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METEORITE NEWSLETTER

JAPANESE COLLECTION OF ANTARCTIC METEORITES

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INTRODUCTION

Classification and Description of Antarctic Meteorites

The Japanese collection of Antarctic meteorites increases in number up to about 16200. These meteorites are continuously classified by stuff of Antarctic Meteorite Research Center, NIPR.

Followings are the members for the classification of this volume:

Macroscopic description of meteorite;
Kojima H. and Kiso H.
Microscopic description and classification of chondrites;
Noguchi T. (-A-881100) and Kojima H.
Microscopic description and classification of achondrites and stony irons;
Yamaguchi A.

This newsletter is the seventh report including the classification of 681 Asuka-88 and 1 Yamato98 meteorites larger than 10g in weight.

Meteorite	C.	Wt.(g)	%Fa	Range	%Fs	Range	F.	W.	Comments
A-881026	H3	112.90	18.2	13.8-27.2	14.0	1.7-21.4	B	B	with H6 clasts
A-881027	H6	19.91	19.2		16.7		A	B	shock melt veins
A-881028	H5	68.81	18.1		15.8		A	B	
A-881030	L6	11.95	25.1		21.0		A	A/B	
A-881031	H5	49.25	19.7		17.1		A	A/B	
A-881032	L6	14.62	24.6		20.6		A	B	recrystallized after brecciation
A-881033	LL3	155.59	30.2	12.6-32.3	23.7	19.9-25.7	A/B	B	polymict breccia with LL6 clasts
A-881034	H4	45.66	19.2		16.7		A	B	
A-881035	H4	22.03	19.6		17.3		A	B	
A-881036	L5	732.82					A	A/B	
A-881037	H5	437.54	18.0		15.6		A	B	
A-881038	L6	89.00	24.8		21.1		A	C	
A-881039	H4	138.75	17.6		15.7		A/B	B	
A-881040	H4	45.35	18.7		16.4		A	B	
A-881041	H4	57.73	18.9		16.6		A	B	
A-881042	H4	227.94	18.8		16.4		A/B	B	
A-881043	H	390.47	19.6		16.3		A	B	shock darkened
A-881044	L5	379.08	24.3		20.2		A	B	
A-881045	L6	99.60	24.3		20.8		A	B/C	
A-881046	H4	91.38	18.3		16.0		A	B	
A-881047	H4	38.70	18.6		16.5		A	B	
A-881049	H4	21.79	18.3		15.8		A	B	
A-881051	H4	54.80	18.5		16.4		A	B	
A-881052	L6	130.07	24.6		20.5		A	B	
A-881053	H4	45.06	17.3		15.3		A/B	B	
A-881054	H6	65.84	18.5		16.4		A	B	
A-881055	H4	74.57	25.5		21.1		A	A/B	
A-881057	H5	182.01	24.3		20.6		A	B	
A-881058	H4	393.47	18.5		15.9		A/B	B	
A-881059	H4	962.50	16.7		15.0		A	B	
A-881061	H4	1244.18	17.5		15.3		A	B	
A-881062	H4	91.49	17.4		15.1		A	B	
A-881063	H6	78.86	20.0		16.7		A/B	B/C	
A-881064	L6	53.29	25.2		21.7		A/B	B	
A-881065	H5	41.74	18.3		15.9		A/B	B	
A-881066	H	144.68	19.5		16.3		A	B	shock darkened
A-881067	L6	627.34	24.2		20.1		B	B	
A-881068	H4	23.84	18.1		15.7		A	B	
A-881069	H4	32.75	18.1		16.3		A	B	
A-881071	H4	52.07	17.4		15.4		A	B	
A-881072	H	87.38	17.7		16.6		A	C	shock darkened
A-881073	H5	3437.00	18.8		16.4		B	B	
A-881074	L5	111.53	25.3		21.2		A	B	
A-881075	H	1015.56	19.7		16.7		A	B	shock darkened
A-881076	H4	107.71	17.9		16.1		A	B	with H6 clasts
A-881077	LL3	136.44		0.5-32.0		0.7-26.1	A	B	
A-881078	H4	58.95	18.1		15.9		A	B	
A-881079	H5	44.34	18.7		16.6		A/B	B	
A-881080	H4	229.36	18.4		16.6		A/B	B	
A-881081	H4	53.49	18.3		16.5		A	B	
A-881082	H4	24.21	19.1		16.5		A	B	
A-881083	H4	176.27	19.2		16.7		A/B	B	
A-881084	H5	76.44	17.1		14.9		A	B	
A-881085	H4	82.45	18.2		15.7		A	B	
A-881086	H4	23.99	17.9		15.8		A	B	
A-881087	H4	269.10	18.7		16.3		A	B	
A-881088	L3	97.07	24.1	22.4-29.9	18.6	4.1-21.3	A/B	B	

A-881089	L6	9.90	24.2		20.2		A	B	
A-881090	L4	142.79	24.1		20.3		A/B	B	
A-881091	L6	1049.54	24.4		20.4		A	B	
A-881092	L3	4188.00					A	A	with L6 clasts
A-881093	H4	26.32	19.7		17.1		A	B	
A-881095	L5	64.82	25.1		21.0		A	B	
A-881096	L4	285.52	23.9		19.0		A/B	B	
A-881097	H4	97.64	19.2		16.3		A/B	B	
A-881098	L6	54.21	24.0		21.4		A	B	
A-881099	CO3	98.35					A	A/B	
A-881100	L6	52.01	24.5		20.4		A	B	
A-881101	LL4	204.18	29.3		24.5		A/B	A	breccia with LL6 clasts
A-881103	H5	181.88	20.5		16.9		A	B	shock darkened
A-881104	H5	82.59	19.5		16.3		A/B	B	shock darkened
A-881105	LL4	89.59	28.7		22.2		A	A	breccia with LL6 clasts
A-881106	H5	22.58	19.7		16.7		A	B	shock darkened
A-881107	H5	83.47	19.4		16.4		A/B	B	shock darkened
A-881108	H5	58.72	19.5		17.1		A/B	B	shock darkened, large metal (~3mm)
A-881109	H5	47.25	20.2		17.3		A	B/C	shock darkened, metal vein (~10mm)
A-881110	H5	43.50	18.8		16.2		A	A/B	partly shock darkened
A-881112	H4	60.63	18.9		16.6		B	B	
A-881113	H5	23.72	18.2		16.1		A	B	
A-881114	Dio	37.90				24.1-26.7	A/B	A/B	see separate entry
A-881115	H6	53.08	18.9		16.5		A	B	
A-881116	L5	62.18	24.4		20.8		A	B	
A-881117	H4	37.50	18.6		16.2		A	B	
A-881118	H4	32.16	18.1		16.0		A	B/C	monomict breccia
A-881120	H5	326.76	18.8		16.4		A	B	
A-881121	H5	49.52	18.7		16.3		A	B	
A-881122	H4	25.56	18.7		16.3		A	A/B	
A-881123	H	30.23	17.8		15.6		A/B		breccia, two stage gardening
A-881124	L3	1136.80	23.0	10.2-25.4	19.2	2.2-20.9	A/B	A/B	breccia with L6 clasts
A-881125	L3	403.02	23.7	17.3-26.0	19.0	2.0-24.2	A/B	A/B	breccia withL6 clast
A-881126	L6	140.14	24.4		20.5		A	A/B	plagioclase rich
A-881127	L6	161.93	24.6		20.7		A/B	B	partly shock darkened
A-881128	L6	75.04	24.3		20.4		A	B/C	
A-881129	H4	58.55	18.4		16.2		A/B	C	
A-881130	H4	44.69	18.3		16.0		A	B	
A-881131	H5	374.20	18.1		15.6		A	A/B	monomict breccia
A-881132	H4	89.94	17.2		15.2		A	B	
A-881133	H	129.14	20.0		17.0		B	B/C	shock darkened breccia
A-881135	H4	123.90	18.5		16.6		A/B	B	
A-881136	H4	19.04	18.3		15.8		A	B	
A-881137	H6	43.59	18.1		15.9		A/B	B/C	
A-881139	L6	403.91	25.0		20.5		B	A	pl rich
A-881140	L3	229.85	23.7	22.3-26.5	19.6	7.3-32.7	A/B	A/B	with L6 clast, large chondrule (~4mm
A-881141	H6	25.02	19.2		16.8		A	A/B	
A-881142	L5	373.53	23.9		20.0		A/B	A/B	
A-881143	H4	181.78	18.3		15.8		A/B	B	
A-881144	H4	306.21	18.7		16.2		A	B	
A-881145	L6	340.31	24.8		20.4		A	A/B	metal vein
A-881146	LL3	1989.35	29.9	22.2-23.9	24.5	19.5-26.8	A	A	with LL6 clast
A-881147	H5	32.05	18.5		16.4		A	A/B	breccia
A-881148	H5	72.26	18.5		15.7		A	A/B	breccia
A-881150	L5	225.27	24.7		20.3		A	A/B	shock vein
A-881151	H6	204.42	19.9		16.9		A	B	shock darkened
A-881153	H6	86.70	21.1		16.9		A/B	C	shock darkened
A-881154	Mes	688.13					B	B/C	see separate entry

A-881155	H6	74.10	20.1		16.9		A	C	shock darkened
A-881156	H6	63.46	18.1		16.0		A/B	B/C	
A-881157	H4	387.61					A/B	B	shock vein
A-881158	H4	45.18	18.3		16.0		A	A/B	
A-881159	H5	23.63	18.2		15.8		A	B/C	breccia
A-881160	H4	107.16	18.4		16.5		B	B/C	
A-881161	H3	19.52	19.0	0.3-29.3	14.6	1.0-27.1	A/B	A/B	
A-881162	LL3	69.40		0.5-37.6		2.0-23.4	A	A	
A-881163	L6	111.77	25.9		21.0		B	A/B	pl rich
A-881165	H4	59.98	18.5		16.3		A	A/B	
A-881166	L3	340.69	22.7	14.2-25.5	20.2	18.6-22.2	A/B	A	see separate entry
A-881167	L3	243.55	22.9	12.8-25.4	20.3	17.5-21.9	A/B	A/B	with L6 clasts
A-881169	H4	24.92	17.9		15.6		A	B	
A-881170	How	26.41					A	A	see separate entry
A-881171	LL4	68.16	27.4		22.3		A	A	
A-881172	H4	88.93	18.3		16.0		A	B	
A-881173	H3	20.51	18.0	17.5-18.9	15.4	10.7-17.3	A	B	
A-881174	H3	64.69	17.6	17.1-18.2	14.8	5.6-17.8	B	B	
A-881175	LL4	64.84	30.1		24.6		B	A	with LL6 clasts
A-881176	H4	32.43	18.1		15.8		A/B	B	
A-881177	H6	252.05	18.9		16.8		A	B/C	
A-881178	H	84.87	20.2		17.5		A	C	shock darkened
A-881180	H5	73.33	18.8		16.3		A/B	B	
A-881181	L3	198.30	22.3	11.1-27.2	17.4	5.7-21.5	A	A	
A-881182	H4	16.21	18.5		16.2		A	A/B	
A-881183	L3	114.03	23.8	23.0-24.7		7.9-22.5	A/B	A/B	with L6 clasts
A-881185	L3	362.20	22.0	6.8-25.6		6.5-21.0	A	A/B	with L6 clasts
A-881186	H3	29.23	17.8	17.4-18.6		12.7-16.1	A	C	
A-881187	H4	49.30	17.7		15.4		A	A	
A-881189	L6	63.97	24.3		20.1		A	A	
A-881190	L3	193.35	24.5	23.4-25.5		5.3-24.5	A/B	B	with L6 clasts
A-881191	H5	92.81	17.7		15.5		A	C	
A-881192	H5	83.34	18.5		15.8		A	A/B	
A-881193	L3	15.05	23.1	22.5-23.7	18.9	7.7-20.9	A	A	with L6 clasts
A-881196	L3	29.01	23.5	22.8-25.6	18.6	5.3-20.8	A	A	with L6 clasts
A-881198	H6	11.66	18.0		15.9		A	A/B	
A-881199	LL3	604.31		0.6-23.2		0.8-36.3	A	A	
A-881200	H4	127.17	18.1		15.8		A	A/B	
A-881201	H4	15.25	18.1		16.1		A/B	B	
A-881202	H4	46.94	18.0		15.6		A/B	B	
A-881203	H6	15.78	17.9		15.8		A	A	breccia, not weathered
A-881204	L6	587.06	23.9		20.0		A/B	B	
A-881205	H6	31.09	17.8		15.7		A	A	breccia
A-881206	H4	793.12	17.1		15.7		A	B/C	with H4 clasts
A-881207	H5	20.08	18.6		16.2		A	B	
A-881208	H6	344.69	18.9		16.4		B	B/C	
A-881209	H5	152.34	17.9		15.8		A/B	B/C	
A-881210	Dio	40.16				22.9-25.4	A	A	see separate entry
A-881212	H3	97.50	16.1	2.5-24.9		1.5-29.8	A	B/C	
A-881213	H6	146.28	18.5		16.5		A	B/C	
A-881214	H4	111.24	18.0		15.8		A/B	B/C	
A-881215	L6	233.84	24.9		20.6		A/B	A/B	
A-881216	H3	119.32	16.5	15.8-17.5		6.3-24.6	A	B/C	
A-881217	H4	311.00	18.4		15.9		B	B/C	
A-881218	H4	28.00	18.4		16.5		A/B	B	
A-881219	H4	83.29	18.1		15.9		A/B	B/C	
A-881220	Ure	48.97					A	A	see separate entry
A-881221	Euc	23.53					A	A	see separate entry

A-881222	H5	121.55	18.3		16.2		A	B/C	
A-881223	H5	379.74	18.1		15.8		A	B	
A-881224	H4	34.12	18.5		16.4		A/B	B	
A-881225	L4	452.33	23.9		20.1		A/B	A	
A-881226	H6	88.49	18.9		16.3		A	B	shock melt network
A-881227	H5	91.54	18.4		16.2		A	B/C	
A-881228	H6	67.98	18.6		16.1		A	B/C	
A-881229	L4	1321.22	24.0		20.3		A/B	B	
A-881230	H6	526.24	18.4		16.1		A	B	pl rich
A-881231	H4	44.82	18.8		16.3		A	A/B	
A-881232	L6	24.66	24.9		20.9		A	A	
A-881233	L6	233.16	25.0		21.0		A	A/B	
A-881235	H4	47.24	18.9		16.4		A	B	
A-881236	H3	198.93	17.6	1.4-21.7		2.8-27.1	A/B	A/B	
A-881237	H6	102.79	19.8		17.0		A	B/C	
A-881238	H5	22.02	18.3		16.0		A	B/C	
A-881239	Dio	42.35				22.1-25.6	A	A/B	see separate entry
A-881240	H3	49.11	18.2	8.6-21.4	16.0	10.2-23.9	A/B	B	with H6 clasts
A-881241	L4	403.41	24.5		20.4		A	A	
A-881242	H3	15.16	18.7		16.0	7.5-19.2	A	B	
A-881243	H5	124.18	18.9		16.4		A	A/B	
A-881244	L3	164.11		0.3-21.7		0.9-39.9	A/B	A	
A-881245	H5	217.62	18.8		16.4		A	B/C	
A-881246	H4	57.07	19.0		16.6		A	B	
A-881247	EL6	22.50				0.1-0.4	B	B	
A-881248	H4	70.21	18.6		16.2		A	A	
A-881249	H3	582.25	17.5	2.8-29.0		2.1-20.8	A	B	with H6 clast
A-881250	H4	128.03	18.4		15.8		A	B	
A-881251	H4	19.21	18.1		15.8		A	B	
A-881253	H4	71.05	17.1		15.0		A	A/B	
A-881254	H4	23.91	18.2		15.6		A	B	
A-881255	H5	21.69	18.4		16.4		A	B	monomict breccia
A-881256	CO3	46.77		0.2-61.6		0.5-24.4	A	A	
A-881257	LL6	74.74	30.5		25.2		A/B	B	monomict breccia
A-881258	H3	274.09	18.8	17.5-25.7	16.8	10.2-29.2	B	B	
A-881259	H4	79.16	18.7		16.5		A	B	
A-881260	H4	49.68	18.3		16.1		A	B	
A-881261	H5	62.94	18.6		16.0		A/B	C	
A-881262	H4	88.13	18.0		15.8		A	B	
A-881263	H3	133.48	17.9	2.4-26.6	14.6	3.3-24.4	A	B/C	
A-881264	LL4	17.93	30.8		23.7	16.6-25.9	A	A	breccia with LL6 clasts
A-881265	L6	712.03	25.8		21.5		A/B	A/B	
A-881266	L6	156.38	24.9		21.0		A	A/B	
A-881267	H4	60.49	18.8		16.4		A	B/C	
A-881268	H5	105.30	18.4		15.8		A	A/B	
A-881269	H4	84.13	18.8		16.2		A	B/C	
A-881270	H4	97.35	18.8		16.1		A	B/C	
A-881271	H6	53.97	19.4		16.9		A	B/C	
A-881273	L6	87.27	25.2		21.0		A	A	many thickmelt veins
A-881274	H4	107.41	17.1		15.3		A	B/C	
A-881275	H4	140.11	18.8		16.1		A/B	B/C	
A-881276	H5	31.84	19.3		16.8		A	C	
A-881277	CK5	129.57	30.3				A	B	
A-881279	CO3	38.30		0.2-47.0		0.3-7.5	A	B	
A-881280	CM2	48.47	4.2	0.3-32.6			A	A	
A-881281	L6	27.20	23.8		20.3		A	A/B	
A-881282	L6	215.96	24.7		20.5		A	B	
A-881283	H3	161.56	18.0	10.7-21.1	15.1	7.7-32.2	B/C	B	with H6 clasts

A-881285	H6	96.91	19.1		16.5		A	B	
A-881286	H4	39.06	18.3		15.9		A	B/C	
A-881287	LL6	48.92	29.8		23.2		B	A	
A-881288	H4	60.98	17.7		15.5		A	B	
A-881289	LL6	131.53	29.3		23.5		A	A	
A-881291	H5	20.68	18.4		16.2		A	B	
A-881292	LL6	67.53	31.2		25.5		A	A	
A-881293	H4	92.91	17.7		15.5		A	A/B	
A-881294	L3	30.72	25.9		19.7	6.7–26.3	A	B	with L6 clasts
A-881295	H4	11.19	18.5		16.5		A	B/C	
A-881296	H4	15.08	18.7		16.3		A	A	
A-881297	H5	22.80	18.7		16.7		A	B/C	
A-881298	H3	123.21	19.8		14.5	3.1–24.5	A	A	
A-881299	H4	30.85	18.5		16.2		A/B	B/C	
A-881300	H5	46.29	17.6		15.4		A	B/C	
A-881303	H5	23.12	18.4		16.3		A	B/C	
A-881304	L5	12.42	24.9		20.4		A	A	
A-881305	H6	72.78	19.1		16.7		A	B/C	
A-881306	L5	67.96	24.6		20.3		A	A/B	
A-881309	H3	14.62	18.9		15.7	13.0–19.3	A	B/C	
A-881310	LL6	28.37	30.7		25.0		A/B	B	
A-881311	H5	51.16	18.2		15.8		A	B/C	
A-881313	LL3	19.26	28.9	16.4–32.1	22.0	6.9–25.4	A/B	A	with LL6 clasts
A-881314	EL3	24.23			0.6	0.0–8.9	A/B	C	monomict breccia
A-881315	LL6	13.40	30.3		24.5		A	B/C	
A-881317	CV3	57.29		0.1–19.2		0.5–4.1	A	A	
A-881318	H5	82.71	18.4		16.1		A	A	
A-881320	L4	20.15	24.7		18.5		A	A/B	
A-881323	H6	30.62	19.2		16.5		A	B	unshocked
A-881324	L3	179.65	23.9	5.5–27.1		2.7–36.6	A	A	
A-881326	L6	20.33	24.8		20.8		A	A	
A-881327	LL3	31.15		0.4–33.5		0.7–33.5	A	A	
A-881328	LL3	13.09		0.2–30.6		0.7–31.1	A	A/B	
A-881329	L3	39.25		7.4–26.2		1.9–23.6	A	A/B	
A-881330	H6	14.99	19.3		16.7		A	B/C	
A-881331	H4	32.85	18.4		16.4		A	B/C	
A-881332	H4	134.72	18.5		16.2		A/B	B/C	
A-881334	CM2	34.05		0.2–32.1		0.6–6.3	A	A	
A-881337	H4	62.09	18.4		16.5		A	A/B	
A-881338	H4	11.33	17.2		15.3		A/B	B/C	
A-881339	H5	21.25	19.1		16.9		A	A/B	
A-881340	H3	14.91	18.4		16.4	15.0–24.9	A	B	
A-881341	H3	32.38	18.0	9.3–20.3	15.7	5.5–19.3	A	B	
A-881342	H4	58.46	18.9		16.1		A	A/B	
A-881344	LL3	18.32		0.4–33.3		0.9–24.6	A	A	
A-881345	H5	17.13	18.6		16.1		A	A/B	see separate entry
A-881346	L6	173.32	24.8		20.9		A	A	shock melt network
A-881348	L3	68.33	24.3		16.1	6.3–27.7	A	A/B	
A-881350	L3	52.22	24.4		15.6	1.8–30.1	A	A	
A-881352	L6	18.72	24.9		20.7		A	B	melt vein
A-881354	L6	726.09	25.0		20.8		A	A/B	
A-881355	H6	122.76	19.2		16.6		A	B	
A-881356	L6	1403.55	24.5		20.6		A	A/B	
A-881357	LL3	59.11		0.3–29.4		1.4–34.6	A	A/B	
A-881358	H4	42.27	18.4		16.7		A	B/C	
A-881359	H5	14.93	19.0		16.7		A	A	
A-881360	H5	66.48	18.2		15.4		A/B	B	shock darkened
A-881361	H4	50.67	17.4		15.3		A/B	B/C	

A-881363	L4	105.42	25.7		21.4		A	A/B	
A-881365	H4	277.04	17.1		15.0		B	B	
A-881366	L6	13.33	24.2		20.1		A	B	
A-881367	H4	17.51	17.0		15.0		A	B	
A-881372	L6	102.09	24.3		20.4		A	C	
A-881373	L6	135.19	24.2		20.3		A	B	
A-881374	H3	44.95	18.6		16.1	12.3–20.1	A	B	
A-881375	L5	173.54	23.1		19.6		A	B/C	
A-881376	H4	429.67	18.1		15.7		A	C	unshocked
A-881378	H4	17.61	17.6		15.5		A	B/C	unshocked
A-881379	L6	33.68	24.4		20.2		A	A	
A-881380	H4	1202.08	16.6		14.7		A	B/C	
A-881382	H3	22.05	17.7	8.3–19.9	15.3	3.3–20.6	A	A/B	
A-881383	H4	212.35	18.9		16.1		A	C	unshocked
A-881385	L6	313.86	25.0		20.9		A	B/C	
A-881386	H3	21.57	18.7		16.3	6.4–21.3	A	A/B	
A-881387	H3	24.37	17.3	7.5–19.5	13.5	1.7–18.6	A		
A-881389	L6	47.33	25.2		21.1		A	A	
A-881390	H4	456.13	18.4		16.1		A	C	unshocked
A-881391	H4	30.46	18.7		16.3		A	C	unshocked
A-881392	H6	51.49	19.3		16.6		A	B/C	unshocked
A-881395	L6	2140.93	25.4		21.3		A/B	B	
A-881396	H4	141.38	18.7		16.2		A	C	
A-881397	LL3	38.50		0.5–35.6		0.7–35.5	A	B	
A-881399	L3	18.31	24.0	10.1–26.8	19.9	7.3–25.0	A	A/B	with L6 clasts
A-881400	H3	698.02	18.8	17.4–23.8	16.3	8.2–20.0	B	C	with H6 clasts
A-881401	L6	10.38	25.7		21.5		A	A/B	
A-881402	L3	74.11	24.3			4.2–24.8	A	A/B	
A-881403	Euc	12.69					A		see separate entry
A-881404	L6	330.11	25.1		21.0		A	A/B	
A-881405	L3	88.17	24.8			7.6–26.8	A	B/C	
A-881406	EH3	16.49				0.0–7.2	A	B	
A-881407	H4	307.28	18.7		16.4		A	C	
A-881408	LL3	24.86		0.2–24.7		0.9–36.1	A	B	
A-881410	H6	12.35	19.1		16.5		A	C	
A-881411	H3	56.93	16.9		15.2	12.1–20.0	A	B/C	
A-881412	L3	43.65	23.4			4.3–26.2	A	A/B	
A-881414	H4	50.17	18.2		16.0		A	B	
A-881415	H4	63.19	19.0		16.5		A	A	
A-881416	H4	48.69	18.5		16.5		A/B	A/B	with H6 clasts
A-881420	H4	29.36	18.2		16.5		A/B	A/B	
A-881421	H4	401.70	17.9		15.7		A	C	
A-881424	H5	17.71	17.8		15.6		A	B	
A-881425	H5	13.37	19.1		16.3		A	B/C	
A-881426	L5	297.75	24.1		19.9		A/B	B	
A-881427	L6	32.24	24.4		20.9		A	A/B	
A-881428	L6	465.85	24.1		20.0		A	A/B	
A-881429	H6	167.35					A	B/C	unshocked
A-881432	LL6	22.82	30.0		24.8		A/B	B	
A-881433	H4	13.01	17.4		15.5		A	B	
A-881436	L3	149.86	23.9			6.7–36.8	A	B	igneous rock clast
A-881437	L3	138.36	23.6			5.3–26.7	A/B	B	
A-881439	L6	14.61	24.5		20.4		A	C	purple ringwoodite
A-881440	L6	67.59	23.9		19.7		A	A	
A-881443	L6	156.74	24.5		20.4		A	A/B	
A-881444	L6	140.68	24.3		20.3		A/B	B	
A-881445	L5	34.39	24.4		20.3		A/B	B	
A-881446	H4	15.70	16.6		14.9		A	A	

A-881448	H4	341.27	18.1		15.8		A	B	
A-881449	H5	10.40	18.1		16.0		A	A/B	
A-881450	H5	65.95	18.2		15.9		A	A/B	
A-881452	CK6	12.77	29.6				A/B	A	
A-881453	H4	122.97	16.7		14.7		A/B	B/C	
A-881455	H5	933.35	18.4		16.2		A	B	
A-881456	H6	72.75	19.1		16.7		A/B	C	
A-881457	H4	11.82	18.4		16.1		A	B	
A-881458	CM2	56.84		0.2–54.0		0.5–4.4	A/B		
A-881460	H3	13.10	18.1			3.1–17.3	A/B	B/C	
A-881461	Euc	31.59					A	A	see separate entry
A-881462	L6	236.85	25.1		21.1		A	A/B	
A-881463	H4	25.69	17.0		15.3		A	B	
A-881464	L6	22.76	24.9		20.6		A/B	B	
A-881465	H6	137.05	18.4		15.8		A	B/C	
A-881466	L4	18.57	23.9		19.8		A/B	B	
A-881468	H5	309.93	17.9		15.5		A	B	
A-881469	H5	39.25	18.4		16.2		B	B	
A-881470	L6	60.76	24.0		19.9		A	B	
A-881471	L5	13.70	25.0		20.9		A	A/B	
A-881472	H4	21.89	18.2		15.8		A/B	B	
A-881473	CK4	17.65	29.4				A	A/B	
A-881474	H5	294.49	18.2		15.7		A/B	B/C	
A-881475	EH5	70.13			0.3	0.0–0.9	A/B	C	
A-881476	H5	111.37	18.0		15.8		A	B	
A-881478	L4	113.79	24.1		20.3		A	B	
A-881479	H5	108.39	18.6		16.2		A	B	
A-881480	H6	13.82	18.8		16.4		A	C	
A-881484	L3	31.85		1.5–30.9		1.7–28.3	A/B	B	
A-881485	H4	13.22	18.6		16.1		A/B	B/C	
A-881488	L6	399.90	24.5		20.7		A	B	shock melt vein
A-881491	H3	35.06	17.9	1.0–26.1		2.2–19.3	A/B	B/C	
A-881492	H3	108.07	17.7	0.6–20.3	15.9	2.5–20.1	A/B		with H6 clasts
A-881498	L3	198.78	23.9		15.2	3.2–33.7	A	A	
A-881500	H4	247.82	18.7		16.1		A	A/B	
A-881501	H4	192.02	18.3		16.1		A	A	
A-881504	LL4	178.58	27.4		22.4		A	A	
A-881505	L4	22.74	23.8		19.9		A	A/B	
A-881506	H3	12.67	17.8		15.3	9.1–16.7	A	A/B	
A-881507	L3	72.37	23.6			9.2–20.9	A	B	
A-881508	LL6	129.29	30.5		24.7		A	A	
A-881510	H4	16.19	18.2		15.8		A	B	
A-881511	H4	29.88	18.4		15.9		A	A/B	
A-881512	LL3	27.17	27.3			4.4–32.4	A/B	A	
A-881514	L6	16.18	24.7		20.5		A	A	with igneous clast
A-881515	H4	21.60	19.2		16.7		A	C	
A-881516	L6	119.00	24.6		20.6		A	A	
A-881517	L6	232.87	24.7		20.6		A	A	
A-881519	H6	13.06	17.6		15.3		A	B/C	
A-881522	LL3	10.70		0.2–27.0		0.4–25.4	A	A/B	
A-881523	H5	11.11	18.6		16.4		A	B/C	
A-881526	Dio	470.06			24.5	22.4–25.6	A	A	see separate entry
A-881529	H4	16.42	18.2		15.9		A/B	C	unshocked
A-881533	L6	51.86	24.4		20.5		A/B	A/B	
A-881536	H4	42.91	18.4		16.1		A	C	unshocked
A-881537	LL6	15.17	28.7		23.5		A/B	B	
A-881538	H3	57.17	16.5			12.0–21.6	A	C	
A-881539	H3	1896.48	18.0		15.4	2.1–23.0	A	A/B	

A-881540	H4	15.45	17.4		15.4		A	B	
A-881541	CH3	49.11		0.6-59.2		0.5-15.7	A	A/B	
A-881542	L6	83.70	24.4		20.5		A	A	
A-881544	H3	26.19	18.6			3.4-18.7	A	A/B	
A-881545	H6	19.93	19.0		16.9		B	B	two stage shock melt
A-881546	H4	10.44	18.5		16.5		A	B/C	
A-881547	H3	15.81	17.9	10.6-19.9		3.1-17.6	A	A/B	
A-881550	H5	16.88	18.1		15.9		A	C	unshocked
A-881551	CK6	162.48	33.5	32.7-34.8			A/B	A	
A-881552	LL3	68.93	26.5			14.4-22.9	A	A/B	
A-881554	H4	20.14	16.7		14.8		A	A/B	
A-881555	LL6	27.34	27.7		22.4		A/B	A/B	
A-881556	L5	10.35	25.4		21.1		A	C	unshocked
A-881558	H3	31.78	18.0	8.3-21.3		2.4-22.9	A	A/B	
A-881560	H5	15.17	19.9		17.4		A	B/C	
A-881561	H4	836.87	18.6		16.1		A	A/B	
A-881563	L6	19.83	24.3		20.5		A	A	
A-881564	L4	37.22	25.9		21.4		B	A	
A-881565	H5	49.69	19.1		16.7		A	A/B	
A-881566	H4	179.96	18.7		16.4		A/B	B	with H6 clasts
A-881567	LL3	740.76	28.4			9.4-24.9	A	A	
A-881568	H4	25.46	17.9		15.6		A	C	with H6 clasts
A-881570	L6	58.26	24.4		20.3		A	B	
A-881571	H6	222.64	18.8		16.5		A	A	
A-881572	H6	11.92	18.4		16.4		A/B	C	
A-881573	H6	19.27	18.6		16.0		A/B	C	
A-881574	H5	15.29	18.6		16.2		A	B/C	
A-881575	EH3	37.49		0.1-1.3		0.5-6.9	A	A	
A-881576	H5	95.59	18.6		16.3		A	A	
A-881580	H6	94.42	18.3		16.4		A	A/B	
A-881581	L6	52.63	24.7		20.6		A	A/B	
A-881582	H4	61.64	17.4		15.5		A	B	
A-881583	L6	12.68	24.0		20.2		A	A	
A-881584	LL6	11.32	28.3		21.6		A/B	A	
A-881588	LL6	11.98	28.7		23.9		A/B	B	
A-881590	L5	261.64	23.7		19.8		A	A	
A-881591	H4	12.94	17.9		15.4		A	A	
A-881595	CR2	126.59		0.3-1.4		0.4-2.3	A	C	
A-881597	H3	21.25	17.7	0.3-19.3		2.8-17.4	A	C	
A-881599	H6	25.46	18.8		16.4		A/B	A	
A-881600	H	27.52	18.1		16.0		A/B	C	regolith breccia
A-881601	L5	86.84	25.2		20.4		A	B/C	unshocked
A-881603	H6	12.68	17.6		15.6		A	B	
A-881604	L6	457.53	25.0		21.1		A/B	A	
A-881606	H4	27.89	18.4		16.3		A	B	
A-881607	LL3	15.79		0.4-20.9		0.8-35.2	A	A	
A-881608	LL6	1143.05	28.4		22.3		A	A	
A-881609	H3	60.71	16.4			9.6-24.6	A	B/C	unshocked
A-881610	H5	290.11	18.6		16.3		A	B/C	unshocked
A-881611	LL6	13.08	28.4		22.3		A/B	A	
A-881612	EL6	19.16			0.2		A/B	A/B	
A-881613	H3	545.71	18.5		16.5	14.7-20.7	A	A/B	with H6 clasts
A-881614	H4	387.82	18.1		16.0		A	A	
A-881615	H4	229.75	18.6		16.2		A/B	B/C	
A-881616	LL3	40.63	28.8			11.6-31.9	A		with LL6 clasts
A-881617	L6	210.15	24.5		20.3		A	A/B	
A-881618	H5	40.49	19.0		16.5		A	B/C	
A-881619	H4	280.02	18.6		16.1		A	A	slightly shocked

A-881621	L3	58.30	23.4			4.6–28.9	A	A	
A-881622	L3	173.18	23.0	9.4–26.6		4.8–21.1	A	A	
A-881623	L3	479.12	22.6			5.2–20.2	A	A	
A-881624	L6	250.32	24.1		20.0		A	A/B	
A-881626	H3	80.06	18.8		16.1	6.0–17.7	A	A/B	
A-881627	L6	42.68	24.7		20.8		A	A	
A-881628	LL3	19.88		2.8–18.8		1.6–24.0	A	A/B	
A-881629	L6	103.21	25.0		20.6		A	B	
A-881630	L4	30.20	25.1		20.6		A	A/B	
A-881631	H3	10.30	18.5			12.0–18.0	A	B/C	
A-881632	CO3	138.11		0.1–45.3		0.4–7.9	A/B	A/B	
A-881634	L3	28.90	22.3	5.8–25.0		3.7–20.5	A	A	
A-881636	L3	107.29	22.7	18.3–24.4		3.9–20.5	A	A	
A-881637	L3	195.62	22.9			10.5–22.1	A	A	with L6 clasts
A-881638	L6	125.88	24.4		20.1		A	B/C	
A-881639	H6	21.98	18.6		16.2		A/B	C	
A-881640	L3	11.59	22.9	14.4–24.9		5.4–20.6	A	A	
A-881642	H5	664.58	18.2		15.9		A	C	unshocked
A-881643	L3	519.10	23.4	14.2–28.9		5.8–29.6	A	A	
A-881644	H4	252.59	17.9		15.7		A	A/B	
A-881645	LL3	166.52	28.9			10.4–25.7	A	A	with LL6 clasts
A-881646	H4	44.12	17.5		15.7		A	B/C	
A-881647	LL3	14.33		0.3–35.6		0.9–30.5	A	A	
A-881648	LL6	23.55	30.4		25.4		A/B	A/B	
A-881649	LL3	22.36	29.2			7.7–24.1	A	A	
A-881651	H3	170.48	18.1		16.2	14.3–19.3	A/B	B	with H6 clasts
A-881652	L6	894.80	24.3		20.1		A	A	
A-881653	L3	33.11		3.1–28.1		2.1–27.9	A	A	
A-881654	H5	547.38	18.3		16.1		A	B/C	
A-881657	H6	31.16	18.7		16.4		A	B/C	
A-881660	H5	10.45	18.1		15.8		A	C	unshocked
A-881661	H6	13.32	19.1		16.4		A/B	C	
A-881662	H5	39.73	18.8		16.2		A	A	
A-881663	H4	47.74	18.1		16.1		A	A/B	
A-881664	H6	49.81	19.4		17.0		A	A/B	
A-881665	LL4	20.89	29.2		23.7		A	A	with LL6 clasts
A-881666	L6	23.85	24.2		20.2		A	A/B	metal vein (~5mm)
A-881667	H5	40.09	18.8		16.6		A	B/C	
A-881668	L6	188.02	24.5		20.6		A	A/B	
A-881669	H4	12.40	17.4		15.4		A	C	
A-881670	H4	13.30	17.8		15.5		A/B	A/B	with clear glasses
A-881671	H4	20.73	17.1		15.2		A	B	
A-881673	H6	15.64	18.5		16.0		A/B	C	
A-881677	L4	14.45	25.2		20.7		A	C	
A-881680	H6	10.61	18.8		15.3		A	A	
A-881683	L3	79.92	23.5			9.0–25.1	A	A	
A-881685	H4	33.04	18.8		15.9		A/B	A/B	
A-881686	LL3	274.09		10.1–28.2		3.2–28.1	A	A	
A-881687	LL6	37.12	30.9		25.3		B	A	
A-881688	H6	31.56	18.7		16.2		A	C	
A-881691	CH3	9.12		0.6–4.2		0.8–31.0	A	A/B	
A-881692	L6	31.08	24.3		20.3		A	A	
A-881694	H6	76.47	19.3		16.6		A/B	B/C	
A-881695	L3	102.13	23.2	18.1–26.5		7.0–30.3	A	A	
A-881696	L3	50.86	24.2			3.7–24.6	A	A	
A-881697	H4	99.82	17.1		14.9		A	B	
A-881698	L5	113.84	24.6		20.6		A	A/B	
A-881699	L6	56.61	24.4		20.3		A	A/B	

A-881702	H5	19.03	18.4		15.9		A/B	C	
A-881705	H4	11.63	18.2		15.7		A	A/B	with H6 clasts
A-881706	H4	59.83	18.1		15.7		A	A/B	
A-881707	H4	13.07	19.3		16.9		A	A	with H6 clasts
A-881709	L3	230.06	22.8	0.5–26.0		5.1–34.9	A	A	
A-881710	L6	201.05	24.4		20.3		A	A	
A-881711	H6	20.07	17.8		15.4		A/B	C	
A-881712	H4	32.97	17.6		15.5		A	B	
A-881713	L5	122.39	24.2		20.2		A	A	
A-881714	H4	45.54	18.2		15.8		A/B	B/C	
A-881717	H5	19.79	18.7		15.9		A	B/C	
A-881718	H6	13.46	18.5		16.5		A/B	B/C	
A-881719	L5	267.94	24.1		20.1		A	A/B	
A-881720	L4	947.84	23.7		19.3		B	A/B	
A-881723	H5	24.62	17.7		15.7		A	B	breccia
A-881724	H6	29.42	19.3		17.0		B	B/C	
A-881725	CK6	33.27	29.6	28.6–30.5		23.4, 28.0	A	A/B	
A-881726	H3	105.25	18.2	8.2–21.3		5.5–24.4	B	B	
A-881727	H3	26.96	17.0		15.5	14.1–20.0	A	A/B	
A-881728	LL6	50.08	31.2		24.8		A	A	
A-881729	H4	24.35	18.7		16.1		A	A/B	
A-881730	L6	69.93	24.7		20.5		A	A	melt vein network
A-881731	H6	127.18	18.7		16.2		A/B	B/C	unshocked
A-881733	H6	44.90	19.0		16.3		A/B	B/C	
A-881734	L6	21.89	24.6		20.3		A	B/C	
A-881735	L6	32.06	24.6		20.4		A	A	
A-881737	L3	13.57		0.6–27.8		2.1–35.7	A	A	
A-881738	L6	530.84	24.7		20.7		A	A/B	
A-881739	H6	23.09	18.7		16.3		A/B	B/C	
A-881740	LL6	124.95	30.0		24.4		A/B	A/B	
A-881742	LL3	916.75		0.4–26.3		0.8–33.5	A/B	A/B	
A-881743	LL3	37.06	29.3			13.6–25.7	A/B	A	
A-881744	H6	28.48	19.7		16.8		B	A/B	
A-881745	H5	72.47	18.6		16.3		A	A	with H6 clasts
A-881746	H6	115.54	18.3		16.2		A	A	
A-881748	L4	13.57	23.1		19.4		A	B/C	
A-881749	L3	25.24		0.5–36.7		1.5–29.6	A	A/B	
A-881750	H6	15.20	19.6		16.8		A/B	B/C	
A-881751	L6	11.94	24.7		20.7		A	A/B	
A-881752	H5	10.57	18.7		16.0		A	A	with H6 clasts
A-881753	H4	180.08	18.2		15.9		A/B	A	with H6 clasts
A-881754	L3	46.75	22.4	5.1–24.4		1.8–25.6	A	A/B	
A-881755	L6	16.94	24.8		20.7		A	B	
A-881758	H4	42.47	18.3		15.6		A/B	C	
A-881759	LL3	14.25	29.4			8.3–25.7	A	A	with LL6 clasts
A-881760	H5	81.93	18.2		15.7		A	B	with H6 clasts
A-881761	H6	32.70	19.2		16.5		A/B	B/C	
A-881763	L6	11.51	24.7		20.6		A	A/B	
A-881764	L6	30.99	24.3		20.4		A	A/B	
A-881765	H5	53.49	18.3		15.9		A	A/B	with H6 clasts
A-881766	H4	17.96	18.5		15.8		A	B	
A-881767	H5	608.73	18.5		16.0		A	B	
A-881768	H4	524.99	18.3		16.5		A	A/B	
A-881769	L4	1079.28	24.5		20.4		A	A	
A-881770	L3	310.00	23.4	10.5–24.4		2.6–25.1	A	A/B	
A-881771	L6	51.95	24.4		20.4		A	A/B	
A-881772	H5	12.22	17.8		15.4		A	C	regolith breccia
A-881773	H4	450.61					A	A/B	

A-881774	H4	207.67	18.5		16.0		A	A	
A-881775	H4	474.75	16.2		14.6		A	A/B	
A-881776	H6	44.43	18.3		16.1		A	A/B	
A-881777	L6	55.24	24.3		20.4		A	A/B	
A-881778	H4	59.03	18.2		16.1		A	A	
A-881780	H4	100.53	16.7		15.5		A	B	with H6 clasts
A-881782	H5	496.56	18.7		16.2		A	A/B	
A-881783	H4	20.69	17.0		15.1		A	B	
A-881784	H4	445.32	17.0		15.6		A	A/B	with H6 clasts
A-881785	H4	8121.00					A	B	
A-881786	H6	52.66	18.9		16.7		A	A	
A-881787	H4	880.57	16.8		14.8		A	B	
A-881789	H4	272.39	16.7		14.8		A	A/B	
A-881790	L6	964.65	24.6		20.5		A	A	
A-881791	H4	448.78	18.6		16.2		A	A/B	
A-881792	H4	32.57	16.8		16.3		A	A/B	
A-881793	H4	76.37	18.3		15.9		A	B	
A-881794	H4	410.04	16.9		15.1		A	B	
A-881795	H4	768.89	20.7		16.5		A	B	with H6 and shock darkened clasts
A-881796	H4	820.52	17.9		15.5		A	B/C	with H6 clasts
A-881797	H4	360.97	17.0		15.0		A	B	
A-881798	H4	373.68	18.4		15.7		A	A/B	
A-881800	LL6	138.69	28.4		23.5		A		
A-881801	LL4	31.21	28.9		23.9		A	A	with LL6 clasts
A-881802	L6	45.29	18.8		16.6		B	C	
A-881803	H6	32.02	18.6		16.6		B	C	
A-881804	L6	23.74	24.7		20.1		A/B	A/B	
A-881805	L6	27.64	24.5		20.0		A	A	
A-881806	L6	794.29	24.8		20.6		A	B	
A-881807	H6	336.48	18.7		16.4		A	B/C	
A-881808	LL3	154.76	28.3		22.9	13.2–24.5	A	A	with LL6 clasts
A-881809	LL3	182.13	28.6		22.9	14.0–24.8	A	A	with LL6 clasts
A-881810	H3	641.00	16.2		13.8	11.1–15.6	A	B	
A-881811	LL3	36.11	28.0		21.1	13.1–24.2	A	A	with LL6 clasts
A-881812	H4	156.77	18.4		15.8		A	A	
A-881813	L6	296.96	24.3		20.2		A	A	
A-881814	LL4	1688.57	28.6		23.4		A	A	with LL6 clasts
A-881815	H4	58.86	18.3		16.1		A	A/B	
A-881816	H4	108.62	16.6		14.8		A	B	
A-881817	H5	156.56	18.3		16.0		A	B	unshocked
A-881828	CR2	32.84		0.6–26.3		0.7–4.1	A/B	B	
A-881829	H5	520.52	19.0		16.6		A	A	
A-881830	H6	97.08	19.3		16.7		A/B	B	
A-881831	H6	224.08	19.5		16.5		A	A/B	
A-881832	LL6	3078.02	29.0		24.5		A	A/B	
A-881833	L6	264.83	25.0		20.8		A	A	
A-881834	L6	76.86	24.4		20.4		A	A	
A-881835	H5	210.06	18.1		15.9		A/B	C	
A-881836	LL4	218.30	28.9		23.6		A	A	with LL6 clasts
A-881837	LL3	55.57		0.3–33.2		1.5–30.2	A	A/B	
A-881841	LL3	58.87	28.7			11.2–25.2	A	A	with LL6 clasts
A-881843	L4	51.53	24.5		20.6		A	B	
A-881844	H4	130.71	18.7		16.4		A/B	C	shock vein network
A-881845	LL4	40.76	29.1		24.1		A	A	with LL6 clasts
A-881846	H5	13.23	18.7		16.0		A	A/B	
A-881847	H4	1279.71	18.3		15.6		A/B	A/B	
A-881849	LL6	52.54	30.7		24.5		A	A	monomict breccia
A-881850	L6	1024.01	24.8		20.8		A	A	

A-881851	L4	35.12	23.1		19.7		A/B	A/B	
A-881852	H4	14.75	17.8		15.7		A/B	B	
A-881853	H4	118.87	18.7		16.6		B	B	
A-881854	L6	171.30	23.6		20.1		A	B	
A-881855	H4	1343.04	18.5		16.1		B	B/C	with H6 clasts
A-881856	L4	571.61	24.1		20.3		A/B	A/B	
A-881858	H6	20.56	19.2		16.6		A	B/C	shock melt vein
A-881859	H5	64.04	18.4		16.0		A	B/C	
A-881860	LL4	248.62	28.9		23.9		A	A	with LL6 clasts
A-881861	L6	317.16	24.7		20.7		A/B	A/B	
A-881862	L6	178.87	24.7		20.7		A/B	A/B	
A-881863	H4	86.70	18.3		16.0		A/B	A/B	
A-881864	L6	27.58	24.7		20.7		A/B	B	
A-881865	LL4	19.62	28.8		23.7		A	A	see separate entry
A-881866	LL3	82.33	28.9		23.2	13.3–26.1	A	A	with LL6 clasts
A-881867	L6	44.28	24.1		20.2		A	B	
A-881868	H5	177.22	18.5		16.3		A/B	B	
A-881869	LL6	216.37	29.2		23.6		A	A	
A-881870	LL4	116.48	28.6		23.2		A	A	see separate entry
A-881871	H4	113.37	18.4		16.0		A	B	breccia
A-881872	LL3	81.90	28.6		23.5		A	A	LL6 clasts rich
A-881873	LL3	83.28	28.4		22.9		A	A	with LL6 clasts, troilite vein
A-881874	LL3	87.49	28.1		22.7		A	A	with LL6 clasts
A-881875	H3	32.48	17.9			4.1–21.4	A/B	B/C	
A-881876	LL3	212.66	28.8		23.9		A	A	with LL6 clasts, troilite vein
A-881877	L4	2569.00	24.1		20.6		A/B	A/B	
A-881880	H4	72.03	18.7		16.1		A	B	breccia
A-881881	H4	19.27	16.6		14.6		A/B	B	
A-881882	H4	32.59	18.6		16.3		A/B	B	
A-881883	H4	51.30	18.2		15.8		A	A/B	breccia
A-881884	H5	148.58	18.7		16.1		A	B/C	
A-881885	L6	40.81	24.6		20.5		A/B	B	
A-881886	LL3	137.08	28.5		22.5	16.9–25.0	A	A	with LL6 clasts
A-881887	LL6	2095.00					A	A/B	
A-881888	H4	365.95	17.9		15.7		A/B	C	unshocked
A-881889	H6	897.06	18.0		15.9		A/B	C	unshocked
A-881891	H5	174.58	18.5		15.9		A/B	B/C	
A-881892	H5	25.74	18.3		16.2		A	B/C	
A-881893	H6	87.58	19.3		16.8		A	A	
A-881895	L6	10.23	25.2		20.8		A	A/B	
A-881896	L6	558.59	24.7		20.8		B	A/B	
A-881897	L6	241.66	24.7		20.5		A/B	B	
A-881899	LL3	6567.00					A	A	with LL6 clasts
A-881900	LL3	957.99	29.1	28.1–31.1	23.7	22.2–25.4	A	A	with LL6 clasts
Y980433	Euc	1497.50					A	A	see separate entry

Notes

C: classification F: fracturing W: weathering

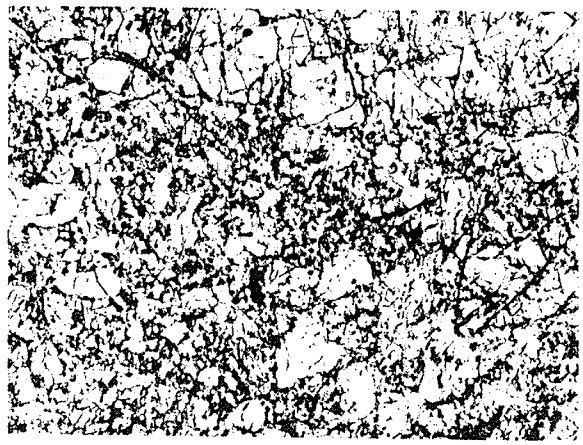
Fracturing index:
A: No or a few narrow cracks are visible.
B: Several cracks extend across exterior surface.
C: Severe cracks.

Weathering index:
A: Limonite haloes on metal particles and limonite veins are minor.
B: 7.5 to 35% of metal particles are weathered to limonite. Several limonite veins are visible.
C: Most metal particles are weathered to limonite.

A-881114

Brecciated diogenite

The section (51-1) is a clastic matrix of pyroxene fragments (up to 3 mm), and minor opaque minerals. Pyroxene has a composition of Fs24.1-27.2Wo2.0-2.4 and an FeO/MnO of ~28.

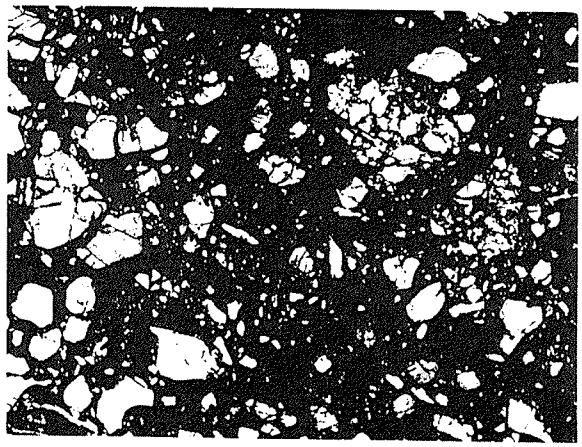


Width = 5.1 mm

A-881154

Mesosiderite

The PTS (111-1) is composed of fragments of pyroxene and plagioclase, and breccia clasts (< 1 mm) set in a FeNi metallic matrix. Pyroxene compositions vary from Fs29.4Wo2.8 to Fs29.4Wo31.7 and the FeO/MnO is ~27. Plagioclase has a composition of An89.3-90.2Or0.1-0.4.

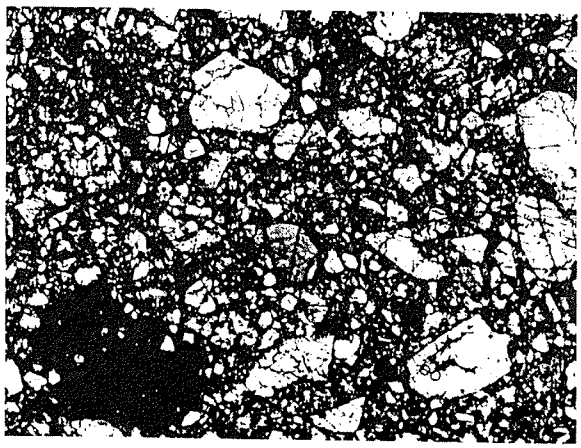


Width = 5.1 mm

A-881170

Howardite

The section (51-1) shows a breccia composed of fragments of pyroxene and plaigoclase and impact melts clasts. There are a few, small basaltic clasts. Pyroxene compositions vary from Fs17.0Wo0.3 to Fs55.1Wo6.4 and the FeO/MnO is ~30.

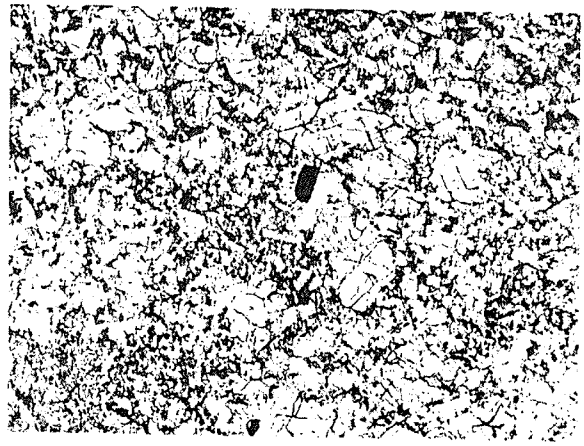


Width = 5.1 mm

A-881210

Brecciated diogenite

The section (51-1) is a breccia of pyroxene fragments with the largest grain up to 3 mm, and minor opaque minerals. Pyroxene has a composition of Fs72.9-74.6Wo2.2 and an FeO/MnO of ~30.

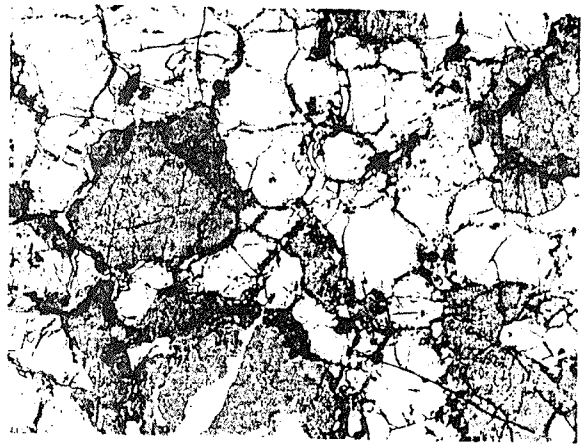


Width = 5.1 mm

A-881220

Ureilite

The PTS (51-1) shows a coarse-grained (< 2.5 mm) aggregate of pyroxene and olivine with dark materials along rims of minerals. Olivine shows a dusty appearance. Rims of pyroxene are in many cases finely recrystallized. Pyroxene has a composition of Fs13.0-13.4Wo3.6-13.1 and an FeO/MnO of 11-45. Olivine has a compositin of Fo77.1-78.7 and a FeO/MnO of ~45.



Width = 5.1 mm

A-881221

Brecciated eucrite

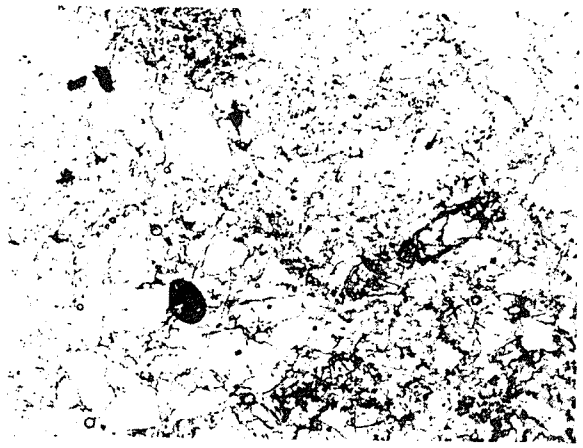
PTS (51-1) shows a brecciated basaltic clast composed of fine to coarse (up to 2 mm) plaigocalse lath and anhedral pyroxene. Pyroxene compositions vary from Fs31.8Wo537 to Fs29.7Wo42.6 (FeO/MnO=~31), and plaigoclase from An93.3Or0.4 to An74.5Or2.2.

Width = 5.1 mm

A-881239

Diogenite

The section (51-1) is a recrystallized breccia of pyroxene fragments (up to 3 mm), and minor opaque minerals (chromite, Fe-metal, troilite). Pyroxene has a composition of Fs25.2-22.8Wo1.9-2.0 and FeO/MnO is ~30.

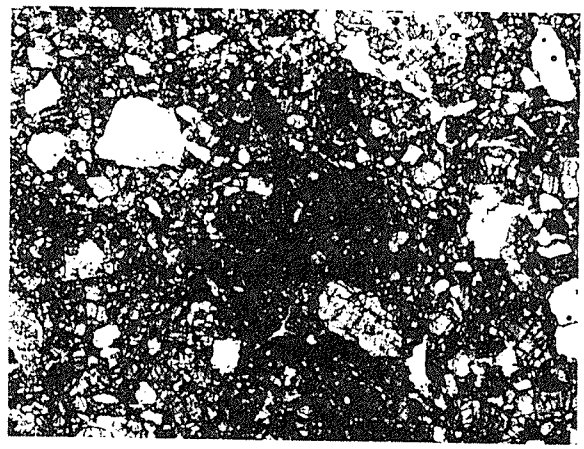


Width = 5.1 mm

A-881403

Polymict eucrite

This section (51-1) is a breccia composed of fine-grained basaltic clasts, impact melt clasts, and mineral fragments of pyroxene and plagioclase. Pyroxene compositions vary from Fs22.3Wo2.4 to Fs61.8Wo3.3 (FeO/MnO = ~33) and plagiocalse from An92.4Or0.3 to An88.4Or.7.

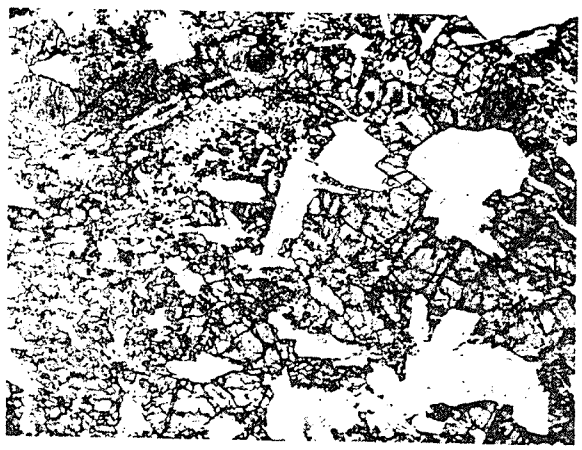


Width = 5.1 mm

A-881461

Eucrite

The PTS (51-1) is a coarse-grained (~2 mm) gabbro composed of pyroxene and plaigoclase. Pigeonite is partly inverted into orthopyroxene. It is highly shocked: parts of plagiocalse are converted into maskelynite. Pyroxene has a composition of En37Wo2 and En29Wo44 and a FeO/MnO of ~30. Plagioclase has a composition of An89.5-92Or0.2-0.4.

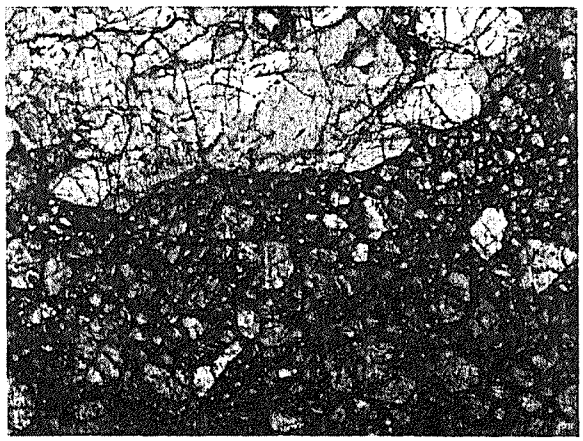


Width = 5.1 mm

A-881526

Brecciated diogenite

The PTS (51-1) is a breccia composed of a large (~6 mm) recrstyallized diogenite and clastic matrix composed of fragemens of orthopyroxene. Pyroxene has a composition of En72.5-7.1Wo2.2-3.0 and a FeO/MnO of ~28.



Width = 5.1 mm

Yamato 980433

Mg-rich eucrite

The PTS (11-1) consists of coarse-grained low-Ca pyroxene and plagioclase (up to 5 mm) with minor amount of opaque minerals. The low-Ca pyroxene contains lamellae and blebs of augite (~30 microns thick). This meteorite is shocked: pyroxene and plagioclase show mosaic extinction and there are shock melt veins. Compositions of low-Ca pyroxene cluster around Wo2Fs47-51. Plagioclase composition is An87-91. This meteorite is a Mg-rich eucrite, and paired with Y980318.

Width = 5.1 mm

A-881166

L3

The section (81-1) shows a polymict breccia with L6 clasts including large troilite (~8mm) and olivine rich inclusion.

A-881345

H5

The section (51-1) has an inclusion consist of euhedral olivines and glass matrix.

A-881865

LL4

The section (51-1) with LL6 clasts, partly suffered schock darkning.

A-881870

LL4

The section (61-1) with LL6 clasts, partly suffered schock darkning.

REQUIREMENTS AND PROCEDURES FOR RESEARCH USING THE JAPANESE NIPR ANTARCTIC METEORITE COLLECTION

Requests for research samples are welcome from all qualified scientists. In general, requests are reviewed and considered by the Committee on Antarctic Meteorite Research (CAMR) of the National Institute of Polar Research (NIPR), which meets one to two times each year. Consortium-type sample requests may also be submitted. After a request is approved, samples are sent to the researcher from the Curator of Antarctic Meteorites, NIPR.

NIPR SAMPLE ALLOCATION POLICIES

I. Basic guidelines for allocation of meteorites at NIPR

1. All samples are provided on a loan basis, and remain the property of NIPR.
2. The pristine mass of the meteorite other than small rare meteorites after allocation must be at least 2/3 of the original mass. Pristine mass is defined as that portion of a specimen which has never been allocated, after initial polished thin section (PTS) preparation.
3. The pristine mass of small rare meteorites (less than 50 grams) after allocation must be at least 80% of the original mass. Rare meteorites are defined as meteorites other than type 4-6 ordinary chondrites, including rare type portions of large meteorites.
4. Allocations of any rare meteorite should generally be limited to samples less than 1 gram.
5. The term of the PTS loan will be for no more than 12 months. PTS should be returned promptly upon completion of the proposed research period.
6. PTS of any small meteorite (less than 5 grams) will not be, in general, loaned out but will be available for on-site use by scientists visiting NIPR.
7. Allocations will not be allowed until the meteorite has been announced and typed (classified) in a published issue of Meteorite News or an NIPR catalog.
8. Allocation from any meteorite that is under consortium study will generally not be permitted.
9. Investigators are strongly encouraged to limit requests to not more than 10 samples per request/review cycle. Higher numbers of samples may be approved, but in general, only 10 samples will be eligible for expeditious allocation processing. Investigators who request more than 10 samples should designate a subset for high-priority processing. A request for a chip for analysis plus a corresponding thin section for petrologic study of the same meteorite or clast will generally be counted as a single request, in relation to the 10-sample limit.
10. Investigators are encouraged to use NIPR sample request forms. However, all sample requests that fully comply with the following guidelines will receive careful consideration.

    Requests should consist of three parts:

    a. Background information: title of the research project; for the requesting scientist, his or her name, affiliation and position (e.g., University of Paris, Professor), and office address, including phone and preferably FAX and email; and for any coinvestigators, their name, affiliation, and position.

    b. A text section, explaining the general nature and purpose of the proposed research, and including details on the justification for each individual sample request.

    c. A summary table, with columns for each of the following information categories:
       (1) Specimen name (e.g., Yamato-86032, or Y-86032).
       (2) Preferred weight (the weight of sample you believe is justified for the proposed research).

(3) Minimum weight (estimated weight below which the proposed research would not be worth pursuing; in general, approved allocations will be at or very near the *preferred* weight).
(4) An instruction regarding preferred sampling site (e.g., fusion crust, inner part, outer part, central, etc.).
(5) Sample form (e.g., single chip, cube, plate, fragments, many grains, powder, PTS, etc.).

II. Guidelines for expedited allocation by the Curator of the NIPR

The following guidelines set forth the conditions under which the Curator of Antarctic Meteorites at NIPR can allocate samples without review and approval by the CAMR. If the Curator has any doubt about the allocation of any sample, the request should be referred to CAMR.

1. Allocation of polished thin sections except for destructive analysis
   The original mass of the meteorite must be larger than 5 grams for type 4-6 ordinary chondrites or over 10 grams for all other meteorites.
2. Allocation of samples in a form other than PTS
   a. The total available pristine mass of the meteorite at NIPR must be larger than 20 grams for type 4-6 ordinary chondrites or over 50 grams for all other meteorites.
   b. Allocations of up to 5 grams or 1 weight % of the original mass of type 4-6 ordinary chondrites or up to 1 gram or 1 wight % of all other meteorites (whichever is less) can be made by the Curator.

SAMPLE DISTRIBUTION

1. Sublease (transfer) of sample is not permitted, except to persons listed as coinvestigators on the written request for samples. If sublease to a person not originally listed as coinvestigator becomes necessary, a new written request must be submitted to the Curator of Antarctic Meteorites.
2. Promptly upon completion of the proposed research, unused or remaining meteorite samples must be returned to the Curator of Antarctic Meteorites, NIPR.

REPORTING RESULTS

1. Research results should be reported promptly, preferably by presentation at the annual NIPR Symposium on Antarctic Meteorites, and/or full-length publication in the Proceedings of the NIPR Symposium on Antarctic Meteorites. The Symposium is held once each year, customarily in early June. Papers submitted to the Proceedings are evaluated by the Editorial Committee of the NIPR, guided by two reviews for each paper.
2. For the reference of the Curator of Antarctic Meteorites, investigators are requested to send three copies of each full-length paper published on allocated samples, and one copy of each abstract about them, to the Curator. Reference copies of articles and abstracts published through NIPR are not necessary.

Mail requests to:

Dr. Hideyasu Kojima
Curator, Antarctic Meteorite Research Center
National Institute of Polar Research (NIPR)
9-10, Kaga 1-chome, Itabashi-ku, Tokyo 173-8515, Japan
Phone: (81) 03-3962-2938, FAX: (81) 03-3962-5711
E-mail: curator@nipr.ac.jp

Send requests to: Antarctic Meteorite Research Center, National Institute of Polar Research, 9-10, Kaga 1-chome, Itabashi-ku, Tokyo 173-8515, Japan, Phone (81) 03-3962-2938, FAX (81) 03-3962-5711, E-mail curator@nipr.ac.jp

No. [ ]

NIPR Research Program for Antarctic Meteorites

Research project:
Date: Period of the project (months):
Principal investigator
Name: Signature _____
Affiliation & position:
Office address:
Phone: ext. FAX:
E-mail:
Coinvestigator(s)
Name(s):
Affiliation(s) & position(s):

Description of research plan and justification for sample request:

(continue)

	specimen name	preferred weight	minimum weight	sampling instructions	sample form
	(e.g., Y-86032)	(e,g,, 0.25g)	(e.g., 0.1g)	(e.g., interior)	(e.g., chip(s))
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

received

Send requests to: Antarctic Meteorite Research Center, National Institute of Polar Research, 9-10, Kaga 1-chome, Itabashi-ku, Tokyo 173-8515, Japan, Phone (81) 03-3962-2938, FAX (81) 03-3962-5711, E-mail curator@nipr.ac.jp

No.

received

Sample Request Deadline

Sample requests that are received by the curator before **November 7, 2005**, will be reviewed by the Committee on Antarctic Meteorite Research (CAMR), which will meet in November. Requests that are received after the November 7 deadline may be delayed for review until the CAMR meeting in spring, **2006**.

All sample requests should be made in writing to:

Dr. Hideyasu Kojima
Meteorite Curator
Antarctic Meteorite Research Center
National Institute of Polar Research (NIPR)
9-10, Kaga 1-chome, Itabashi-ku, Tokyo 173-8515
Japan
FAX: 81-3-3962-5711
E-mail: curator@nipr.ac.jp

NIPR Sample Allocation Policies and the Request Form are also available in the following web site.

http://yamato.nipr.ac.jp/AMRC/index.html