko, C	Og	300,M	1914	6.70	0.18		2.5	N,α_2		+	+	Co	α_2, F
New Leipzig	Og	20	1936	6.7	0.2	445	2.6	N	205	+	+		α_2, F
Zaffra	Og	3	1919	6.7	0.23		2.5	N,A	162	300	5	G	–
Gladstone (iron)	Og	780,M	1894	6.73	0.27	403	2.8	N	215	400	1,2	H,Co,G,S	(α_2)
Youndegin	Og	3,800,M	1884	6.74	0.25	339	2.3	N	176	+	1-3	H,G,Gc,Co,S	–
Yardymly	Og	153,M	F:1959	6.75	0.14	387	2.2	A,R	148	165	5	G	α_2, F
Wichita County	Og	150	1836	6.76	0.2	344	2.4	N	177	185	2-5	Cg,G,S	–
Hope	Og	6.8	1955	6.77	0.2	398	2.1	N	180	+	1	Co,G,S	–
Pan de Azucar	Og	21.6,M	1887	6.8	0.18	318	2.2	N	180	+			α_2, F
Yardea	Og	3.3	1875	6.8	(0.22)	394	2.0	N	185	360	1	Co,G,S	α_2

GROUP I (cont'd)

Name	Class	Weight (kg)	Year	Composition			Kamacite		Hardness HV		Minerals		Surface Condition
				Ni%	P%	Ge ppm	mm	Struct.	Kamac.	Taenite	Troil.	Others	
Sarepta	Og	13.4	1854	6.82	0.17	457	2.2	N	185	400	+	Co	α_2, F
Yenberrie	Og	132	1918	6.85	0.18	312	2.1	N	205	375		Co	–
Jenkins	Og	55.2	1946	6.85	0.2	353	2.3	N	200	350	3,4,5	Co,G,S	α_2
Burkett	Og	8.8	1913	6.87	0.17	368	2.0	N	190	+	2-4	Co,G	–
Silver Crown	Og	11.6	1887	(6.9)	(0.16)	320	2.1	N	210	425	+		α_2, F
Seymour	Og	26	1940	6.9	0.2	382	2.2	N	210	+	1	H,Co,G	α_2,(F)
Ozren	Og	3.9	1952	6.9	0.2		2.0	N,A	180	330	+	S	–
Smithville	Og	70,M	1840	6.95	0.19	363	2.2	N	215	+	1,5	H,Co,G,Gc,S	–
Casey County	Og	1?	1877	6.96	0.25	317	2.2	N	205	+		Co	α_2, F
Vaalbult	Og	11.8	1918	6.98	0.20	323	2.0	N,P	190-240	360		Co,S	(α_2)
Dungannon	Og	13	1922	7.0	0.24	330	2.0	N,R	180	+		(Co),G	α_2, F
Coolac	Og	19.3	1874	7.0	0.2	379	2.1	N,A	154	+	1,2	Co,G,S	–
Oscuro Mountains	Og	3.4,M	1895	7.0	0.27	360	1.75	R,N	170	190	+	G(Co)	α_2
Pittsburg	Og	13.2	1850	7.0	0.22	359	2.2	N,α_2	130-185	(210)	+	Co	–
Jenny's Creek	Og	11.6	1883	7.0	0.2	320	2.2	N	230	+	1	Co,G,Gc	–
Deelfontein	Og	28	1932	7.01	0.16	306	1.75	N,P	205	380	5	Co,G	–
Cranbourne	Og	8,600,M	1853	7.02	0.26	358	2.2	ϵ	305	480	1-4	Co,G	
Canyon Diablo, C	Og	30,000,M	1891	7.10	0.26	320	2.0	N,ϵ,P,α_2	145-370	148-440	5	Co,H,Cg,G,S	(α_2)
Bogou	Og	8.8,M	F:1962	7.1	0.17	301	1.90	N	165	+	2-4	H,Co,G,S	α_2, F
Neptune Mountains	Og	1.1	1964	7.1	0.2	269	1.9	N	180	360	+		α_2, F
Rosario	Og	2.7	1897	7.1	0.25	400	1.70	N	200	330		Co	–
Mayerthorpe	Og	12.6,M	1964	7.19		283	2.0						
Bohumilitz	Og	59,M	1829	7.27	0.30	268	1.90	N,R,P	225v	+	5	Cg,G	–
Odessa, C	Og	1,000,M	1928	7.35	0.25	285	1.70	N	185	320	1-2	H,G,Gc,Co,S	(α_2)
Thoreau	Og	?	1965	7.4	0.15	270	1.8	N	176	+			α_2
Bischtübe	Og	50,M	1888	7.50	0.39	238	1.80	N	172	+	+	H,Co,G,S	α_2
Waldron Ridge	Og	14	1887	7.55	0.2	282	1.5	N,A	130-210	+	+	Co,G	–
Bahjoi	Og	10.3	F:1934	7.65	0.2	265	1.50	N	165	+	1	H,Co,G,S	α_2, F
Mount Ayliff	Og	13.6	1907	7.76	0.12	250	1.6	N	215	300	+	Co,G	(α_2)
Annaheim	Og	13.8	F:1914	7.77	0.22	302	1.4	N		+	2	G	α_2, F
Ogallala	Og	3.3	1918	7.85	0.16	266	1.60	N	170	+	1-2	G,Gc,Co,S	α_2, F
Moctezuma	Om	1.7	1899	7.98	0.25	2.4	1.3	N,P,A	161	+	+	Co	–
Haniet-el-Beguel	Og	2	1888	8.0	0.2		1.6	N	175	+		S	α_2, F
Nagy-Vazsony	Og	1.98	1890	8.0	0.2		1.40	N	225	+	+	Co,H	–
Leeds	Og	1.4	1933	8.04	0.25	241	1.30	N	210	+	1	G,Gc,S,Co	–
Southern Arizona	Og	0.62	1947	8.06	0.17	242	1.5	N	220	370	2	S,G	–
Comanche (iron)	Og	19.7	1956	8.1	0.25	269	1.50	N	170	+	1,2	G,S	α_2, F
Surprise Springs	Og	1.6	1899	8.12	0.22	265	1.4	N	210	+			α_2, F
Toluca	Og	2,100,M	1784	8.14	0.16	246	1.40	N,P	235	320	1-3	H,Co,G,S	(α_2, F)
Deport	Og	15,M	1926	8.16	0.12	255	1.3	N	220	+		H,Co,C,G	α_2
Misteca	Og	11	1804	8.28	0.3	233	1.35	α_2	175	+	+	G	–
Balfour Downs	Og	2.4	1962	8.39	0.25	194	1.30	N	190	+	5?	Cg,G,S	α_2
Shrewsbury	Om	12.2	1907	8.42	0.29	204	1.15	N,A,R	162	230	5	G,Gc,S,Cg	–
Petropavlovsk	Og	7.2	1840	8.48	0.18		1.30	N,α_2	155				–
Mazapil	Om	3.95	F:1885	8.53	0.3	221	1.10	N	190	355	+	G,C	α_2, F

GROUP I – ANOMALOUS

Name	Class	Weight (kg)	Year	Composition			Kamacite		Hardness HV		Minerals		Surface Condition
				Ni%	P%	Ge ppm	mm	Struct.	Kamac.	Taenite	Troil.	Others	
Mount Dooling	Ogg	31.5	1909	6.22	0.27	239	1-4	R,N	158	–	5	–	(α_2)
Bendegó	Og	5,360	1784	6.52	0.22	233	1.8	N	175	300	2	H,Co,G	–
Arispe	Og	683,M	1898	6.70	0.3	260	2.9	N,A	175	+	5	Co	α_2
Copiapo	Anom	20?,M	1864	7.0	0.25	252	1.5	N	170	+	3,5	H,G,S	–
Pine River	Om, Anom	2	1894	7.40	0.2	234	1.2	N	173	+	1	G,S	–
Karee Kloof	Og	92	1914	8.26	0.22	355	1.6	N	180	250		S	–
Goose Lake	Om	1,167	1938	8.28	0.4	298	1.25	N,A	155	175	5	H,Co,G,S	–
Morrill	Om	1.4	1920	8.40	0.18	296	0.90	N	193	300	2	G	α_2, F

GROUP I – ANOMALOUS (cont'd)

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ge ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Zenda	Om	3.7	1955	(8.5)	(0.25)	214	0.9	N		+	+	G	α_2
Udei Station	Om	103	F:1927	8.9	0.12	204	0.6	N	+	+	+	S	α_2, F
Four Corners	Om	25	1923	9.24	0.15	179	0.80	N	180	+	5	H,G,S	(α_2)
Mertzon	Om	3.7,M	1936	9.3	0.25	293	0.80	N	185	+	5	S	(α_2)
Colfax	Om	2.4	1880	10.51	0.3	155	0.60	N,A	143	+	1,2	H	–
Mesa Verde	Om	3.5	1922	10.56	0.2	142	0.60	N	175	+	3,4	G,Gc	α_2, F
Woodbine	Anom	48.2	1953	10.6	0.5	114	0.3	N	176	360	4	G,C,S	
Bitburg	Anom	1,500?	1805	12.4		140		α_2	+	+	+	S	
Pitts	Of, Anom	3.8,M	F:1921	12.9	0.2	94	0.20	N	165	+	3,4	Co,G,S	α_2, F
Persimmon Creek	Opl, Anom	5	1893	14.45	0.2	78	0.06		180	350	1	G,S	–
San Cristobal	D, Anom	4	1897	25.6	0.18	26	0.01		180	350	1	H,C,Co,G,S	α_2, F

GROUP IIA

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Holland's Store	H	12.5	1887	5.35	0.25	20	100	R1,P	190	(+)	5	G	–
Edmonton (Canada)	H	7.3	1938	5.37	0.2	33	150	N,A	125	–	5	(Co)	α_2
Bennett County	H	89	1934	5.37	0.23	44	250	N,A	165	–	5	G	α_2, F
Negrillos	H	28.5	1936	5.38	0.22	59	250	N	180	–	5	Co	–
Braunau	H	41,M	F:1847	5.39	0.24	12	250	N,A	155	–	5	–	α_2, F
Scottsville	H	10	1867	5.40	0.21	49	150	N	200	–	5	Co,G	–
Okano	H	4.7	F:1904	5.40	0.23	11	100	N	170	–	2	–	α_2, F
Cincinnati	H	1.5 ?	1870	5.4	0.2		80	α_2	–	–		–	–
Bruno	H	12.7	1931	5.41	0.20	37	100	N,A	(150)	–		Co	α_2, F
Boguslavka	H	257,M	F:1916	5.42	0.2	24	600	N,R	200	–	4	Co,Cg	α_2, F
Pirapora	H	2.6	1954	5.45	0.3			N					α_2
Walker County	H	75	1832	5.46	0.28	3.0	250	N	172	–	2	G,Gc,C	–
Angra dos Reis	H	6.2	1888	5.46	0.2	31	100	N,A	150	–	5	Cg	α_2
Murphy	H	7.8	1899	5.47	0.34	34	250	N,P	240	–	+	–	(α_2)
Cedartown	H	11.6	1898	5.47	0.30	8.2	250	R,0.1	145	–	5	Cg,G	–
Sierra Gorda	H	26?	1898	5.48	0.23	43	140	N	205	–	5	S	–
Richland	H	15.4	1951	5.48	0.21	8.2	200	N,A	156	–	5	–	–
San Francisco d.M.	H	7.5	1867	5.50	0.20	21	100	α_2		–	4	–	–
Avče	H	1.23	F:1908	5.5	0.2	58	70	N		–			α_2, F
Patos de Minas (H)	H	32	1925	5.5	0.2		160	N		–	1	–	α_2
Siratik	H	< 1	1716	5.5	0.26		–	α_2	and severely altered by reheating and forging				
Wathena	H	0.57	1939	5.54	0.27	7.0	50	R,0.5	146	(+)	5	G	–
Forsyth County	H	23	1894	5.54	0.21	31	100	N,R,0.5	165	(+)	5	G	–
Indian Valley	H	30,M	1887	5.56	0.27	10	150	N,R	145	–	5	G	α_2
Chico Mts.	H	?	1915	5.56	0.33	6.2	50	R,0.5	180	(+)	5	G	α_2,F
North Chile	H	266,M	1922	5.59	0.30	3.6	500	N,P	145-270	–	5	Co,G,H	(α_2)
Yarroweyah	H	9.6	1903	5.59	0.2	18	R			–			
Keen Mountain	H	6.7	1950	5.59	0.23	12	140	N,R	225	–	5	G	α_2, F
Coahuila	H	2,000,M	1855	5.59	0.28	15	500	N,A	180		1,2	Co,(S),H	–
Pima County	H	0.21	1947	5.60	0.25	8.9	50	N,R,0.5		(+)	5	G	–
Calico Rock	H	7.3	1938	5.61	0.28	8.6	150	N	175	–	2	Co	α_2
Locust Grove	H	10.3	1857	5.63	0.25	7.5		α_2	152	–	+	(G)	(α_2)
Hex River	H	61	1882	5.64	0.25	4.4	400	N,R	164	–	5	G,S	–
Bingera	H	10.8,M	1880	5.64	0.24	3.2	100	R,1;A	155	–	5	G	α_2, F
Lombard	H	7	1953	5.65	0.28	2.3	60	N	185	–	2	Co	–
Kopjes Vlei	H	7.5	1914	5.65	0.3	3.1	100	R,0.5,P	170	(+)		G	α_2
Uwet	H	55	1908	5.66	0.25	2.7	100	N,R	162	–	5	G	–
Mejillones	H	15	1905	5.67	0.33	2.3	100	R,0.5		(+)	5	G	α_2,(F)
Lick Creek	H	1.24	1879	5.7	0.3		100	N	165		2	Co,H	–
Chesterville	H	16.5	1849	5.71	0.30	1.8	–	α_2		–	(5)	Co	–
Smithonia	H	70	1940	5.72	0.20	34	100	N	165	–	1,4	Co,H	–
Gressk	H	303	1954	5.73	0.28	7.7	100	N,R	180	–	5	–	–
Okahandja	H	6.5	1926	5.75	0.3	9	100	N,P	190	–	4,5	Co	α_2

GROUP IIB

		Weight		Composition			Kamacite		Hardness HV		Minerals		Surface
Name	Class	(kg)	Year	Ni%	P%	Ir ppm	mm	Struct.	Kamac.	Taenite	Troil.	Others	Condition
Navajo	Ogg	2,180,M	1921	5.5	0.3	0.46	10	ϵ	250	–	+	Co	α_2, F
Mount Joy	Ogg	384	1887	5.74	0.28	0.46	10	N	155	(+)	4	–	–
Sandia Mountains	Ogg	30?	1925	5.90	0.40	0.14	10	N	210	(+)	1	Co	–
Sikhote-Alin	Ogg	23,000,M	F:1947	5.90	0.46	0.03	9	N,P	180-270	360	+	Co,S	α_2, F
Nenntmannsdorf	Ogg	12.5	1872	5.9	0.3		10	ϵ,A	190	(+)	+	Cg	–
Smithsonian Iron	Ogg	3.6	1852	5.9	0.25	0.05	10	N	200	(+)	3	Co	α_2
El Burro	Ogg	38.5	1939	5.92	0.32	0.06	10	N	205	+	2	Co	(α_2)
Iredell	Ogg	1.5	1898	6.0	0.2	0.06	10	N	222				–
Lake Murray	Ogg	270	1930	6.3	0.5	0.02	10	N,A	160	+	(5)	–	–
Ainsworth	Ogg	81,M	1863	6.3	0.5	0.03	6.0	ϵ,R	183-249	(+)	2	Co	(α_2)
São Julião	Ogg	160	1877	6.4	0.9	0.012	6	N	188	(+)	1	–	–
Silver Bell	Ogg	5.1	1939	6.43	0.8	0.012	5	N	190	+	2	H	α_2
Santa Luzia	Ogg	1,925,M	1922	6.60	0.9	0.010	5	N,A	175	+	2-5	Co	–
Elton	Ogg	1.9	1936	6.9		0.053							

GROUP IIC

		Weight		Composition			Kamacite		Hardness HV		Minerals		Surface
Name	Class	(kg)	Year	Ni%	P%	Ir ppm	mm	Struct.	Kamac.	Taenite	Troil.	Others	Condition
Cratheus (1950)	Opl	?	1950	8.96	0.3	9.5	0.06	N	175	D	1,2	–	–
Perryville	Opl	17.5	1906	9.58	0.34	11	0.06	N	185	D:275	5	–	(α_2)
Kumerina	Opl	53.5	1937	9.62	0.4	8.1	0.07	A	168	200		–	–
Salt River	Opl	4?	1850	9.80	0.43	6.6	0.07	α_2	178	+	+	–	–
Ballinoo	Opl	42.9	1893	9.86	0.5	9	0.07	R,A	155	A	5	–	α_2, F
Unter-Mässing	Opl	80	1920	9.9	0.4	4.4	0.06	N	+	+	2	–	α_2
Wiley	Opl	3.5	1938	11.6	0.37	6.2	0.035	N	172	D:195	2	–	–

GROUP IID

		Weight		Composition			Kamacite		Hardness HV		Minerals		Surface
Name	Class	(kg)	Year	Ni%	P%	Ir ppm	mm	Struct.	Kamac.	Taenite	Troil.	Others	Condition
Bridgewater	Om	13.2	1890	9.9	0.35	10	0.65	ϵ	270	335	2	–	–
Puquios	Om	6.6	1885	9.96	0.35	13	0.75	N,ϵ,P	235-325	425	5	–	α_2, (F)
N'Kandhla	Om	17.5	F:1912	9.96	0.3	18.5	0.85	N	250	360	5		α_2, F
Mount Ouray	Om	1	1898	10.1	0.4	15	0.80	N,ϵ	265	340	3,4	–	α_2, (F)
Carbo	Om	450	1923	10.2	0.4	13	0.85	N,A	175	260	5	H	(α_2)
Elbogen	Om	107	1812	10.25	0.3	14	0.75	α_2	172	+	5	G	–
Needles	Of	45.3	1962	10.3	0.85	4.8	0.47	N,R	220	350	5	–	α_2
Brownfield	Om	1.6	1966	10.32		10	0.75				+		–
Rodeo	Om	44	1852	10.6	0.75	8.0	0.65	α_2	177	+	4	–	α_2, F
Hraschina	Om	48.7	F:1751	10.6	>0.4	12.4	0.7	N,R	185	+	2,4	–	α_2, F
Wallapai	Of	430,M	1927	11.4	0.9	3.5	0.43	N,ϵ,P	255	400	1	–	α_2, F

GROUP IIIA

		Weight		Composition			Kamacite		Hardness HV		Minerals		Surface
Name	Class	(kg)	Year	Ni%	P%	Ir ppm	mm	Struct.	Kamac.	Taenite	Troil.	Others	Condition
Picacho	Om	22	1952	7.08	0.06	19	1.0	ϵ		+	2	–	–
Rateldraai	Om	550	1909	7.25	0.08	12	0.90	ϵ	280	330	2	–	α_2
Haig	Om	504	1951	7.34	0.10	10	0.90	ϵ	325	+		–	α_2, F
Greenbrier County	Om	5	1880	7.38	0.08	10	1.00	α_2	173	+	5	–	–
Livingston (Mont)	Om	1.6	1936	7.40	0.09	9.3	0.95	ϵ	330	+	1	–	–
Kalkaska	Om	9.4	1947	7.4	0.1	11	1.00	ϵ	290	+	2,3	–	α_2, F
Davis Mountains	Om	700	1903	7.41	0.11	14	0.95	ϵ,A	250	+	5	–	–

GROUP IIIA (cont'd)

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Chulafinnee	Om	16	1873	7.42	0.17	5.5	1.10	N,A,α_2	172	220		–	–
Schwetz	Om	21.5	1850	7.44	0.09	11	1.00	N,P	220	350	4,5	–	–
Wabar, C	Om	2,500,M	1887	7.45	0.10	7.4	0.95	N,α_2	205	+	5	–	α_2, F
Angelica	Om	15	1916	7.46	0.11	9.3	1.20	N	355	+	3,4,5	Co	–
Dalton	Om	53	1879	7.47	0.10	9.6	1.10	N,R	155	A	5	–	–
Russel Gulch	Om	13.1	1863	7.48	0.13	7.2	0.90	P	240-340	425	2-3	–	α_2, (F)
Norfolk	Om	23	1906	7.48	0.1	10.5	1.00	ϵ,P	305	+	2,3	–	α_2
Kenton County	Om	194,M	1889	7.49	0.08	15	0.90	ϵ	325	+	2	(Co)	–
Hayden Creek	Om	0.27	1891	7.5	0.1	8.1	1.00	ϵ	295	370		–	–
Uegit	Om	252	1921	7.5	0.1	6.3	0.95	(N)		+	(1-2)	–	α_2, F
Duketon	Om	119	1947	7.5	0.2	4	1.0			+	+		α_2, F
Henbury, C	Om	1200,M	1931	7.5	0.09	13	0.95	N,R,P	170-290	+	3,5	(Co)	α_2, F
Ivanpah	Om	58	1880	7.51	0.17	3.8	1.05	ϵ	310	+	2	–	α_2
Chambord	Om	6.6	1904	7.53	0.1	9.8	0.95	ϵ	310	365	(2)	–	–
Santa Apolonia	Om	1,050	1872	7.54	0.12	8.3	0.95	ϵ	303	+	1	–	–
Costilla Peak	Om	35.5	1881	7.60	0.09	15	1.00	ϵ,A	260	+	1,2	(Co)	α_2, F
Glasgow	Om	20,M	1922	7.60	0.1	5.0	1.05	ϵ	280	390	2,4	–	–
Fort Pierre	Om	16	1857	(7.6)	(0.1)		1.05	α_2	185	200	4	–	α_2, F
Morito	Om	10,100	1619	7.61	0.12	9.2	1.05	ϵ	300	+	2	–	α_2, F
Willamette	Om	14,100	1902	7.62	0.14	4.3	1.05	R,A	153	159	5	–	–
Harriman	Om	12.9	1938	7.63	0.14	10	0.95	ϵ	300	+		–	–
Dimitrovgrad	Om	100	1956	7.64	0.12	3.0	1.05	N,ϵ	300	335	5	–	–
Verkhne Udinsk	Om	18.5	1854	7.64	0.14	3.3	1.15	A,α_2	185	240	2	–	–
Canton	Om	7.0	1894	7.64	0.10	8.6	1.05	Acic.	220	310	5	–	–
Milly Milly	Om	26.5	1921	7.64	0.20	2.8	1.00	N,P	225	+	1,3	–	–
San Angelo	Om	88	1897	7.65	0.10	7.8	0.95	N,P	270	320	3,4	–	–
Cacaria	Om	41.4	1876	7.66	0.11	9	1.20	α_2	180	+	+	–	–
Dexter	Om	1.7	1889	7.67	0.12	1.2	1.1	ϵ	330	335		–	–
Boxhole, C	Om	500,M	1937	7.67	0.11	8.2	1.00	ϵ,A,R	210v	+	2-5	–	α_2
York (iron)	Om	0.8	1878	7.7	0.12		1.00	ϵ	305	+		–	α_2, (F)
Emmitsburg	Om	0.5?	1854	7.7	0.11		1.00	ϵ	270	+	2	–	–
Iron Creek	Om	175	1871	7.72	0.17	3.3	1.05	ϵ,A	240	240		–	α_2, F
Casas Grandes	Om	1,540	1867	7.72	0.15	5.0	1.15	N,P	245	+	4,5	–	–
Canyon City	Om	8.5	1875	7.72	0.10	11	1.00	ϵ	305	370			–
Mapleton	Om	49	1939	7.73	0.15	1.4	1.00	ϵ	315	370	3	–	α_2, F
Toubil River	Om	22	1891	7.76	0.18	5.0	1.15	α_2	210	+	(1-2)	–	–
Madoc	Om	168	1854	7.76	0.11	6.8	0.95	ϵ,P	240-340	+	3,4	–	α_2, F
Red River	Om	800	1800	7.78	0.12	4.4	1.05	ϵ,A	262	330	5	–	–
Loreto	Om	95	1898	7.78	0.12	3.8	1.15	ϵ,A	210	+	5	–	α_2, F
Rowton	Om	3.5	F:1876	7.79	0.15	2.8	1.15	ϵ,A	215	270	+	–	α_2, F
Lismore	Om	10	1958	7.8	0.15		1.0			+	+		–
Wooster	Om	22	1858	7.8	0.15		1.00	N,A	182	+	+	–	–
Tonganoxie	Om	12	1886	7.82	0.13		1.10	N,ϵ	270	365	1	–	–
Chilkoot	Om	43	1881	7.83	0.12	1.8	1.00	N,P,A	220	+	+	–	α_2, F
Billings	Om	24.5	1903	7.84	0.10	4.0	1.15	ϵ	(235)	325		–	–
Cape York	Om	58,000,M	1819	7.84	0.15	5.0	1.20	N,P	180v	340	2-5	–	α_2
Youanmi	Om	119	1917	7.85	0.15	2.6	1.10			+	+	–	α_2, F
Frankfort (iron)	Om	11	1866	7.85	0.17	1.8	1.15	ϵ	325	340		–	–
Ssyromolotovo	Om	197	1873	7.86	0.15	3.3	0.95	N,A	166	180	2	–	–
Susuman	Om	18.9	1957	7.87	0.15	2.2	1.00	ϵ	320	400	2	–	–
Bear Lodge	Om	48.7	1931	7.88	0.14		1.15	ϵ,A	210	300v		–	α_2
La Porte	Om	14.6	1900	7.88	0.18	1.4	1.05	ϵ,A	230	390	+	–	–
Cachiyuyal	Om	2.6	1875	7.88	0.15	3.1	1.30	N,R	200	207		Cg	–
Guilford County	Om	13	1822	7.9	0.15		1.10	ϵ,A	200	270		–	–
Quartz Mountain	Om	4.8	1935	7.9	0.12	4.2	1.10	ϵ	310	340	2-5	–	α_2, (F)
Uwharrie	Om	73	1930	(7.9)	(0.15)	3.6	1.15	ϵ,A	188	225	5	–	–
Murfreesboro	Om	8.6	1847	7.91	0.15	2.2	0.95	N	205	+	2	–	α_2
Yarri	Om	1.52	1908	7.92	0.17	4.0	1.00	ϵ	280	360	+	–	α_2
Norfork	Om	1?	F:1918	7.92	0.14	0.3	1.05	N,ϵ	250	+	2	–	α_2, F
Merceditas	Om	43	1884	7.92	0.13	3.4	1.00	ϵ,N	270	+	1	–	α_2
Sacramento Mts.	Om	237	1890	7.93	0.12	6.7	1.00	N,P,A	195	310	5		α_2, F
Rancho de la Pila	Om	46.5	1882	7.93	0.15	0.70	1.05	ϵ	300	+	+	–	–

GROUP IIIA (cont'd)

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Charcas	Om	1,400,M	1783	7.96	0.14	2.1	1.05	ϵ,α_2	(175)	+	4	–	–
Savannah	Om	60	1923	7.99	0.14	0.6	1.20	ϵ	355	375	2	–	α_2
Samelia	Om	2.5,M	F:1921	8.03	0.15	3.5	1.10	ϵ	300	350		–	α_2, F
Cumpas	Om	28.5	1903	8.04	0.18	2.2	1.20	ϵ	270	+	2	–	α_2
Durango	Om	164	1900?	8.06	0.17	1.0	1.15	R,0.1	180	192	+	–	α_2, F
Puente del Zacate	Om	30.7	1929	8.08	0.19	1.4	1.05	N,P	215	275	2	–	–
Sandtown	Om	9.4	1938	8.09	0.2	1.4	1.20	D	200	300		–	α_2, F
Ilimaes	Om	52.9,M	1860	8.10	0.3	0.17	1.10	ϵ	275	380	4,5		α_2
Augusta County	Om	76,M	1858	8.1	0.15	8.9	1.15	ϵ	305	390	2	–	–
Juncal	Om	107	1866	8.1	0.21	1.8	1.10	ϵ	310	385	3,4	–	α_2, F
Roebourne	Om	86.8	1894	8.12	0.17	0.65	1.10	R	180	185	5	–	α_2, F
Kyancutta	Om	32.6	1932	8.15	0.18	1.7	1.05	N	270	+	1	–	–
Bagdad	Om	2.2	1960	8.17	0.12	6.8	1.10	ϵ	275	360	2	–	α_2, F
Kayakent	Om	85	1961	8.20	0.21	1.1	1.20	ϵ	310	360	1	–	α_2, F
Denton County	Om	18	1856	8.2	0.2	0.28	1.15	α_2	200	+		–	–
Ider	Om	140	1959	8.2	0.2	2.8	1.20	ϵ	285	+	5?	–	–
Briggsdale	Om	2.2	1949	8.21	0.18	0.72	1.25	N,A	190	+	5	–	α_2, F
Thunda	Om	62	1886	8.24	0.21	2.2	1.20	ϵ	305	350	2-5	–	α_2
Providence	Om	6.8	1903	8.25	0.23	0.39	1.15	N,ϵ	355	380	+	–	–
Gundaring	Og	113	1937	8.30	0.25	0.31	1.40	ϵ	260	360	2	–	–
Lanton	Om	13.8,M	1932	8.3	0.18	3.5	1.05	ϵ	285	+		–	–
Tamentit	Om	510	1864	8.31	0.21	2.5	1.20	ϵ	330	425		–	
Trenton	Om	505,M	1869	8.34	0.17	2.4	1.15	ϵ	330	400	2-5	–	α_2 (F)
Carthage	Om	127	1846	8.35	0.2	0.56	1.25	α_2	158	175	2-4	–	–
Franceville	Om	18.3	1890	8.39	0.21	0.38	1.10	N,P	250	+			α_2
Quinn Canyon	Om	1,450	1908	8.40	0.22	0.58	1.10	N	180	+	+	–	α_2, F
Casimiro de Abreu	Om	24.2	1947	8.43	0.23	0.25	1.3	R,0.4	170	A		–	–
Drum Mountains	Om	529	1944	8.47	0.25	0.66	1.15	N,P	275	+	5	–	α_2
Thule	Om	48.6	1955	8.49	0.20	2.6	1.15	N,P	175-300	380	3-4	–	α_2, F
Aggie Creek	Om	43	1942	8.49	0.20	0.70	1.20	ϵ	300	+	2	–	–
Losttown	Om	3.0	1867	8.5	0.25		1.00	R	150	+	+	–	–
Marshall County	Om	6.8?	1860	8.5?	0.3?		1.20	ϵ	195	+	+	–	–
Veliko-Nikolaevskii Priisk	Om	24.3	1902	8.5	0.3	0.6	1.15	ϵ	295	360	+	–	–
Tamarugal	Om	325,M	1903	8.52	0.28	0.58	1.10	N,ϵ,P	305	385	2	–	–
Orange River	Om	150	1855	8.54	0.26	0.12	1.20	ϵ	310	+	+	–	α_2, F
Sierra Sandon	Om	6.3	1923	8.55	0.3	0.3	1.00	ϵ	295	435		–	–
Caperr	Om	115	1896	8.58	0.24	0.24	1.00	ϵ	280	360	+	–	α_2
Ruff's Mountain	Om	53.1	1844	8.59	0.26	0.47	1.25	R,A	150-225	+	5	–	–
Joel's Iron	Om	1.3	1858	8.60	0.26	0.26	1.10	R	155	165		–	α_2
Spearman	Om	10.4	1934	8.61	0.36	0.7	1.15	ϵ	325	435	2	–	–
Seneca Falls	Om	4	1850	(8.6)	(0.3)	0.25	1.10	R,0.2	170	D:155	5	–	α_2 (F)
Welland	Om	8	1888	8.66	0.25	0.3	1.20	ϵ	335	365		–	–
Plymouth	Om	14	1883	8.69	0.25	0.66	1.30	ϵ,R	190	200	+	–	α_2
Avoca	Om	37.9	1966	8.7	0.3	0.3	0.90	ϵ,R	225	235	4	S?	–
Juromenha	D	25.2	F:1968	8.7	0.3	0.24		R	170	+	5	–	α_2, F
Bartlett	Om	8.6	1935	8.78	0.3	0.72	1.10	ϵ	260	(330)		–	α_2, F
Lenarto	Om	108	1814	8.78	0.3	0.33	1.15	ϵ,A	215	350	5	–	–
Nazareth (iron)	Om	11.3	1968	8.90	0.35	0.44	1.00	ϵ	285	365	2	–	(α_2)

GROUP IIIB

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Owens Valley	Om	193	1913	8.60	0.25	0.15	1.15	ϵ,R	167	200	+	–	α_2, (F)
Campbellsville	Om	15.4	1929	8.61	0.30	0.08	1.25	ϵ.	295	365		–	–
Luis Lopez	Om	6.9	1896	8.64	0.33	0.15	1.15	N,P,R	178	210	5	–	–
El Capitan	Om	27.5	1893	8.68	0.43	0.11	1.10	ϵ	275	+	4,5	–	–
Los Reyes	Om	19.5	1897	8.71	0.35	0.12	0.90	R	180	+	+	–	(α_2)
Baquedano	Om	22	1930	8.79	0.24	0.11	1.20	N,P	235v	340	2	–	–

GROUP IIIB (cont'd)

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Turtle River	Om	22.4	1958	8.80	0.35	0.057	1.10	R	160-235	270	4	–	–
View Hill	Om	33.7	1952	8.87	0.45	0.03	0.80	ϵ	310	310	2-4	–	α_2
Cleveland	Om	122,M	1867	8.88	0.40	0.094	1.0	N,P	275	+	1,2,3	–	(α_2)
Wonyulgunna	Om	37.8	1937	8.89	0.35	0.03	0.95	ϵ	325	+	2	–	α_2, F
Moorumbunna	Om	77	1943	8.90	0.29	0.26	0.95		+	+	4?	–	–
Zacatecas (1969)	Om	6.7	1969	9.0	0.5	0.029	0.70	R,A	175	180	5	–	α_2,(F)
Oroville	Om	24.5	1893	9	0.4	0.053	0.85	N,P	275	400	3	–	(α_2)
Knowles	Om	162	1905	9	0.4	0.02	0.75	ϵ	280	+	4	–	–
Maldyak	Om	1.0	1939	9.02	0.21	0.39	1.0	(ϵ)		+		–	
Asheville	Om	15?	1839	9.1			0.6	ϵ	290	+		–	–
Joe Wright Mountain	Om	42.7	1884	9.16	0.47	0.015	0.85	N,P	280	+		–	–
Wolf Creek, C	Om	?,M	1947	9.22	0.6	0.036	0.85	ϵ	265	+	4	–	–
Kouga Mountains	Om	1175	1903	9.29	0.45	0.022	0.70	N	225	320	2	–	(α_2, F)
Ilinskaya Stanitza	Om	5.6	1915	9.34	0.4	0.29	0.70	ϵ	260	360	5	–	–
Grant	Om	530,M	1918	9.34	0.8	0.04	0.80	ϵ	310	415	2,3	S?	α_2, F
Mount Edith	Om	161	1913	9.36	0.8	0.016	0.80	ϵ	325	340	2	–	(α_2)
Delegate	Om	27.6	1904	9.36	0.5	1.6	0.85	ϵ	310	+	2	–	–
Bald Eagle	Om	3.2	1891	9.41	0.27	0.018	0.80	N,P		+	+	–	α_2, F
Hopper	Om	1.9	1889	9.5?	0.5?		0.70	N	220	+		–	–
Treysa	Om	63.3	F:1916	9.51	0.40	1.2	0.85	ϵ	290	350	+	–	α_2, F
Smith's Mountain	Om	5.0	1863	9.56	0.7	0.023	0.63	ϵ	280	340	5	–	α_2
Norristown	Om	4.3	1965	9.64	0.5	0.016	0.65	ϵ	275	+	+	–	–
Apoala	Om	85	1889	9.7	0.9	0.05	0.65	ϵ,A	210	+	5	–	α_2, F
Sanderson	Om	6.8	1936	9.81	0.6	0.021	0.75	N,P	215	350	5	–	α_2, F
Augustinovka	Om	400	1890	9.86	0.8	0.04	0.80	ϵ	285	+	2	–	–
Roper River	Om	6.4	1953	9.86	0.6	0.04	0.65					–	α_2,(F)
Chupaderos	Om	24,300,M	1600	9.9	0.5	0.02	0.65	ϵ,A	215	290	4,5	–	α_2, F
Thurlow	Om	5.4	1888	9.9	0.5	0.017	0.65	ϵ,A	190	230	3-5	–	α_2, F
Tambo Quemado	Om	141	1950	9.9	0.83	0.02	0.75	α_2	200	+	+	–	–
Bella Roca	Om	33	1889	9.91	0.85	0.014	0.70	ϵ	260	390	4,5	–	α_2, F
Bear Creek	Om	225	1866	9.95	0.7	0.06	0.60	ϵ	275	340	2	–	–
Narraburra	Om	32.1	1855	10.0	1.0	0.016	0.60	ϵ	255	+	2	–	–
Sam's Valley	Om	12,M	1894	10.23	0.86	0.017	0.75	ϵ	260	370	2	–	–
Tieraco Creek	Om	41.7	1920?	10.6	0.8	0.040	0.52		+	+	+	–	–

GROUP IIIC

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Hassi-Jekna	Of	1.25	F:1885	10.5	0.25	0.18	0.47	N	200	300		–	α_2, F
Havana	Of	<0.1	1945	11.37	>0.2	0.3	0.35	P,R	240	220-360		–	–
Anoka	Of	1.1	1961	11.75	0.30	0.4	0.34	N,A	200	260		C	α_2, F
Mungindi	Of	51.2,M	1897	12.1	0.4	0.47	0.40	N	220	+	+	H	α_2, F
Edmonton (Kentucky)	Of	10.2	1942	12.65	0.3	0.55	0.32	N	230	360		H	α_2
Carlton	Of	82	1887	13.3	0.6	0.07	0.21	N,A	210	+		H	α_2, F

GROUP IIID

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Tazewell	Off	27	1853	16.9	0.3	0.063	0.045	N	165	265	2	Co,H	α_2, F
Dayton	Off	26.3	1892	17.6	0.4	0.028	0.045	N	165	D	2	G?	α_2, F
Föllinge	Off	0.4	1932	18.1	0.2	0.072	0.04	α_2	165	365			α_2, F
Wedderburn	D	0.21	1951	22.8		0.05	0.01	N			5	C	α_2
Freda	D	0.27	1919	23.1	0.15	0.02	0.015		–	340		Co,H,G	α_2, F

GROUP IIIE

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Kokstad	Og	341,M	1878	8.32	0.21	0.57	1.35	N,R	180	185	5	Cg	–
Burlington	Om	75?	1819?	8.34	0.23	0.45	(1.30)	α_2	200	+	+	–	Damaged
Coopertown	Og	16.8	1861	8.47	0.19	0.51	1.5	N,ϵ	285	+	3-5	H	–
Rhine Villa	Og	3.3	1900	8.61	0.29	0.12	1.4	N	207	300	5	H	–
Staunton	Og	44,M	1871	8.62	0.31	0.11	1.60	N	252	380	2	H	–
Tanakami Mountain	Og	174	1885	8.75	0.4	0.22	1.50	N	258	+	1	H	–
Willow Creek	Og	51	1914	8.77	0.35	0.05	1.40	R	152	190	5	Cg	–

GROUP IVA

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.		Surface Condition
Obernkirchen	Of	41	1863	7.50	0.02	3.2	0.26	ϵ,R	210	+	3-5	–	–
Yanhuitlan	Of	400?	1825	7.52	0.02	2.7	0.33	α_2	166	+	1-4	–	–
Jamestown	Of	4.0	1885	7.53	0.05	3.5	0.26	ϵ,A,P	210	235	5	–	α_2, F
Social Circle	Of	100	1926	7.61	0.06	2.8	0.30	R	166	175	5	–	–
San Francisco Mts.	Of	1.65	1920	7.62	0.05	3.0	0.23	N,P	190	+	+	S?	α_2, F
Western Arkansas	Of	1.8	1926	7.62	0.03	2.8	0.30	ϵ,α_2	180	+	+	–	–
La Grange	Of	51	1860	7.65	0.03	2.3	0.27	N,ϵ,P	270	+	2,3,5	–	–
Maria Elena	Of	15.5	1935	7.72	0.02	3.1	0.30	R	172	+	5	–	α_2,(F)
Cratheus (1931)	Of	27.5	1931	7.72	0.05	2.3	0.30	A	200	230	5	–	–
Bishop Canyon	Of	8.6	1912	7.76	0.05	2.6	0.30	N	154	180	2-5	S	–
Otchinjau	Of	30	1919	7.85	0.05	2.6	0.29	ϵ	270	+	2	–	α_2, F
Signal Mountain	Of	57.9	1919	7.85	0.04	2.5	0.28	N	175	270		–	α_2
Iron River	Of	1.4	1889	7.87	0.05	2.1	0.28	N		+		–	α_2, F
Shirahagi	Of	33.6,M	1890	7.87	<0.1	2.3	0.3	P	+	+		–	–
Huizopa	Of	140,M	1907	7.90	0.04	2.8	0.28	N,P,R	185	+	5	–	–
Gibeon	Of	21,000,M	1838	7.93	0.04	2.3	0.30	N	170-300	+	5	S	α_2
Harriman (Of)	Of	?	?	7.96	<0.1	2.3	0.30	N	200	270	5	–	(α_2)
Serrania de Varas	Of	1.5	1875	8.00	0.05	1.8	0.31	N,R	167	255		–	α_2, F
Bodaibo	Of	15.9	1907	8.00	0.04	1.7	0.30	N,A	186	195	5	–	–
Yudoma	Of	7.4	1946	8.0	<0.1		0.32			+			
Pará de Minas	Of	112	1934	8.04	0.07	2.4	0.33	N	185	+	1	–	–
Putnam County	Of	32	1839	8.05	0.04	2.0	0.28	ϵ	295	300	1-2	–	α_2
Bristol	Of	20	1925	8.07	0.06	1.7	0.30	N	200	+		–	–
Wood's Mountain	Of	3.9,M	1923	8.20	0.04	2.4	0.30	R	190-255	+	3-5	–	α_2, F
Charlotte	Of	4.0	F:1835	8.22	0.055	1.5	0.30	N	200	+			α_2, F
Muonionalusta	Of	28.7,M	1906	8.42	0.05	1.6	0.29	ϵ	335	350	5	–	–
Seneca Township	Of	11.5	1923	8.52	0.08	1.8	0.28	ϵ,A	210	265	5	–	α_2, F
Altonah	Of	21	1912	8.54	0.09	1.5	0.28	α_2	185	+	5	–	α_2, F
Mantos Blancos	Of	10.3	1876	8.86	0.10	0.91	0.35	N	245	250	5	–	α_2, F
Bushman Land	Of	3.0	1932	8.90	0.10	0.98	0.33	N	180	280	2	–	α_2, F
Novorybinskoe	Of	3.1	1937	9.1	~0.1	0.9	0.3			+			
Boogaldi	Of	2.1	1900	9.1	0.15	0.6	0.42	N	190	+	+	–	α_2, F
Hill City	Of	11.7	1944	9.19	0.12	0.88	0.38	N	205	+	5	–	α_2
Smithland	D	10?	1846	9.23	0.15	0.89	–	α_2	220	+	5	–	–
Mart	Of	7.1	1895	9.23	0.15	0.64	0.38	R	190	220	5	–	(α_2)
Duchesne	Of	24.6	1906	9.37	0.18	0.42	0.35	N	225	+	1,2	–	–
New Westville	Of	4.8	1941	9.40	0.14	0.55	0.42	ϵ	285	290	1,2	–	–
Chinautla	Of	5.7	1901	9.44	0.17	0.12	0.35	N,P	260	+		–	–
Cranberry Plains	Of	1?	1852	9.5?	0.2		0.35	α_2	200	+		–	–

GROUP IVB

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Kokomo	D	1.85	1862	15.8	0.08	31	0.02			D:178		–	–
Iquique	D	13	1871	16.0	0.08	28	0.02	–		D:204	2,4	–	–
Tlacotepec	D	71	1904	16.20	0.05	24	0.03	–	–	D:242	1	–	–
Cape of Good Hope	D	135	1801	16.32	0.12	36	0.03	–	–	D:244	4	–	–
Hoba	D	60,000	1920	16.4	0.07	27	0.02	–		D:270	3,5	–	–
Chinga	D	80,M	1912	16.58	0.05	3.6	0.01	P		D:300	1,2	–	–
Ternera	D	2,M	1884	17.5	0.1	15	–	(α_2)		D:180	5	–	–
Tawallah Valley	D	76	1937	17.6	0.12	16	0.008	–	–	D:205	2	–	α_2, F
Weaver Mountains	D	38.8	1898	17.7	0.10	17	0.006	–	–	D:300	5	S	–
Skookum Gulch	D	15.9	1905	18	0.19	18	0.01	α_2	–	D:260		–	–
Warburton Range	D	56.7	1963	18.00	0.10	13	0.008				+	–	α_2, F

ANOMALOUS IRON METEORITES

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Tombigbee River	H	44,M	1859	5.1	1.8	0.06	2-100	N,A	150	–	5		–
Auburn	Ogg	3.6	1869	5.2	0.3	0.02	8	N	160	(+)	5	–	–
Bellsbank	H	38	1955	5.3	2.0	0.15	100	N	182	–		–	–
Kendall County	Anom	20.8	1887	5.42	0.34	1.7	R,2	N,α_2	195	–	2	G,S	–
Soper	Anom	3.7	1938	5.68	2.1	0.011	R,0.2	R	155	–	–	–	α_2
Summit	Ogg	1	1890	5.7?	0.5?	0.03	6	N	235	(+)	+	–	α_2
La Primitiva	Anom	27,M	1888	5.8	1.7	0.04	100	ϵ	280	–	5	–	α_2, (F)
Zacatecas (1792)	Anom	1,000	1792	5.95	0.6	2.2	–	N,A	177	–	5	–	–
Union County	Ogg	7	1853	6.1	0.2	2.1	1-10	N,P	250	(+)	2	–	–
Nedagolla	Anom	4.6	F:1870	6.12	0.02	4	–	–	–	D:200	–	G,C	α_2, F
Horse Creek	Anom	0.6	1937	6.3	0.5				252	–	–	Ni_5Si_2	α_2, F
Murnpeowie	Anom	1,140	1909	6.37	0.2	1.8	R,1	N	185	(+)	2	Co	α_2, F
Nocoleche	Anom	20	1895	6.42	0.17	8.2	0.8-2	N,A	177	+	5	Cg	–
New Baltimore	Anom	18	1922	6.43	0.04	12	1.0	ϵ	280	(+)	+	–	–
Saint Francois County	Og	3.6?	1894?	6.54	0.34	0.11	2.7	N,A	164	+	5	–	–
Santa Rosa	Anom	825,M	1823	6.74	0.36	0.07	–	N,α_2	200	(+)	5	H,Co,G,Gc	α_2, F
Chihuahua City	Anom	54	1931	6.87	0.39	0.11	R,0.1	N	185	+	3,4	Co	α_2, (F)
Kingston	Om	13	1891	6.96	0.09	4	0.80	N,A,α_2	155	+	2	–	–
Clark County	Om	11.3	1937	6.99	0.19	6.2	1.0	N	240	+	5	–	(α_2, F)
Nelson County	Ogg	73	1856	7.00	0.18	7.9	1-10	N,P	250-350	+	2	–	α_2, F
Livingston (Tennessee)	Om	12	1937	7.05	0.25	0.7	0.8	R 1	170	235	5	G,Gc	–
Weekeroo Station	Anom	94.2	1924	7.22	0.15	2.8	2.5	N	220	340	3	S	α_2
Glenormiston	Anom	41	1925	7.24	0.36	2.7	6	N			5?		
Oakley (iron)	Og	113	1926	7.3	0.28	5.3	1.40	N	225	+	2	–	α_2, F
Reed City	Og	19.8	1895	7.48	0.45	54	1.8	A,N	185	+	5	–	α_2, F
Piedade do Bagre	Om	59.1	1922	7.50	0.07	11	0.75	N,A	173	250	2?	–	–
Santiago Papasquiaro	Anom	130	1958	7.50	0.01	4.0	R,0.1	R,A	153	+	5	–	–
Ysleta	Anom	141	1914	7.62	0.05	7.0		N	–	D:219	–	–	–
Mundrabilla	Anom	22,000,M	1911	7.75	0.26	0.8	0.55	N,P	175	235	1,2	G	α_2
Waterville	Anom	34	1927	7.81	0.3	0.3		N,P	230	395	2,3,4	G	–
Colomera	Anom	134	1912	7.86	(0.7)	7.7	(0.7)	N,P	180	+	5	S	α_2, F
Moonbi	Om	13.2	1892	7.89	0.22	1.5	0.55	α_2	200	+		–	–
Saint Genevieve County	Of	244	1888	7.94	0.22	1.8	0.49	N	208	275	1	–	–
Barranca Blanca	Anom	12.5	1855	7.99	0.15	4.9	–	N,A	178	260	2	S?	α_2, (F)
Kodaikanal	Off	15.9	1898	8.09	0.3	5.2	0.10	N,P	210	(240)	4,5	S	α_2
Elga	Anom	28.8	1959	8.18	0.47	4.1						S	
Hammond	Om	27	1884	8.23	0.45	0.10	0.60	R	160	156	5		α_2, F
Gun Creek	Om	20	1909	8.45	0.4	0.05	0.75	N,A	175	190		–	–
Netschaevo	Anom	250	1846	8.46	0.15	1.8	1.25	α_2	155	+	+	S	–
Arlington	Om	9	1894	8.52	0.02	6.1	0.80	N	160	+		–	α_2, F
Mbosi	Om	16,000	1930	8.74	0.15	6.5	0.80	N,P	215	+	4	C,S	–
Chebankol	Og	124	1938	8.92	0.29	0.11	2.5	N,P	265	450		–	–
La Caille	Om	650,M	1828	9.1	0.35	10	1.10	R,A,α_2	180	180		–	–

ANOMALOUS IRON METEORITES (cont'd)

Name	Class	Weight (kg)	Year	Composition Ni%	P%	Ir ppm	Kamacite mm	Struct.	Hardness HV Kamac.	Taenite	Minerals Troil.	Others	Surface Condition
Cruz del Aire	Of	23,M	1911	9.11	0.31	5.9	0.48	N,R	175	+	5	–	α_2
Grand Rapids	Om	52	1883	9.31	0.2	14	0.55	N	200	A		–	α_2
Emsland	Om	19	1940	9.40	0.27	2.9	0.90	N	210	+	+		α_2, F
Richa	Om	1.5	1960	9.4	0.3	17	0.55	N	200	310	2	–	–
Prambanan	Off	?	1865	9.4	0.16		0.12	α_2	225-375		+	–	–
N'Goureyma	Anom	37.7	F:1900	9.41	0.05	0.6	–	–	–	D:215	2-5	–	α_2, F
Rafrüti	D	18.2	1886	9.43	0.06	0.007	R,0.02,A		145	+		–	α_2
Tucson	Anom	922,M	1850	9.53	0.09	2.1	–	(α_2)	–	D:220	–	S	–
Bacubirito	Off	22,000	1863	9.70	0.16	4.9	0.08	N	220	+	2	–	(α_2)
Washington County	D	5.8	1916?	9.9	0.39	0.07	R,0.05	–	+	+	–		α_2, F
Arltunga	D	18	1908	9.91	0.24	17	0.005	D	200	D	2	–	–
Duel Hill (1854)	Of	4.0	1854	10.3	0.15	0.64	0.35	ϵ	250	+	1,2	–	α_2
Guffey	D	309	1907	10.3	0.02	5.0	0.015	D		D:187	5	–	–
Cambria	Of	16.3	1818	10.4	0.5	0.84	0.48	N,P,R	155	190	4	–	α_2, F
Algoma	Om	4	1887	10.7	0.25	0.39	0.60	N	155	+		–	α_2, F
Monahans	Opl	29.5	1938	10.75	0.09	13	0.05	N	195	D:195	3,4	–	–
Hopewell Mounds (Brenham)	Pall.	4,300,M	1890	10.8	0.14	0.045	0.8	N,P		+		S	
Dorofeevka	Opl	12.7	1910	11.42	0.10	23	0.09		187	265		–	(α_2)
Nordheim	D	15.4	1932	11.67	0.04	11	0.02	–	–	D:240	2	–	–
Babb's Mill (Blake's Iron)	D	135	1876	11.8	0.05	1.7	–	R,0.03		+			–
Glorieta Mountain	Pall.	190,M	1884	11.9	0.37	0.014	0.85	N,P	164	300	5	S	α_2, F
Victoria West	Of	3	1868	12.0	0.6	0.02	0.22	N,α_2	170	240	1	S	–
Del Rio	D	3.6	1965	12.1	0.11	18	0.07	ϵ,P		D:270	2	G	–
Illinois Gulch	D	2.5	1897	12.3	0.08	5.3	0.04	Anom	260	mart		–	α_2, F
Muzzaffarpur	Opl	1.2,M	F:1964	12.9	0.4	1.4	0.1	N,P	225-300	D:245	–	–	α_2, F
Soroti	Anom	2,M	F:1945	12.9	0.15	0.06	0.13	ϵ	290	380	2	G	α_2, F
Laurens County	Of	2.1	1857	13.1	0.3	7.9	0.30	N	186	350	+	–	α_2, F
Corowa	Opl	11.3	1964	13.1	0.3	0.77	0.2				5	–	
Cowra	Opl	5.6	1888	13.3	0.23	14	0.07	N	185	225	5	–	α_2, F
Deep Springs	D	11.5	1846	13.4	0.03	10	0.005	D		D:238	1,2	–	–
El Qoseir	D	2.4	1921	14.0	0.16	5.5							α_2
Mount Magnet	Opl	16.5,M	1916	14.6	0.15	0.036	0.015		–	D:195	2	S	–
Gay Gulch	Opl	0.48	1901	15.1	0.3	0.11	0.06	N,A	155	D		–	α_2
Butler	Opl	40	1875	15.7	0.05	1	0.15	A,α_2	180	375	4	G	–
Linville	D	0.4	1882	16?	0.25		0.3	α_2	230	D		–	–
Piñon	D	17.8	1928	16.28	0.34	15	0.015		165	D:205	5		α_2
Shingle Springs	D	38.5	1869	16.95	0.33	2.6	0.015	–	–	D:278	1-2	–	–
Garden Head	Opl	1.3	1944	16.96	0.2	0.12	0.1				2		
Babb's Mill (Troost's Iron)	D	8.7,M	1842	17.5	0.12	35	0.01	(α_2)	–	D:233	2	–	–
South Byron	D	6	1915	18.0	0.22	28	0.01	–	–	D:230	5	–	–
Britstown	Opl	0.54	1926	18?	0.25		0.02	A	205	385	3	G,S	α_2, F
Kofa	Opl	0.5	1917	18.3	0.15	0.1	0.035	N		D:265		–	α_2, F
Morradal	D	2.8	1892	19.0	0.15	0.61	0.01	–	–	D:205	5	–	α_2, F
Lime Creek	Anom	25?	1834	29.5	0.19	1.1	0.01	tempered martensite:192			5	H,G	–
Twin City	D	5.1	1955	30.0	0.34	0.015	0.005	–	–	D:325	5	S	α_2
Tishomingo	Anom	164	1965	32.5				martensite:425			5	–	F
Santa Catharina	Anom	7,000,M	1875	35.3	0.2	0.02	–	–	–	175-560	1,2	S	–
Dermbach	Anom			42	~0.2	0.03	–	–	–		+	–	–
Oktibbeha County	Anom	0.16	1854	61	~0.1		–	–	–			G	α_2

Appendix 2.

129 New or Insufficiently Known Meteorites.
(Compare page 37)

Name	Weight
Adzhi-Bogdo (iron)	600 kg ?
Agua Blanca	49 kg
Albuquerque	157 g ? See the Supplement.
Alexander County	200 g ?
Al-Ghanim (iron)	500 g ? oxidized
Alikatnima	20 kg ? Ataxite with about 13% Ni, see Reed 1972b.
Alt Bela	3.9 kg
Ameca-Ameca	10 g ?
Aprelskij	54.6 kg. See the Supplement.
Armanty	30 tons
Asarco Mexicana	2.57 kg
Aswan	12 kg. Medium octahedrite of group IIIA, see the Supplement.
Barbacena	9 kg, oxidized
Blue Tier	1.3 kg
Bluewater	538 g
Botetourt County	?
Cabin Creek (fell 1886)	48.2 kg
Castray River	10 g. Probably awaruite, see p. 438
Cleburne	6.8 kg
Clinton	7.7 kg, oxidized ?
Coldwater (iron)	18.4 kg, oxidized
Cowell	?
Cratheus (1950)	?
Cuba	1.5 kg
Dadin	37.3 kg or rather 27.3 kg
Dehesa	300 g?
De Hoek	See the Supplement.
Dellys	76 g ? Perhaps a fragment of Tamentit, see p. 529
Dermbach	New find
Dorrigo	8 kg, oxidized
Dowerin	100 g ?
Elga	28.8 kg
El Simbolar	40 kg
El Timbu	500 kg
Etosha	See the Supplement.
Floydada	12.5 kg
Fukue	?
Gallipoli Station	See the Supplement.
Ganado	39 g. Appears to be a weathered slug of Canyon Diablo.
Garhi Yasin (fell 1917)	380 g
Gerzeh	a few grams of oxidized material
Glen Rose (iron)	11 kg
Guadaloupe County	20 g. Said to be a Canyon Diablo fragment, but this is apparently not the case.
Hart Range	608 g. Probably a fragment of Boxhole.
Hatfield	? kg. Apparently a medium octahedrite of group IIIA.
Holliday	10 g ?
Itutinga	5 kg ?
Jalandhar (fell 1621)	2 kg. was entirely used up in forging sword blades. See Figure 1869.
Jonesboro	30 g ?
Karasburg	11.6 kg
Klamath Falls	13.6 kg. Apparently an anomalous fine octahedrite.
Komagone	238 g
Krzadka	2-3 kg, now lost
Kuga	6 kg
Lafayette (iron)	11 g, lost
Laguna Manantiales	92 kg
Lancaster County	13 kg, apparently lost
Landor	9 kg
Lasher Creek	639 g
Las Salinas	3,515 g
Lazarev	10 kg
Lebedinnyi	410 g, now lost
Lefroy	0.2 g
Lonaconing	1.3 kg. Finished too late to be incorporated in Appendix 1
Lucky Hill	20 kg, oxidized. Apparently a medium octahedrite of group IIIA.
Lujan	33 g of an entirely corroded octahedrite
Lusk	46 g, oxidized
Magnesia (fell 1899 ?)	4,960 g. Only a piece of a larger mass. See the Supplement.
Maldyak	992 g. See also the Supplement.
Manitouwabing	39 kg
Manlai	400 kg ?
Mariaville	340 g, lost ?
Minnesota (iron)	6 g
Monturaqui	See the Supplement.
Morden	2.6 kg. Group I iron with 6.6% Ni, according to Reed 1972b.
Mrirt, Marocco	79.9 kg
Murchison Downs	33 g
Naifa	8 g
Nashville (iron)	18 kg, oxidized
New Mexico	130 g. Probably an iron of group IIB ground into an axe.

Name	Weight
Niagara	115 g
Nieder Finow	287 g
Nochtuisk	8 g
Norin-Shibir	3 1/2 g
Norquin	19.25 kg
Northampton	17 g
Nuleri	120 g. Apparently a medium octahedrite of group IIIA related to Henbury and Boxhole.
Nutwood Downs	See the Supplement.
Nyaung (fell 1939)	737 g
Oildale	50 g. Almost certainly a Canyon Diablo slug, transformed by impact-shock to stages VI and VII. See p. 944
Oktibbeha County	156 g. A unique iron meteorite with 60% Ni. See Reed 1972a.
Opava	14.7 kg
Otasawian	9 kg. See the Supplement.
Palinshih (fell 1914 ?)	18 kg
Palisades Park	120 g. Almost certainly a Canyon Diablo slug, transformed by impact-shock to stage V. See p. 959
Paloduro	3 kg
Paneth's Iron	See the Supplement.
Parma Canyon	2.15 kg
Patos de Minas (O)	oxidized
Paulding County	725 g, oxidized
Pierceville (iron)	100 kg, oxidized
Pierre	?
Point of Rocks	23 g

Name	Weight
Pooposo	Probably a fragment of Bolivia
Puerta de Arauco	1.5 kg
Quesa (fell 1898)	10.7 kg
Redfields	See the Supplement.
Red Willow	2.7 kg, now lost ?
Rembang (fell 1919)	10 kg. Iron with 8.7% Ni, see Reed 1972b.
Repeev Khutor (fell 1933)	12.35 kg. Anomalous, with about 14% Ni. See p. 1014
Roswell	30 g ? Almost certainly a transported Canyon Diablo mass.
Sakauchi (fell 1913)	4.18 kg, now lost
Salina	10 kg, oxidized
Selčany	20 g
Seymchan	300 kg. See the Supplement
Shohaku	101 g
Slaghek's Iron	1.9 kg
South Dahna	275 kg, oxidized
Suwa	203 g ?
Tabarz	100 g ?
Teocaltiche	10 kg
Tepla	17 kg
Ur	oxidized fragments
Ute Pass	?
Vicenice	4.37 kg
Waingaromia	9.2 kg. Medium octahedrite with schreibersite skeleton crystals.
Winburg	50 kg
Withrow	8.7 kg
Zapata County	?

Appendix 3.

Synonyms and Paired Falls.

(Compare page 37)

The 79 meteorites marked below with an asterisk are listed as independent meteorites in the most recent catalogue by Hey (1966), but are shown here to have no independent existence. Several others, e.g., Fort Duncan and Sulechow, have been considered independent meteorites by other authors.

*Abakan, see Toubil River
*Abancay, see Saint Genevieve
*Adargas, see Chupaderos
Agpalilik, see Cape York
Agram, see Hraschina
Akpohon, see Cape York
Alandroal, see Juromenha
Amalia Farm, see Gibeon
*Amates, see Toluca
*Anderson, see Hopewell Mounds
pseudo Apoala, see Durango
*Aragon, see Cedartown
Aroos, see Yardymly
*Ashfork, see Canyon Diablo
*Barraba, see Bingera
Barringer Crater, see Canyon Diablo
*Basedow Range, see Henbury
*Bechuanaland, see Gibeon
Bedminster, see Canyon Diablo
Bethany, see Gibeon
*Black Mountain, probably a fragment of Duel Hill (1873)
*Bloody Basin, see Canyon Diablo
Boaz, see Hope
*Breece, see Grant
Butcher Iron, see Coahuila
*Camp Verde, see Canyon Diablo
Caranzatillo, see Pan de Azucar
*Carsons Well, see Needles
Catorze, see Charcas and Descubridora
*Central Missouri, see Ainsworth
Cerros del Buei Muerto, see North Chile (Tocopilla)
*Chanaral, see Ilimaes
*Chichimeguilas, see Mazapil
Chile, see Maria Elena
Claiborne, see Lime Creek
Concepcion, see Chupaderos
*Cookeville, see Smithville
*Corrizatillo, see Pan de Azucar
Cottonwood Gulch, see Thoreau
*Coya Norte, see North Chile
*Cuernavaca, see Chupaderos
Damaraland, see Gibeon
*Descubridora, see Charcas
*Ector County, see Odessa
*Ehrenberg, see Canyon Diablo
*Elberton, see Smithonia
El Inca, see Tamarugal
El Taco, see Campo del Cielo
El Toba, see Campo del Cielo
*Espiritu Santo, see Chupaderos
Fairbanks, see Aggie Creek
*Fair Oaks, see Canyon Diablo
*Filomena, see North Chile
Fort Duncan, see Coahuila
*Galleguillos, see Ternera
Gallipoli, see Henbury
*Helt Township, see Canyon Diablo
*Houck, see Canyon Diablo
Huejuquilla, see Chupaderos
Humboldt's Iron, see Chupaderos and Durango
*Jackson County, see also Carthage
*Jefferson, see Bear Creek
Jewell Hill, see Duel Hill
Karawinsky's Iron, see Durango
*Las Vegas, probably a fragment of Canyon Diablo
*Loongana Station, see Mundrabilla
Luca Valley, see Toluca Valley
*Matatiele, see Kokstad
*Mayodan, see Indian Valley
*McCamey, see Odessa
*McDowell County, see Wood's Mountain
*Mejillones (1875) and Mejillones (1905), see Mejillones
Meteor Crater, see Canyon Diablo
*Michigan, see Toluca
*Moab, see Canyon Diablo
*Monument Rock, see Canyon Diablo
*Mooranoppin, see Youndegin
Mount Elden, see Canyon Diablo
*Mount Stirling, see Youndegin
*Mount Tabby, see Duchesne
Mukerop, see Gibeon
Nativitas, see Santa Apolonia
*Nejed, see Wabar
*Niagara, probably a Toluca specimen
Nico, see Gibeon No. 76
Niro, see Verkhne Udinsk
*North Portugal, see Sao Juliao
Northumberland Island, see Cape York
Nutwood Downs, see Henbury
Oaxaca, see Apoala, Misteca and Yanhuitlan
Oregon, see Klamath Falls
Ottsjö, see Föllinge
Otumpa, see Campo del Cielo
*Parral, see Morito
*Pojoaque, see Glorieta Mountain
*Ponca Creek, see Ainsworth
*Premier Downs, see Mundrabilla
*Pulaski County, see Canyon Diablo
*Puripica, see North Chile
*Quairading, see Youndegin
*Queensland, see Gladstone
*Quillagua, see North Chile

Appendix 4.

Pseudometeorites and False, Unsubstantiated Reports.
(Compare page 37)

Agricultural College, wrought iron.
Angara, pseudometeorite (Zavaritskij & Kvasha 1952: 238)
Calumet County, pseudometeorite (Meteoritic Bulletin, No. 47, 1969)
Kirkland, falsely reported to fall.
Koso-cho, artificial material.
Majorca, probably a pseudometeorite.
Mejillones (1875) and Mejillones (1905), reported twice, but in fact one fall: Mejillones.
Nova Lima, wrought iron
Ovifak, terrestrial iron, see p. 413.
Serrania de Varas, *some* samples are cast iron.
Siratik, *some* samples are artificial products.
Tandil, the 1 kg main mass in the La Plata Museum is a pseudometeorite.
Tarapaca, *some* samples are cast iron or wrought iron.
Tule, artificial casting.
Tunguska, probably a minor comet, see p. 9.

Appendix 5.

99 Meteorites which are shown to have been artificially reheated, either wholly, or fragments of the mass. (Compare page 41)

Name	Group	Weight (kg)	Known since	Ni%	Reheated artificially to <750	750-1100°	partially melted	Damage to whole meteorite	part of it	Implements produced	Implements preserved
Alt Bela	IID	3.9	1850	12.9		+			+		
Altonah	IVA	21.0	1912	8.5		+			+		
Apoala	IIIB	85	1889	9.7		+			+		
Arispe	Anom	683,M	1896	6.7	+				+	Used as an anvil (122 kg)	
Aswan	IIIA	12	1955	8.2		+			+		
Auburn	Anom	3.6	1869	5.2	+			+			
Babb's Mill (Troost's Iron)	Anom	8.7,M	1818	17.5		+			+		
Bacubirito	Anom	22,000	1863	9.7		+			+	+	
Bendego	Anom	5,360	1784	6.5		+			+	+	+
Billings	IIIA	24.5	1903	7.8		+			+	+	
Bitburg	I-Anom	1,500	1805	12.4		+	+	+			
Botetourt County	?	?	1850	17		+		+			
Burlington	IIIE	75?	1819	8.3		+		+		+	
Butler	Anom	40	1874	15.7		+			+		
Cacaria	IIIA	41	1876	7.7		+		+		Used as an anvil (41 kg)	
Campo del Cielo	I	>30,000,M	1576	6.7		+			+		
Cape of Good Hope	IVB	135	1801	16.3		+			+	+	+
Cape York	IIIA	58,000,M	1819	7.9	Cold-worked by the Eskimos				+	+	+
Carthage	IIIA	127	1844	8.4		+		+ ?	+		
Casey County	I	?	1877	7.0		+			+	+	+
Charcas	IIIA	780	1804	8.0		+		?	+		
Charcas (Descubr.)	IIIA	576	1783	8.0	+			+		Used as an anvil (576 kg)	
Chesterville	IIA	16.5	1849	5.7		+		+		+	+
Chulafinnee	IIIA	16	1873	7.9?		+		+		+	
Chupaderos	IIIB	24,300,M	1600	9.9		+			+	+	
Cincinnati	IIA	1.5?	1870	5.4		+		+			
Coahuila	IIA	2,000,M	1854	5.6		+			+	+	+
Coahuila, Sanchez Estate	IIA	114	1854	5.6						Used as an anvil (114 kg)	
Colfax	I	2.4	1880	10.5	+			+			
Comanche	I	19.7	1956	8.1		+			+		
Coolac	I	19.3	1874	6.9	+			+			
Cosby's Creek	I	400,M	1837	6.7		+			+	+	
Cranberry Plains	IVA	1?	1852	9.5?		+		+			
Cranbourne	I	8,600,M	1853	7.0		+			+	+	+
Denton County	IIIA	18	1856	8.2		+		+		+	
Elbogen	IID	107	1400	10.3		+		+		+	+
Fort Pierre	IIIA	16	1857	7.6?		+		+			
Gibeon	IVA	21,000,M	1838	7.9		+			+	+	
Gladstone	I	780,M	1894	6.7		+			+	+	
Greenbrier County	IIIA	5	1880	7.4		+		+			
Guilford County	IIIA	13	1822	7.9		+			+	+	
Hammond	Anom	27	1884	8.2		+			+	+	
Holland's Store	IIA	12.5	1887	5.4		+			+	+	
Hraschina	IID	49,M	Fell 1751	10.6		+			+	+	
Iquique	IVB	13	1871	16	+			+			

Name	Group	Weight (kg)	Known since	Ni%	Reheated artificially to <750	750-1100°	partially melted	Damage to whole meteorite	part of it	Implements produced	Implements preserved
Iredell	IIB	1.5	1898	6.0		+			+	+	
Jackson County	IIIA	0.4	1846	8.4		+		+			
Jalandhar	iron	1.9	Fell 1621	?	The whole mass forged into sword blades and lost.						
Karasburg	IIIAB	11.6	1964	8.7		+		+			
Kendall County	Anom	21	1887	5.4		+			+		
Kingston	Anom	13	1891	7.0		+			+		
La Caille	Anom	650,M	1828	9.1		+			+	+	
Linville	Anom	0.4	1882	16		+		+			
Locust Grove	IIA	10.3	1857	5.6		+		+			
Los Reyes	IIIB	19.5	1897	8.7	+			+			
Losttown	IIIA	3	1867	8.5	+			+			
Magura	I	1,600,M	1840	6.7		+	+		+	+	
Marshall County	IIIAB	7?	1860	8.5?		+		+			
Misteca	I	11	1804	8.3		+		+			
Moonbi	Anom	13.2	1892	7.9		+		+			
Morito	IIIA	10,100	1600	7.6		+			+		
Mount Joy	IIB	384	1887	5.7		+			+	+	
Netschaevo	Anom	250	1846	8.5		+	+	+		+	
New Mexico	IIB?	0.1	1935	6?	Only cold-worked and ground			+		+	+
North Chile, Rio Loa fragment	IIA	266,M	1922	5.6		+		+			
Paneth's Iron	IIIE	100?	1873	8.9		+		+ ?	+		
Petropavlovsk	I	7.2	1840	8.5		+		+ ?	+		
Pima County	IIA	0.2	1947	5.6		+			+		
Pittsburgh	I	13.2	1850	7.0		+		+		+	
Prambanan	Anom	?	1865	9.4		+		+		+	
Rafrüti	Anom	18.2	1886	9.4	+			+			
Rodeo	IID	44	1852	10.6		+		+		Used as an anvil (44 kg)	
Ruff's Mountain	IIIA	53	1844	8.6	+			+			
Salt River	IIC	4	1850	9.8		+		+			
Sam's Valley	IIIB	12,M	1894	10.2	+				+		
San Francisco del Mezquital	IIA	7.5	1867	5.5		+		+			
Santa Rosa	Anom	825,M	1823	6.7	+			+		Used as an anvil (460 kg)	
Santa Rosa, Rasgata	Anom	825,M	1823	6.7		+			+	+	
Seeläsgen	I	102	1847	6.6	+			+		+	
Shirahagi	IVA	33.6,M	1890	8		+			+	+	
Siratik	IIA	<1	1716	5.5		+	+	+		+	
Skookum Gulch	IVB	15.9	1905	18		+		+			
Smithland	IVA	10?	1845	9.2		+		+		+	
Tambo Quemado	IIIB	141	1950	9.9		+		+			
Ternera, Galleguillos fragment	IVB	1.3	1884	17.5		+		+			
Toluca	I	2,100,M	1784	8.1		+			+	+	+
Tombigbee, No. VI	Anom	44,M	1859	5.1		+			+	+	
Tonganoxie	IIIA	12	1886	7.8		+			+		
Toubil River	IIIA	22	1891	7.8		+		+		+	
Tucson, Ring	Anom	635	1850	9.5	+				+	Used as an anvil (635 kg)	
Tucson, Carleton	Anom	287	1850	9.5		+			+	Used as an anvil (287 kg)	
Turtle River	IIIB	22	1968	8.8	+			+			
Verkhne Udinsk	IIIA	18.5	1854	7.8	+	+		+			

Name	Group	Weight (kg)	Known since	Ni%	Reheated artificially to			Damage to			
					<750	750-1100°	partially melted	whole meteorite	part of it	Implements produced	Implements preserved
Victoria West	Anom	3	1862	12.0		+		+			
Waldron Ridge	I	14	1887	7.6	+			+ ?	+		
Western Arkansas	IVA	1.8	1927	7.7		+		+			
Wooster	IIIA	22	1858	7.8	+			+			
Yanhuitlan	IVA	300?	1816	7.5	+			+ ?	+	Used as an anvil (300 kg)	
Youndegin	I	3,800,M	1884	6.7		+			+	+	

Appendix 6.

26 Venerated Iron Meteorites

Name	Group	Weight (kg)	Known since	Ni%	Remarks	Known to the natives since about –
Canyon Diablo (Camp Verde), U.S.A.	I	61.5	1950	7.2	Found wrapped in a feather blanket in an Indian burial ground near cliff dwellings.	1100
Caperr, Argentina	IIIA	115	1871	8.6	Considered taboo to Patagonian Indians.	
Casas Grandes, Mexico	IIIA	1,545	1867	7.7	Found swathed like a mummy in an Indian temple ruin.	1400
Chilkoot, U.S.A.	IIIA	43	1881	7.8	Regarded with veneration by the Indians.	1780
Gerzeh, Egypt	?	0.01	1911	?	Beads were found in royal graves; the evidence is not conclusive that they were of meteoritical origin	3,000 B.C.
Glorieta Mountain (Pojoaque), U.S.A.	Pall.	190,M	1884	11.9	A fragment was carried in the pouch of a medicine man.	1200
Havana, U.S.A.	IIIC	<0.1	1945	11.4	29 rounded beads were recovered from Hopewellian burial grounds.	0
Hopewell Mounds, (Brenham), U.S.A.	Pall.	4,300,M	1890	10.8	Small fragments were worked into beads and adzes by the Indians.	0
Huizopa, Mexico	IVA	140,M	1907	7.9	Five masses were found in an Indian ruin.	1400?
Iron Creek, Canada	IIIA	175	1871	7.7	Tribute was paid by Crees and Blackfeet Indians.	
Kaalijärv, Estonia	I	<1,M	1928	6.6	Ancient crater name means "Sacred Lake."	
Livingston (Montana) U.S.A.	IIIA	1.6	1936	7.4	Found in an Indian grave.	
Mbosi, Tanzania	Anom	16,000	1930	8.7	The huge mass was taboo to the natives.	
Mesa Verde, U.S.A.	I	3.5	1922	10.6	Found in ancient pueblo ruins.	1200
Morito, Mexico	IIIA	10,100	1600	7.6	Venerated by the Indians; landmark.	
Navajo, U.S.A.	IIB	2,180,M	1921	5.5	Believed to be a sacred monument of the Navajo Indians.	
Nedagolla, India	Anom	4.6	Fell 1870	6.1	After its fall, the meteorite was worshipped in the village temple.	
Oktibbeha, U.S.A.	Anom	0.2	1854	60	Found in an Indian tumulus. Fusion crust from the atmospheric flight is partially preserved.	
Red River, U.S.A.	IIIA	800	1800	7.7	Tribute paid by Indian tribes.	
Tamentit, Algeria	IIIA	510	1400	8.3	Regarded with veneration by the Arabs.	1400
Thunda, Queensland	IIIA	62	1886	8.2	Regarded with veneration by the Aborigines.	1800?
Ur, Chaldea, Iraq	?	0.1	1928	?	Two corroded oval blades were found together with a copper saw in a King's Grave. Meteoritic origin inconclusive.	2,500 B.C.
Uwet, Nigeria	IIA	55	1908	5.7	Tribute paid by the Nigerian tribes.	1825
Wabar, Arabia	IIIA	2,500,M	1887	7.4	Legends associated with the craters and the impactites.	1500?

Name	Group	Weight (kg)	Known since	Ni%	Remarks	Known to the natives since about –
Wichita County, U.S.A.	I	150	1836	6.8	Considered a powerful medicine stone by the Wichita Indians, Texas.	
Willamette, U.S.A.	IIIA	14,100	1902	7.6	Considered a powerful medicine stone by the Clackamas Indians, Oregon.	

Appendix 7.

The concentration of important, spallogenic noble gas nuclides. The cosmic-ray exposure ages in the last column have been determined by Voshage (1967; and personal communications).

Group I

	Name and specimen identification	Total mass	× 10^{-8}STPcm³ per gram				³He/⁴He	⁴He/²¹Ne	Ref.	$^{41}K/^{40}K$
		kg	³He	⁴He	²¹Ne	³⁸Ar				age,Myr
1.	*Annaheim	11.8	320	1208	3.31		0.265	365	3	
2.	Bischtübe	50	324	1358	3.40		0.239	399	3	825±80
3.	*Bogou	8.8	413	1673	4.72		0.247	354	3	560±80
4.	Bohumilitz	>59	165	589	2.24		0.288	262	1	
5.	Campo del Cielo	>44,000	1.3	6.7	0.011	0.09	0.194	611	2	
	Otumpa		<1	<4	<0.01	<0.04			8	
6.	Canyon Diablo	>10⁸	238	959	2.45		0.248	391	3	650±100
7.	Odessa No. 78/2	>10⁴	34	128	0.384		0.266	333	3	890±70
	No. 49/1		177	703	1.98		0.252	355	3	
	No. 49/2		1.6	7.4	0.020		0.218	370	3	
	No. 33.20		220	710	2.3	12.0	0.31	308	7	
	No. 83		44.5	185	0.478	2.60	0.242	395	8	
	No. 100		103	415	1.16	6.75	0.249	360	8	
	No. 97b		235	920	2.77	15.0	0.257	330	8	
8.	Osseo	46.3	329	1137	4.65	(19.2)	0.289	245	2;3	490±55
9.	Seeläsgen	102	95	398	1.05		0.240	379	3	
10.	Smithville	>70	36.8	152	0.346		0.242	439	1	
11.	Toluca No. 4a	>2,100	1.42	6.1	0.016	0.087	0.233	381	5	
	No. 729		100	295	0.8	2.4	0.34	369	7	
	No. 95		28.5	119	0.250	1.65	0.227	475	8	
12.	*Yardymly	153	663	2400	7.30		0.276	329	1	915±50
	No. 98		655	2540	8.15	43.5	0.258	310	8	
	No. 104		655	2510	8.15	42.5	0.260	310	8	
13.	Youndegin	>3,800	61	270	0.486		0.226	556	3	
	Group IIA									
14.	*Boguslavka	257	47	223	0.668		0.213	334	3	
15.	*Braunau	41	3.33	32.7	0.134		0.103	244	1	
16.	Cedartown	11.6	239	961	3.04		0.249	316	3	215±80
17.	Coahuila	>2,000	5.18	35.1			0.148		6	
18.	Keen Mountain	6.7	219	745	2.49		0.294	299	1	
	No. 19-23		210	760	2.95	13.5	0.277	260	8	
19.	Lombard	7	63	275	0.594		0.229	463	3	295±200
20.	Mayodan	30	13.5	150			0.090		6	
	No. 15		12	129	0.425		0.091	304	3	
21.	Negrillos	28.5	9.6	40	0.14	0.69	0.24	285	8	
22.	North Chile	>266								
	Coya Norte		26.1	192			0.136		6	
	Coya Norte		30.0	144	0.385	2.20	0.210	375	8	
	Filomena		19	110	0.225		0.177	489	3	
	Rio Loa		42.5	192			0.221		6	
	Rio Loa		31.5	140	0.360	2.10	0.226	390	8	
	San Martin		22	144	0.419		0.156	344	3	
	Tocopilla		58	280	0.93		0.207	301	3	
	Tocopilla		68.5	295	0.92	4.70	0.231	320	8	
23.	Uwet	55	1.3	14.7	0.032		0.096	459	3	
	Group IIIA									
24.	Cape York, metal	>60,000	0.5	5	0.01	<0.02	0.10	500	9	
	troilite		0.5	6	0.05	0.015	0.08	120	9	
25.	Casas Grandes	1,540	80	349	0.71		0.229	489	3	
	Casas Grandes		130	370	1.0	3.6	0.35	370	7	
	Center		54.0	245	0.515	3.25	0.220	475	8	
	Surface		133	560	1.38	8.30	0.238	405	8	
26.	Charcas No. 27	1,400	530	1980	6.30	33.5	0.266	315	8	
	No. 106		540	2040	6.75	34.5	0.264	300	8	
	Descubridora		156	675	1.56		0.232	433	3	510±110[a)]
27.	Costilla Peak	35.5	600	2055	7.68	34.0	0.292	267	2	
28.	Gundaring	113	572	2178	6.60	33.0	0.262	330	2	630±90

Group IIIA (cont'd)

	Name and specimen identification	Total mass kg	^{3}He	× 10^{-8}STPcm^3 per gram ^{4}He	^{21}Ne	^{38}Ar	^{3}He/^{4}He	^{4}He/^{21}Ne	Ref.	^{41}K/^{40}K age,Myr
29.	Kalkaska	9.4	387	1303	5.05	23.4	0.296	258	2	
30.	Kenton County	194	519	1791	7.22	33.3	0.289	248	2	650±55
	Williamstown		480	1920	6.0	26.4	0.25	320	7	
	Williamstown No. 85		465	1800	5.30	27.0	0.258	340	8	
	Williamstown No. 105		460	1800	5.25	29.0	0.256	340	8	
31.	Merceditas	43	545	2015	6.41	31.2	0.270	314	2	600±80
	No. PWG		565	2036			0.278		6	
	No. 114		540	2040	6.55	34.0	0.265	310	8	
32.	Murfreesboro	8.6	651	2344			0.278		6	
33.	Norfolk	23	639	2153	8.43		0.297	255	3	685±55
34.	*Norfork	1 ?	597	2244	6.37		0.266	352	3	700±80
35.	Puente del Zacate	30.7	543	2040	6.72	32.0	0.266	303	2	690±85
36.	Roebourne	86.8	134	550	1.73	8.9	0.244	318	4	
37.	Ruff's Mountain	53.1	35	222	0.67	3.4	0.158	331	4	
	No. 3a		39.8	238	0.71	3.45	0.167	335	5	
38.	Sacramento Mountains	237	245	920	3.19		0.266	288	3	300±60
39.	San Angelo	88	220	926	2.20		0.237	421	3	580±80
40.	Santa Apolonia	1,050	204	790	2.51	12.9	0.258	315	2	730±65
41.	Tamarugal	325	449	1770	5.31		0.254	333	3	585±85
42.	Thunda	62	574	2140	6.33		0.268	339	1	680±60
43.	Trenton	>500	370	1425	4.79	24.8	0.259	298	2	570±60
	No. 7		357	1447	4.28		0.247	338	3	
	No. 10		324	1356	3.76		0.239	361	3	
44.	Willamette	14,000	<1	<3	<0.02	<0.03			8	
	Group IVA									
45.	Bristol	20	375	1250	4.80		0.298	260	1	470±60
	No. HHN		347	1266			0.274		6	
46.	*Charlotte	4.0	321	1015	4.46	18.5	0.316	227	2	340±100
47.	Gibeon	>21,000	<1	<4	<0.02	<0.05			8	
48.	Hill City	11.7	260	923	3.70	16.3	0.282	250	2	435±90
49.	Huizopa	140	218	810	2.56	13.1	0.269	316	2	430±90
50.	Iron River	1.4	340	1085	4.67	19.0	0.313	232	2	360±70
51.	Jamestown	4.0	56	230			0.243		6	
52.	Maria Elena	15.5	459	1922	5.49		0.239	350	3	740±55
53.	Putnam County	32	326	1112	4.01	20.3	0.293	277	2	410±75
	No. HHN		361	1247			0.289		6	
54.	Smithland	10 ?	63.0	258			0.244		6	
55.	Yanhuitlan	400	174	663	1.95	10.6	0.263	340	2	370±55
	No. 162a		111	480	1.10		0.231	436	3	
	Group IVB									
56.	Cape of Good Hope	135	275	1180	2.52	15.1	0.233	468	2	630±70
57.	Chinga	>76	21.9	102			0.215		6	
58.	Hoba	60,000	53	224	0.48	3.1	0.236	466	2	300±110
	No. WJL		35	157			0.222		6	
59.	Skookum Gulch	15.9	728	2826	9.29		0.258	304	3	915±90
60.	Tlacotepec	71	627	2287	5.90		0.274	388	3	915±55
	No. HHN		544	2186			0.249		6	
61.	Weaver Mts.	38.8	288	1104	3.42	17.4	0.261	323	2	385±50
	No. LFB		287	1106			0.260		6	

Various

	Name and specimen identification	Total mass kg	Group	^{3}He	× 10^{-8}STPcm^3 per gram. ^{4}He	^{21}Ne	^{38}Ar	^{3}He/^{4}He	^{4}He/^{21}Ne	Ref.	^{41}K/^{40}K age,Myr
62.	Admire	>50	Pall.	62.5	270	0.775	3.85	0.231	350	8	
63.	Ainsworth	81	IIB	530	2160	5.97	32.5	0.245	362	2	
	Central Missouri		IIB	711	2866	7.20		0.248		3	1280±120
	Ponca Creek		IIB	517	2005	6.10	31.6	0.258	329	2	1190±100
64.	Arispe	683	I-Anom.	270	930	2.3	8.9	0.29	404	7	905± 90
65.	Ballinoo	42.9	IIC	11.4	109			0.105		6	

Various (cont'd)

Name and specimen identification	Total mass kg	Group	× 10^{-8}STPcm^3 per gram ^{3}He	^{4}He	^{21}Ne	^{38}Ar	^{3}He/^{4}He	^{4}He/^{21}Ne	Ref.	^{41}K/^{40}K age,Myr
66. Carbo, surface	450	IID	417	1700	4.30		0.245	395	1	>850
center			314	1380	3.20		0.228	432	1	
No. 1a			315	1319	3.28	17.5	0.239	402	5	
surface			410	1685	4.40	25.0	0.242	385	8	
center			280	1220	2.80	17.0	0.232	435	8	
67. Clark County	11.3	Anom.	1110	3810	13.2		0.293	289	1	1440±55
No. HHN			1118	4420			0.253		6	
No. 101			1095	3820	15.2	69.0	0.286	250	8	
68. Deep Springs	11.5	Anom.	1399	5168			0.271		6	2250±70
No. 102			1465	5460	17.7	90.0	0.268	310	8	
69. Glorieta Mt.	>190	Pall.	88	344	1.08	5.7	0.256	319	2	230±70
70. Grant	530	IIIB	456	1764	4.77	24.1	0.259	370	5	695±70
surface			550	1990	7.45	34.5	0.276	265	8	
center			440	1780	5.15	27.0	0.248	345	8	
71. *N'Goureyma	37.7	Anom.	298	1010	4.03		0.297	250	1	
72. Paneth's Iron b)	~100	IIIE	423	1530	4.40		0.277	348	1	
73. Rodeo	44	IID	284	1050	3.70	18.4	0.271	284	2	
74. Santa Rosa	>825	Anom.	112	479			0.234		6	
75. *Sikhote-Alin	>23,000	IIB	39.6	157	0.431		0.253	364	1	355±70
No. 2052			130	481	1.5	4.1	0.27	321	7	
Nos. 26, 78, 80			38.0	165	0.400	2.35	0.231	410	8	
No. 96			120	490	1.35	7.60	0.244	365	8	
No. 99			160	620	2.10	10.5	0.262	295	8	
No. 121			170	630	2.20	10.5	0.270	285	8	
76. *Treysa	63.3	IIIB	579	1920	7.47		0.302	257	1	620±60
77. Washington Co.	5.8	Anom.	146	3307	2.11		0.044	1567	3	575±80
No. 61			205	2180	2.77	13.5	0.095	790	8	
No. 70a			225	1810	2.94	14.5	0.117	620	8	
No. 70b			165	870	2.12	10.5	0.192	410	8	
No. 135a			265	2570	3.52	16.0	0.102	730	8	
No. 135b			225	1930	2.90	14.0	0.116	670	8	
78. Wiley	3.5	IIC	459	1517	5.05		0.303	300	3	740±90

Footnote a) The cosmic-ray exposure age probably about 600 Myr (Voshage, pers. comm.)
Footnote b) Previously mislabeled Toluca, see Supplement, Paneth's Iron.
*Indicates a fall.
References: 1) Hintenberger & Wänke 1964; 2) Schultz & Hintenberger 1967; 3) Hintenberger et al. 1967; 4) Schultz 1967; 5) Schultz et al. 1971; 6) Bauer 1963; 7) Schaeffer & Zähringer 1960; 8) Signer & Nier 1962; 9) Lew Levsky, personal communication, 1974.

Appendix 8.

List of Meteorite Collections

The sections marked "collections" under the descriptions of the individual meteorites comprise information regarding the actual whereabouts of the material. This information has been compiled from catalogs in the collections, personal visits to the collections and exchanges of letters with curators. It gives me great pleasure to be able to express my thanks for all the assistance I have received during these visits and in response to my enquiries.

Below, an alphabetical list of the most important collections is to be found. In addition, detailed reference is made to the lists and catalogs, old editions as well as new, upon which the work is founded. The complete list of literature references begins on p. 175.

Adelaide
South Australian Museum, North Terrace, Adelaide, South Australia.
Catalog: Corbett (1968), 90 entries.

Albuquerque
Institute of Meteoritics, University of New Mexico, Albuquerque, New Mexico 87106, U.S.A.
Catalog: LaPaz (1965), 110 entries.

Amherst
Pratt Museum, Amherst College, Massachusetts 01002, U.S.A.
Catalogs: Shepard (1872a); unpublished list from about 1960, approx. 350 entries.

Ann Arbor
University of Michigan, Ann Arbor, Michigan 48103, U.S.A.

Austin
University of Texas, Austin, Texas 78710, U.S.A.
Catalog: Barnes (1939a).

Bally
Museum Bally-Prior, Schönenwerd, Aarau, Switzerland.
Catalog: Dautwitz (1922).

Berlin
Mineralogisches Institut der Humboldt-Universität, Invalidenstrasse, Berlin N-4, Deutsche Demokratische Republik.
Catalogs: Rose (1864a); Klein (1889); Klein (1904a); Klein (1906); Wappler & Hoppe (1969), 506 entries.

Bloemfontein
The National Museum, P.O. Box 266, Bloemfontein, South Africa.
Catalog: Rudge (1912).

Bonn
Mineralogisches Institut der Universität, Liebfrauenweg 3, Bonn, Germany.
Catalogs: Rath (1875); Laspeyres (1895); Brauns (1926), 353 entries.

Braunschweig
Mineralogisch-Geologisches Institut, Technische Hochschule, Braunschweig, Deutschland.
Catalog: Heide (1919), 25 entries.

Bruxelles
Musée de l'Institut royal des sciences naturelles, 48 rue Vautier, Bruxelles.
Catalog: Dewalque (1905).

Budapest
Mineralogical-Petrographical Department, Hungarian National Museum, Múzeum-körút 14-16, Budapest VIII, Hungary.
Catalogs: Semsey (1886); Tokody & Dudich (1951); Ravasz (1969), 267 entries.

Buenos Aires
Museo Bernardino Rivadavia, Avenida Angel Gallardo 470, Buenos Aires, Argentina

Cairo
Al Mathaf al-Geologee (Geological Museum), Kasr al Enni Street, Cairo, Egypt.
Catalog: Attia et al. (1955).

Calcutta
The Geological Survey of India, 27 Chowringhee Road, Calcutta 13, India.
Catalogs: Oldham (1864); Brown (1916); Coulson (1940); Khan (1950), about 500 entries.

Cambridge
Department of Mineralogy and Petrology, University of Cambridge, Downing Place, Cambridge CB2 3EW, England.

Canberra
Australian National University, Canberra, A.C.T.
Catalog: Unpublished list (about 1965).

Capetown
South African Museum, Capetown.

Chicago
Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605, U.S.A.
Catalogs: Farrington (1895); Farrington (1903); Farrington (1916); Horback & Olsen (1965), 845 entries. See also: Ward (1900); Ward (1904a).

Copenhagen
Mineralogical Museum of the University, Øster Voldgade 5-7, 1350 Copenhagen, Denmark.
Catalogs: Forchhammer (1861), Ussing (1905), Buchwald & Munck (1965), 227 entries.

Denver
Meteorite Collection, Denver Museum of Natural History, Denver, Colorado 80202, U.S.A.
Catalog: Unpublished list by Murphy (1970), 138 entries.

Dorpat
see Tartu.

Dresden
Mineralogisches Museum, Dresden, Deutsche Demokratische Republik.
Catalogs: Purgold (1882); Schreibers (1912), 160 entries.

Dublin
Geological Section, National Museum of Ireland, Kildare Street, Dublin 2, Ireland.
Catalog: Seymour (1951).

Fort Worth
Texas Observers, Oscar E. Monnig, 29 Chelsea Drive, Fort Worth, Texas 76134, U.S.A.
Catalog: Barnes (1939a).

Frankfurt
Natur-Museum Senckenberg, Senckenberganlage 1, 6 Frankfurt am Main, Germany.
Catalog: Unpublished list (1974), about 40 entries.

Göttingen
Mineralogisch-Petrologisches Institut der Universität, Wilhelmsplatz, Göttingen, Germany.
Catalogs: Wöhler (1865); Klein (1879); Koritnig (1962), 230 entries.

Graz
Steiermark Landesmuseum, Graz, Austria.
Catalog: Sigmund (1924), 44 entries.

Greifswald
University. Catalog: Cohen (1904), about 300 entries.

Hamburg
Mineralogisch-Geologisches Institut, Hamburg, Deutschland.
Catalog: Horn (1912), 146 entries.

Harvard
Mineralogical Museum, Harvard University, 24 Oxford Street, Cambridge, Massachusetts 02138, U.S.A.
Catalogs: Smith (1876b); Huntington (1888); Palache (1926b); Frondel (1965), 524 entries.

Heidelberg
Max Planck Institut für Kernphysik, Saupfercheckweg 1, 69 Heidelberg, Germany.

Heidelberg
Department of Geology, Heidelberg University, Germany.

Helsinki
University of Helsinki, Etelä Hesperiankatu 4, Helsinki 10, Finland.
Catalog: Unpublished manuscript. (about 1968).

Kazan
Geological-Mineralogical Museum, V.I. Ulyanov State University, Ul. Lenina 18, Kazan, USSR.
Catalog: Selivanovskij & Kashtanov (1939).

Kiev
Academy of Sciences of the Ukrainian SSR, Kiev, USSR.
Catalog: Suschytskij (1948).

La Plata
Museo de La Plata, Paseo del Bosque, La Plata Argentina.
Catalogs: Kantor (1921); Radice (1959).

Leningrad
Gornyi Muzei (Mining Museum), Vasilievsky Ostrov 21, Linija 2, Leningrad, USSR.
Catalog: Kuznetsova (1955), 194 entries.

Leningrad
Geological Faculty, A.A. Zhdanov State University, Universitetskaya Nab 7-9, Leningrad, USSR.
Catalog: Rimskaya-Korsakova (1958), 55 entries.

Lisbon
Servico Meteorologico Nacional, R. Saraiva de Carvalho 2, Lisboa 3, Portugal.
Catalog: Pinto (1932); Jérémine (1954).

London
British Museum (Natural History), Cromwell Road, London, S.W. 7. England.
Catalogs: Buchner (1862); Story-Maskelyne (1877); Fletcher (eleven editions between 1881 and 1914); Prior (1923a); Prior (1953); Hey (1966), 1,121 entries.

London
Geological Survey Museum, Exhibition Road, London S.W. 7, England.

Los Angeles
Institute of Geophysics and Planetary Sciences, University of California, Los Angeles, California 90024, U.S.A.
Catalog: Rowland (1963), 192 entries.

Los Angeles
Griffith Observatory of the City of Los Angeles.

Madrid
Museo Nacional de Ciencias Naturales, 84 Paseo de la Castellana, Madrid, Spain.
Catalog: Navarro (1923).

Mainz
Max Planck Institut für Chemie, Saarstrasse, Mainz, Germany.
Catalog: Unpublished list (about 1965, 220 entries).

Mexico
Institute of Geology, R. Cipres, Mexico City, Mexico.
Catalog: Haro (1931), about 45 entries.

Milano
Museo Civico di Storia Naturale di Milano, Corso Venezia 55, Milano 20121, Italy.
Catalog: Michele (1965), 52 entries.

Modena
Mineralogical Institute, University of Modena, Via dell'Universitá, Modena, Italy.
Catalog: Donati (1960), 17 entries.

Moscow
Committee on Meteorites, Academy of Sciences, Ul. M. Ulianovoy 3, Korpus 1, Moskva 117,313, USSR.
Catalogs: Kulik (1941a); Krinov (1945a); Krinov (1947); Kvasha (1962), 277 entries.

Napoli
Instituto di Mineralogia, Universita di Napoli, Via Mezzcannone 8, Napoli, Italy.
Catalog: Fiore (1930).

New York
American Museum of Natural History, Central Park West at 79th Street, New York, N.Y., U.S.A.
Catalogs: Hovey (1896); Reeds (1937); Mason (1964), 850 entries.

New York
City University of New York, New York, N.Y., U.S.A.
Catalog: Sickels (1917), 19 entries.

Oshkosh
Oshkosh Public Museum, 1331 Algoma Boulevard, Oshkosh, Wisconsin 54901, U.S.A.

Oslo
Mineralogisk-Geologisk Museum, Universitetet, Sars Gate 1, Oslo 5, Norway.
Catalog: Griffin (1974, in press), 90 entries.

Ottawa
National Meteorite Collection, Museum of the Geological Survey, 601 Booth Street, Ottawa 4, Canada.
Catalogs: Millman (1938); Millman (1953); Dawson (1963); Douglas (1971), 292 entries.

Paris
Collection de Minéralogie, Muséum National d'Histoire Naturelle, 57 Rue Cuvier, Paris-5^{e}, France.
Catalogs: Meunier (1893a); Labat (1909); Lacroix (1927c). Catalog in preparation, about 600 entries.

Perth
Western Australian Museum, Beaufort Street, Perth, Western Australia.
Catalog: McCall & de Laeter (1965); about 110 entries. McCall (1968b).

Perúgia
Institute of Mineralogy University of Perugia, Italy.
Catalog: Baldanza et al. (1969), 28 entries.

Philadelphia
Academy of Natural Sciences, 19th and the Parkway, Philadelphia, Pennsylvania 19103, U.S.A.
Catalogs: Gordon (1933); Barringer (manuscript list 1962), 124 entries.

Prague
Department of Mineralogy, National Museum, Václavské Námésti 1700, Praha 1, Czechoslovakia.
Catalogs: Vrba (1904); Tuček (1958); Tuček (1966), 272 entries.

Pretoria
The Geological Survey Museum, Private Bag 112, Pretoria, South Africa.
Catalog: Steyn (1957).

Raleigh
North Carolina Museum of Natural History, Salisbury Street, Raleigh, North Carolina 27601, U.S.A.

Riga
P. Stuchka State University, Boulevard Rainisa 19, Riga, Latvian SSR.
Catalog: Schweder (1912), 42 entries.

Rio de Janeiro
Museu Nacional, Quinta da Boa Vista, Rio de Janeiro, Brazil.
Catalog: Oliveira (1931).

Rome
Istituto di Mineralogia e Petrografia della Universita di Roma, Citta Universitaria, Roma, Italy.
Catalog: Millosevich (1928), 192 entries.

San Francisco
Museum of the California Academy of Sciences, Golden Gate Park, San Francisco 18, California U.S.A.
Catalog: Linsley (1934).

San Francisco
Mineral Exhibit, California Division of Mines and Geology, Ferry Building, San Francisco, California, U.S.A.
Catalog: Linsley (1934); Butler & Mathews (1966).

Sarajevo
Geological Department of the National Museum, Vojvode Putnika 7, Sarajevo, Yugoslavia.
Catalog: Ramović (1965), 65 entries.

Saratov
Mineralogical Museum, Chernyshevsky State University, Astrakhanskaya 83, Saratov, USSR.
Catalog: Vasilev (1949).

Sofia
Musée Minéralogique, Faculté de Géologie et de Géographie, Université de Sofia, Sofia, Bulgaria.
Catalog: Kostov (1960).

St. Louis
Museum of Science and Natural History, Oak Knoll Park, St. Louis, Missouri 63105, U.S.A.
Catalog: Unpublished list by W.S. Houston (1955), 25 entries.

Stockholm
Naturhistoriska Riksmuseum, Frescati, Stockholm, Sweden.
Catalog: Nordenskjöld (1870a); Lindström (1884); unpublished list (about 1960), 285 entries.

Strasbourg
Collection de Minéralogie, Faculté des Sciences, 2 Rue de Toussaint, 67 Strasbourg, France.
Catalog: Bruhns (1903); Weil & Siat (1947), 278 entries.

Sydney
Australian Museum, 6-8 College Street, Sydney South, New South Wales, Australia.
Catalogs: Anderson (1913); Hodge-Smith (1939); Unpublished list (about 1965), about 160 entries.

Taipei

Institute of Geophysics, National Central University, 47 3rd Section Hsin-I Road, Taipei, Republic of China (Formosa).

Catalogs: Dyakonova (1959).

Tartu (previously Dorpat)

Geological Institute, Academy of Sciences of the Estonian SSR, Tartu, Estonian SSR.

Catalogs: Loewinson-Lessing (1897); Orviku (1955); Aaloe & Nestor (1963), 186 entries.

Tempe

Arizona State University, Tempe, Arizona 85281, U.S.A.

Catalog: Moore & Lewis (1964), about 700 entries; Karr et al. (1970), about 800 entries.

Tokyo

National Science Museum, Ueno Park, Taito-ku, Tokyo-to, Japan.

Catalog: Murayama (1953; 1960).

Torino

Instituto Mineralogia di Universita di Torino, Via S. Massimo 24, Torino, Italy.

Tübingen

Mineralogisch-Petrographisches Institut der Eberhard-Karls Universität, Wilhelmstrasse 56, Tübingen 74, Germany.

Catalogs: Brezina (1896); Machatschki (1940); Weisskirchner (1969), about 300 entries.

Tucson

College of Mines, Department of Geology, The University of Arizona, Tucson, Arizona 85721 U.S.A.

Uppsala

Mineralogisk Institut, Universitetet, Uppsala, Sweden.

Catalog: Högbom (1900), 86 entries.

Urbana

Natural History Museum, University of Illinois, Urbana, Illinois, U.S.A.

Utrecht

Geological-Mineralogical Institute, Oude Gracht 320, Utrecht, The Netherlands.

Vatican

Meteorite Collection of the Vatican Observatory, Castel Gandolfo, Vatican, Italy.

Catalogs: Mauroy (1913); Salpeter (1957), 430 entries.

Vienna

Mineralogisch-Petrographisches Abteilung, Naturhistorisches Museum, Burgring 7, Wien 1, Austria.

Catalogs: Noehden (1817); Schreibers in Chladni (1819); Partsch (1843); Haidinger (1860c); Buchner (1862); Tschermak (1872a); Brezina (1885); Brezina (1896); Berwerth (1903), about 580 entries.

Vilno

Lithuanian SSR.

Catalog: Vasiljev (1969).

Warsaw

Muzeum Ziemi, Aleja na Skarpie 20-26, Warszawa, Poland. And: Institute of Geology of the Polish Academy of Sciences, Aleja Zwirki i Wigury 6, Warszawa.

Catalog: Pokrzywnicki (1964), 50 entries.

Washington

United States National Museum, Smithsonian Institution, Constitution Avenue at 10th Street, Washington, D.C. 20560, U.S.A.

Catalogs: Clarke (1889); Tassin (1902a); Merrill (1916a). Presently about 1,250 different meteorites.

Yale

Peabody Museum of Natural History, Yale University, New Haven, Connecticut, U.S.A.

Catalogs: Dana (1886); Washington (1897); Servos (1956); Turekian (1966), 314 entries.