Antarctic Meteorite Newsletter
Volume 40, Number 2 September 2017

Curator's Comments

Kevin Righter, NASA-JSC

This newsletter reports 222 new meteorites from the 2014, 2015 and 2016 ANSMET seasons from Dominion Range (DOM14), Miller Range (MIL15), and Elephant Moraine (EET16). Meteorites include eight CK, seven CM2, one CM1, one CM1/2, two CV3, one EH3, one H impact melt chondrite, as well as three IAB irons, two howardites, one diogenite, one acapulcoite, one winonaite, and one ureilite.

The presence of a large L chondrite shower amongst the DOM samples continues (Righter et al., LPSC 2017 abstract # 2396); we are in the process of updating classifications of all DOM equilibrated ordinary chondrites, so those interested in this collection area should be forewarned that the classifications may change in the near future. Many of the Elephant Moraine samples announced here are possibly paired with samples collected in previous seasons and so those interested should consider this carefully. For example, there are previous pairing groups from EET for CK, CM, diogenite, howardite, IAB irons. We will update pairings as necessary as more information becomes available for these samples.

Reminder to acknowledge samples received from NASA-JSC

When publishing results of your research, please include the split numbers used in the research.

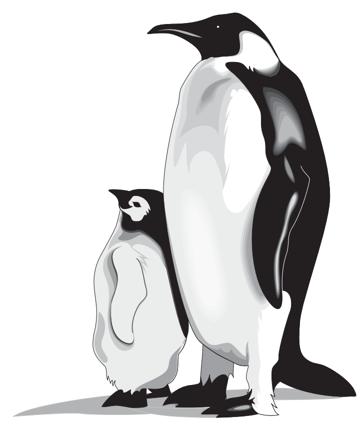
We also request that scientists use the following acknowledgement statement when reporting the results of their research in peer reviewed journals: "US Antarctic meteorite samples are recovered by the Antarctic Search for Meteorites (ANSMET) program which has been funded by NSF and NASA, and curated and characterized by the Astromaterials Curation Office at NASA Johnson Space Center and Department of Mineral Sciences of the Smithsonian Institution." Such an acknowledgement will broaden the awareness of the funding mechanisms that make this program and these samples possible.

We suggest you find out how to acknowledge samples received from all the collections/museums from which you have received materials so that all the institutions making samples available to you receive proper credit and acknowledgement.

A periodical issued by the Meteorite Working Group to inform scientists of the basic characteristics of specimens recovered in the Antarctic.

Edited by Cecilia Satterwhite and Kevin Righter, NASA Johnson Space Center, Houston, Texas 77058

Inside this Issue



Sample Request Deadline
Sept. 21, 2017

MWG Meets
Oct. 5-6, 2017

Report from the Smithsonian

Cari Corrigan

Things are rolling along in the Division of Meteorites at the Smithsonian. Our new instrument is officially up and running! We are pleased to report that we have completed the installation and testing of our new electron microprobe (a JEOL JXA 8530f+ Hyperprobe) and we signed off on it in May. It will be used to classify the Antarctic Meteorites and will provide us with state of the art capabilities to do so. Our hopes from the Spring 2017 newsletter that all of the microprobe analyses in the Fall newsletter might come to you from the new instrument have been fulfilled. Here we report compositional data on about 50 new meteorite thin sections obtained using the new instrument. It was a pleasure putting together that portion of this newsletter (despite the struggles due to our learning curve)!

Many thanks to our volunteers, Doug Ross and recent Beloit College geology graduate/new volunteer Alex Venzke for their assistance with this newsletter.

The new electron microprobe (JEOL 8530F Hyperprobe) at the Smithsonian Institution

ANSMET 2016-2017 Field Season

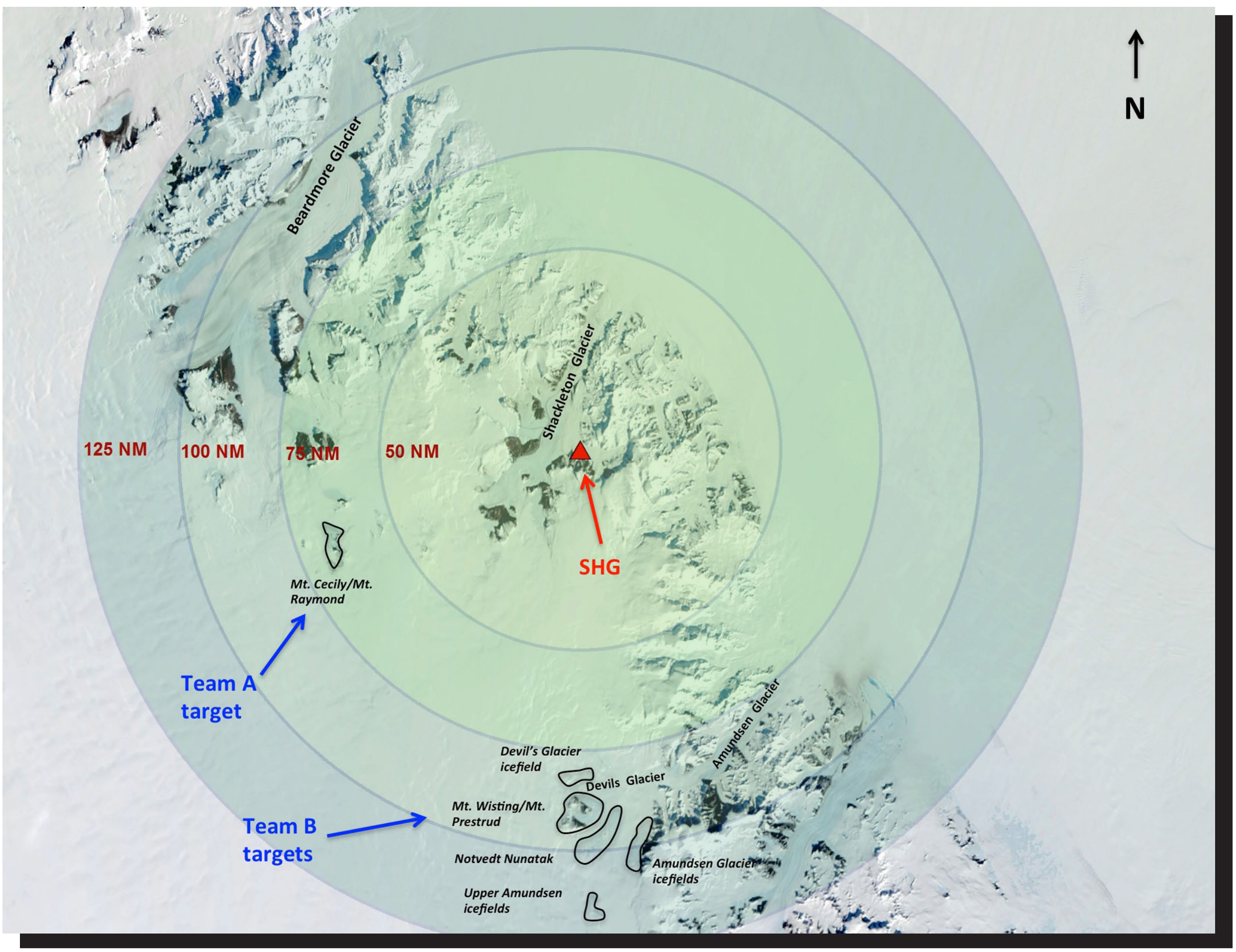
Jim Karner, Ralph Harvey and John Schutt
Case Western Reserve University

This season's ANSMET field plan is basically a "re-do" of last year's. Last year our plans changed drastically just before the start of the season due to severe logistical constraints. The US Antarctic Program (USAP) had been planning for years to set up the Shackleton Glacier (SHG) camp, a temporary logistics hub in a part of the southern Transantarctic Mountains that is otherwise difficult to reach, to support a wide range of science projects. We had hoped to use the enhanced local air support provided by SHG to operate two four-person teams in the area; one dedicated to systematic recoveries and one conducting reconnaissance. Unfortunately, after SHG was successfully established, a shortage of operational cargo aircraft and a resulting lack of fuel at SHG squashed our plans as well as those of many other teams. After quickly shuffling through many possible alternative plans, we opted to send one team to conduct systematic recovery of meteorites in the Elephant Moraine (EET) icefields for a shortened season.

Given reassurances from the US Antarctic program, we are going to give working out of SHG another shot for the 2017-2018 field season. Our plan once again calls for eight persons to deploy to the SHG camp in mid-December. The eight will then split into two teams of four that will perform meteorite search and recovery at separate sites near SHG. "Team A", led by Jim Karner, will conduct season-long systematic recoveries at the icefields around Mt. Cecily, Mt. Raymond and Mt. Emily. This is a beautiful site in the Grosvenor Mts. that was first explored in 1985 and revisited about a decade later (one of the homes of GRO meteorites). Team A will work at these icefields for the entire season (about six weeks), and weather allowing, may finish recovery efforts in the area.

"Team B", led by John Schutt, is dedicated to reconnaissance. There are several interesting icefields in the headwaters region of the Amundsen Glacier, only one of which has been previously visited (Mt. Wisting/Mt. Prestrud, where 26 meteorites were recovered in a few days in 1995). Team B will revisit that icefield and make first visits at several others on or near the Amundsen Glacier, Nodvedt Nunatak, and other sites in the region. This should included a few one-day helicopter visits, logistics-permitting. The main goal for Team B is to get boots on the ground at these sites and provide a good understanding of the potential of each for future recoveries. This kind of reconnaissance is essential to ANSMET- not only does it (hopefully) discover new meteorite concentrations, it aids the prioritization of future work and maximizes associated recoveries for the planetary materials community.

In programmatic news, ANSMET has been successfully funded for the next five years, which will take us through mid-2022, with yearly deployments of field teams as in the past (Woohoo!). We now fall under the aegis of Planetary Defense as part of the Near Earth Object Observatories program (arguably "observing" the "nearest" of said objects). This provides very welcome stability after several years of uncertainty in funding, and should ensure uninterrupted recoveries........assuming aircraft and fuel are available, of course.



Target icefields for the 2017-18 field season. The red triangle shows the location of the Shackleton camp. ANSMET team A will systematically search at the icefields around Mts. Cecily / Raymond / Emily, while team B will conduct reconnaissance further south, among the icefields in the headwaters region of the Amundsen Glacier

2014-2016 Collection

Pages 5-17 contain preliminary descriptions and classifications of meteorites that were completed since publication of issue 39(2), Sept. 2016. Specimens of special petrologic type (carbonaceous chondrite, unequilibrated ordinary chondrite, achondrite, etc.) are represented by separate descriptions unless they are paired with previously described meteorites. However, some specimens of non-special petrologic type are listed only as single line entries in Table 1. For convenience, new specimens of special petrological type are also recast in Table 2.

Macroscopic descriptions of stony meteorites were performed at NASA/JSC. These descriptions summarize hand-specimen features observed during initial examination. Classification is based on microscopic petrography and reconnaissance-level electron microprobe analyses using polished sections prepared from a small chip of each meteorite. For each stony meteorite the sample number assigned to the preliminary examination section is included. In some cases, however, a single microscopic description was based on thin sections of several specimens believed to be members of a single fall.

Meteorite descriptions contained in this issue were contributed by the following individuals:

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Antarctic Meteorite Locations

ALH — Allan Hills
BEC — Beckett Nunatak
BOW — Bowden Neve
BTN — Bates Nunataks
BUC — Buckley Island
CMS — Cumulus Hills
CRA — Mt.Cranfield Ice Field
CRE — Mt. Crean
DAV — David Glacier
DEW — Mt. DeWitt
DNG — D'Angelo Bluff
DOM — Dominion Range
DRP — Derrick Peak
EET — Elephant Moraine
FIN — Finger Ridge
GDR — Gardner Ridge
GEO — Geologists Range
GRA — Graves Nunataks
GRO — Grosvenor Mountains
HOW — Mt. Howe
ILD — Inland Forts
KLE — Klein Ice Field
LAP — LaPaz Ice Field
LAR — Larkman Nunatak
LEW — Lewis Cliff
LON — Lonewolf Nunataks
MAC — MacAlpine Hills
MBR — Mount Baldr
MCY — MacKay Glacier
MET — Meteorite Hills
MIL — Miller Range
ODE — Odell Glacier
OTT — Outpost Nunatak
PAT — Patuxent Range
PCA — Pecora Escarpment
PGP — Purgatory Peak
PRA — Mt. Pratt
PRE — Mt. Prestrud
QUE — Queen Alexandra Range
RBT — Roberts Massif
RKP — Reckling Peak
SAN — Sandford Cliffs
SCO — Scott Glacier
STE — Stewart Hills
SZA — Szabo Bluff
TEN — Tentacle Ridge
TIL — Thiel Mountains
TYR — Taylor Glacier
WIS — Wisconsin Range
WSG — Mt. Wisting

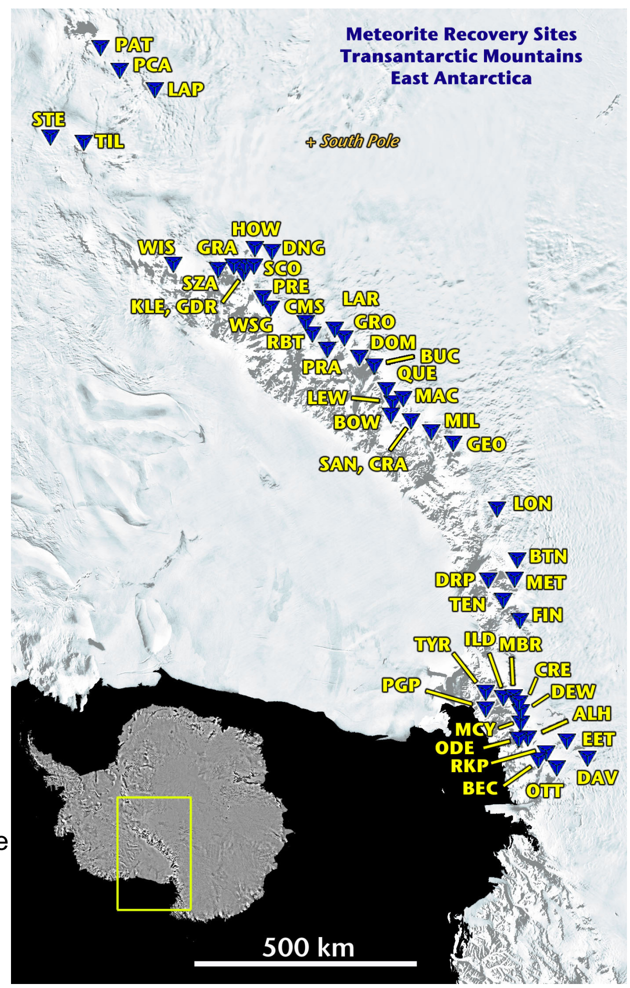

Table 1
Newly Classified Antarctic Meteorites

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
DOM 14002	1403.0	L4 CHONDRITE	A/B	B/C	25	
DOM 14004	1340.8	L5 CHONDRITE	A/B	A/B	25	
DOM 14005	916.4	L5 CHONDRITE	A/Be	A/B	25	
DOM 14006	761.6	H4 CHONDRITE	A/B	A/B	19-20	
DOM 14007	296.8	L6 CHONDRITE	Be	A/B	25	
DOM 14008	304.3	L5 CHONDRITE	A/B	A/B	25	
DOM 14009	222.5	LL5 CHONDRITE	B	B/C	30	
DOM 14010	104.6	L5 CHONDRITE	B	A	25	
DOM 14011	221.6	L5 CHONDRITE	B	A	25.5	
DOM 14012	124.3	L5 CHONDRITE	A/B	A/B	25.5	
DOM 14013	74.3	L5 CHONDRITE	B	A	25	
DOM 14014	117.8	L6 CHONDRITE	C	A	25	
DOM 14015	111.6	L5 CHONDRITE	Be	B	26	
DOM 14016	61.7	H6 CHONDRITE	Ce	A	20	
DOM 14017	54.1	L5 CHONDRITE	B	A/B	24.5	
DOM 14018	130.1	L5 CHONDRITE	Be	B	25	
DOM 14020	132.9	L6 CHONDRITE	B/Ce	A/B	25	
DOM 14021	386.4	EH3 CHONDRITE	A	A/B	1	0-16
DOM 14022	423.2	L6 CHONDRITE	Be	A/B	26	
DOM 14023	145.8	L6 CHONDRITE	B/C	A/B	25	
DOM 14024	391.7	L6 CHONDRITE	Be	C	26	
DOM 14025	149.6	H5 CHONDRITE	Ce	A/B	19	
DOM 14026	99.4	L6 CHONDRITE	B/Ce	A	25	
DOM 14027	190.0	L6 CHONDRITE	B	A/B	25	
DOM 14028	110.2	L5 CHONDRITE	B	A/B	25	
DOM 14029	118.8	H5 CHONDRITE	Be	A	19	
DOM 14040	8.4	L5 CHONDRITE	B/C	A	26	
DOM 14041	9.3	L5 CHONDRITE	B/C	A	25	
DOM 14042	10.0	H6 CHONDRITE	B/C	A	20	
DOM 14043	12.9	L6 CHONDRITE	B/C	A	26	
DOM 14044	16.5	L6 CHONDRITE	B/C	A	26	
DOM 14045	15.4	L5 CHONDRITE	B/C	A	25	
DOM 14046	6.7	L5 CHONDRITE	B/C	A	26	
DOM 14047	9.4	H6 CHONDRITE	B/C	A	20	
DOM 14048	10.4	L6 CHONDRITE	B/C	A	26	
DOM 14049	27.4	L6 CHONDRITE	B/C	A	26	
DOM 14050	8.0	H6 CHONDRITE	B/C	A	20	
DOM 14051	19.0	L6 CHONDRITE	A/B	A	26	
DOM 14052	19.0	L6 CHONDRITE	B	A	25	
DOM 14053	22.6	H6 CHONDRITE	B/C	A	20	
DOM 14054	23.4	L6 CHONDRITE	B	A/B	25	
DOM 14055	16.9	H6 CHONDRITE	C	A/B	20	
DOM 14056	13.7	L4 CHONDRITE	B/C	A/B	26	
DOM 14057	11.4	L6 CHONDRITE	B/C	A	25	
DOM 14058	10.7	H6 CHONDRITE	B/C	A/B	21	
DOM 14059	6.8	L6 CHONDRITE	B	A	25	
DOM 14060	34.1	L5 CHONDRITE	A/B	A	25	
DOM 14061	59.9	L5 CHONDRITE	A/B	A/B	25	
DOM 14062	32.8	L5 CHONDRITE	B/C	A/B	25	
DOM 14063	27.3	L5 CHONDRITE	A/B	A	25	
DOM 14064	23.2	L6 CHONDRITE	B/C	A	25	

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
DOM 14065	41.2	L5 CHONDRITE	A/B	A/B	25	
DOM 14066	24.3	L6 CHONDRITE	B/C	A/B	25	
DOM 14067	24.7	L6 CHONDRITE	B/C	A	25	
DOM 14068	19.0	H5 CHONDRITE	B/C	A	20	
DOM 14069	36.3	L5 CHONDRITE	A/B	A	24	
DOM 14070	23.6	L5 CHONDRITE	B	A	25	
DOM 14071	15.6	L5 CHONDRITE	B/C	A/B	26	
DOM 14072	26.2	L6 CHONDRITE	B	A	26	
DOM 14073	16.8	H6 CHONDRITE	Ce	A	20	
DOM 14074	23.7	H6 CHONDRITE	C	A/B	20	
DOM 14075	18.9	L5 CHONDRITE	B	A	26	
DOM 14076	12.5	L5 CHONDRITE	C	A	25	
DOM 14077	12.0	L5 CHONDRITE	B/C	A/B	25	
DOM 14078	15.3	L5 CHONDRITE	B/C	A	25	
DOM 14079	4.9	L6 CHONDRITE	Ce	A	25	
DOM 14090	17.2	H5 CHONDRITE	C	A	19	
DOM 14091	12.4	L5 CHONDRITE	C	A	25	
DOM 14092	13.2	L5 CHONDRITE	C	A	25-27	21
DOM 14093	11.8	L5 CHONDRITE	Be	A	25.5	
DOM 14094	13.8	L6 CHONDRITE	Be	A	25.5	
DOM 14095	13.7	L6 CHONDRITE	B/C	A/B	26	
DOM 14096	11.3	L5 CHONDRITE	B	A	25	
DOM 14097	13.8	L5 CHONDRITE	B	A	26	
DOM 14098	17.1	L6 CHONDRITE	B	A	25	
DOM 14099	26.2	L5 CHONDRITE	B	B	26	
DOM 14110	26.8	L6 CHONDRITE	B	A	25	
DOM 14111	38.8	L5 CHONDRITE	B	A	26	
DOM 14112	18.8	H6 CHONDRITE	B/Ce	A	20	
DOM 14113	25.4	L6 CHONDRITE	B	A/B	24	
DOM 14114	25.6	L5 CHONDRITE	A/B	A	25	
DOM 14115	17.3	L4 CHONDRITE	A/Be	A	25	
DOM 14116	28.5	L4 CHONDRITE	B/c	A	26	
DOM 14117	22.2	L6 CHONDRITE	A/B	A	26	
DOM 14118	21.8	IRON-IAB	A	A/B		
DOM 14119	23.8	L6 CHONDRITE	B/C	A	26	
DOM 14140	13.6	H6 CHONDRITE	Ce	A/B	20	
DOM 14141	13.2	L6 CHONDRITE	B	A	26	
DOM 14142	17.3	H6 CHONDRITE	B/Ce	A/B	20	
DOM 14143	3.6	L5 CHONDRITE	Ce	A	26	
DOM 14144	8.7	L6 CHONDRITE	Ce	A	26	
DOM 14145	22.3	L6 CHONDRITE	Be	A/B	26	
DOM 14146	15.8	H6 CHONDRITE	Ce	A	21	
DOM 14147	10.3	H5 CHONDRITE	Ce	B	17	16
DOM 14148	7.8	H5 CHONDRITE	Ce	B	20	
DOM 14149	17.0	L5 CHONDRITE	B	A	26	
DOM 14150	13.6	H6 CHONDRITE	Ce	A/B	19	
DOM 14151	13.2	L5 CHONDRITE	B/C	A	24	
DOM 14152	17.6	L5 CHONDRITE	B/C	A	25	
DOM 14153	6.2	H6 CHONDRITE	Ce	A/B	19	
DOM 14154	13.1	L6 CHONDRITE	B/C	A	25	
DOM 14155	20.1	H6 CHONDRITE	Ce	A	19	
DOM 14156	29.8	H5 CHONDRITE	C	A/B	19	
DOM 14157	5.7	L5 CHONDRITE	Ce	A/B	25	21
DOM 14158	4.4	H6 CHONDRITE	Ce	A/B	20	

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
DOM 14159	16.3	H6 CHONDRITE	Ce	A/B	20	
DOM 14160	12.0	L5 CHONDRITE	B/C	A	25	
DOM 14161	25.8	L4 CHONDRITE	B/C	A	25	
DOM 14162	20.4	L6 CHONDRITE	B/C	A/B	25	
DOM 14163	9.4	L6 CHONDRITE	B/C	A	25	
DOM 14164	17.2	L5 CHONDRITE	A/B	A	25	
DOM 14165	9.7	L5 CHONDRITE	B/C	A	26	
DOM 14166	9.6	L5 CHONDRITE	A/B	A	25	
DOM 14167	14.9	L5 CHONDRITE	B/C	A	26	
DOM 14168	11.8	L5 CHONDRITE	B/C	A	26	
DOM 14280	16.8	L4 CHONDRITE	B	A	25	
DOM 14281	16.7	H5 CHONDRITE	B/Ce	A	19	17
DOM 14282	15.5	L5 CHONDRITE	C	A/B	25	
DOM 14283	15.7	H6 CHONDRITE	C	A	19	
DOM 14284	20.4	L6 CHONDRITE	C	B	25	
DOM 14285	15.6	H6 CHONDRITE	Ce	A/B	20	
DOM 14286	15.3	L6 CHONDRITE	B/C	A	26	
DOM 14287	8.9	L6 CHONDRITE	B	A	25	
DOM 14288	6.5	L5 CHONDRITE	B/C	A	25	
DOM 14320	16.1	L5 CHONDRITE	C	A	26	
DOM 14321	15.0	L5 CHONDRITE	B/C	A	25	
DOM 14322	19.2	L6 CHONDRITE	B	A/B	24	
DOM 14323	14.1	L6 CHONDRITE	C	B	25	
DOM 14324	15.4	L5 CHONDRITE	B/C	B	26	
DOM 14325	15.2	L4 CHONDRITE	B	A/B	25	
DOM 14326	8.9	L4 CHONDRITE	B	A	24	
DOM 14327	11.6	L4 CHONDRITE	B/C	A/B	26	
DOM 14328	10.9	L5 CHONDRITE	C	A/B	25	
DOM 14329	19.0	H6 CHONDRITE	Ce	B	20	
DOM 14330	13.1	LL5 CHONDRITE	C	A	29	
DOM 14331	18.5	L6 CHONDRITE	C	B	25	21
DOM 14332	17.4	L6 CHONDRITE	B/Ce	B	25	
DOM 14333	10.8	L5 CHONDRITE	B	B	26	
DOM 14334	13.7	L5 CHONDRITE	B/C	A	25	
DOM 14335	11.3	L5 CHONDRITE	B/C	B	26	
DOM 14336	8.7	L6 CHONDRITE	B/C	A	25	
DOM 14337	8.2	L5 CHONDRITE	B/C	A	25	
DOM 14338	10.4	L4 CHONDRITE	B/C	B	26	
DOM 14339	6.2	H6 CHONDRITE	C	A	19	17
DOM 14370	4.6	H5 CHONDRITE	A/B	A/B	17	
DOM 14371	15.4	L6 CHONDRITE	Be	A	26	
DOM 14372	19.6	L6 CHONDRITE	A/B	A	24	
DOM 14373	13.5	L6 CHONDRITE	B/C	A	25	
DOM 14374	17.0	L6 CHONDRITE	B/C	A	25	
DOM 14380	2.6	L4 CHONDRITE	C	A/B	24.5	
DOM 14381	2.9	H6 CHONDRITE	Ce	A/B	20	
DOM 14382	11.3	L5 CHONDRITE	C	A/B	25	
DOM 14383	8.2	L6 CHONDRITE	C	A	26	
DOM 14384	5.8	H6 CHONDRITE	Ce	A/B	20	
DOM 14385	11.6	H6 CHONDRITE	C	A/B	19	
DOM 14386	11.9	H5 CHONDRITE	C	A/B	19	
DOM 14387	11.2	L6 CHONDRITE	Ce	B	25	
DOM 14388	15.0	H6 CHONDRITE	C	A	19	
DOM 14389	19.3	L5 CHONDRITE	B/C	A	25	

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
DOM 14440	15.9	H4 CHONDRITE	B/Ce	A/B	20	
DOM 14441	11.2	H6 CHONDRITE	B/C	A	19	
DOM 14442	14.3	L5 CHONDRITE	A/B	A	26	
DOM 14443	6.2	H6 CHONDRITE	B/Ce	A	19	
DOM 14444	5.2	H6 CHONDRITE	B/C	A/B	20	
DOM 14446	5.7	H5 CHONDRITE	B/C	A	20	
DOM 14447	10.1	H6 CHONDRITE	B/C	A	20	
DOM 14448	12.1	L6 CHONDRITE	B/C	A	25	
DOM 14449	7.1	H5 CHONDRITE	B/C	A/B	19	
DOM 14480	10.4	L5 CHONDRITE	A/B	A	25	
DOM 14481	20.1	L6 CHONDRITE	A/B	A	25	
DOM 14482	13.1	L5 CHONDRITE	A/B	A	25	
DOM 14483	11.6	L5 CHONDRITE	B/C	A	26	
DOM 14484	5.4	L4 CHONDRITE	B/C	A	25	
DOM 14485	9.1	L5 CHONDRITE	A/B	A/B	25	
DOM 14486	16.9	H6 CHONDRITE	B/C	A		17
DOM 14487	12.2	L5 CHONDRITE	B	A	26	
DOM 14488	17.9	L5 CHONDRITE	A/B	A/B	25	
DOM 14489	20.0	H5 CHONDRITE	B	A	20	
DOM 14540	15.5	LL4 CHONDRITE	Be	B	28	
DOM 14541	18.8	L5 CHONDRITE	B/C	A/B	25	
DOM 14542	9.9	L5 CHONDRITE	Ce	A	25	
DOM 14543	12.7	LL5 CHONDRITE	B	A/B	28	
DOM 14544	17.9	L6 CHONDRITE	Ce	A	25	
DOM 14545	7.2	H6 CHONDRITE	Ce	A	20	
DOM 14546	16.7	L5 CHONDRITE	Be	B	25	
DOM 14547	10.9	L5 CHONDRITE	B	A	26	
DOM 14548	11.9	L5 CHONDRITE	B	A	26	
DOM 14549	16.4	L5 CHONDRITE	B/Ce	A	26	
EET 16006	50.2	CK5 CHONDRITE	Ae	B	31	
EET 16029	3.2	CK5 CHONDRITE	A	A/B	30	
EET 16039	8.4	HOWARDITE	A	B	32-53	91-93
EET 16044	61.7	DIOGENITE	A	B		25-29
EET 16046	69.5	IRON-IAB	B	A/B	3-4	5-7
EET 16047	46.3	IRON-IAB	A	A/B	3-4	5-7
EET 16048	0.9	CK5 CHONDRITE	A/B	A	30	
EET 16049	39.6	CK5 CHONDRITE	A/B	A	30	
EET 16050	0.5	CM2 CHONDRITE	B	A	0-48	1
EET 16079	3.5	CM2 CHONDRITE	A/Be	A/B	0-28	1
EET 16097	4.1	CM2 CHONDRITE	Ae	A/B	1-3	
EET 16100	3.6	CM1 CHONDRITE	Ae	B/C		
EET 16119	4.1	HOWARDITE	A	A/B		25-52
EET 16127	1.7	CM2 CHONDRITE	Be	A/B	1-32	
EET 16128	1.2	CM2 CHONDRITE	B	B	0-24	1-38
EET 16129	0.7	CM1/2 CHONDRITE	Be	B	1-38	
EET 16170	10.7	CK5 CHONDRITE	A/Be	A/B	30	
EET 16171	0.7	CM2 CHONDRITE	Be	A/B	1-36	
EET 16172	1.2	CK5 CHONDRITE	A/B	A	30	8
EET 16174	1.1	LL4 CHONDRITE	A/B	B	28	23
EET 16199	0.7	WINONAITE	Ce	B	6-9	1-7
EET 16201	1.0	CK5 CHONDRITE	A	A	30	11-25
EET 16203	1.1	CK5 CHONDRITE	A	B	30	
EET 16212	1.0	ACAPULCOITE	B	A	10	11

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 15188	1.1	CM2 CHONDRITE	A	A	0-43	
MIL 15228	0.4	L5 CHONDRITE	A/B	A	25	
MIL 15438	1.2	LL5 CHONDRITE	B	A	29	24
MIL 15470	0.6	H CHONDRITE (IMPT MELT)	Ce	B/C	19	17
MIL 15524	1.4	CV3 CHONDRITE	C	C	1-12	1
MIL 15530	0.7	UREILITE	A	B	10-18	15
MIL 15553	1.1	H5 CHONDRITE	C	A/B	19	17
MIL 15565	0.9	CV3 CHONDRITE	B	C	1-28	1
MIL 15568	1.2	H5 CHONDRITE	A/Be	B	19	16
MIL 15569	0.7	H5 CHONDRITE	A/Be	B	18	16

Table 2
Newly Classified Meteorites Listed by Type

Achondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
EET 16212	1.0	ACAPULCOITE	B	A	10	11
EET 16044	61.7	DIOGENITE	A	B		25-29
EET 16039	8.4	HOWARDITE	A	B	32-53	91-93
EET 16119	4.1	HOWARDITE	A	A/B		25-52
MIL 15530	0.7	UREILITE	A	B	10-18	15
EET 16199	0.7	WINONAITE	Ce	B	6-9	1-7

Carbonaceous Chondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
EET 16006	50.2	CK5 CHONDRITE	Ae	B	31	
EET 16029	3.2	CK5 CHONDRITE	A	A/B	30	
EET 16048	0.9	CK5 CHONDRITE	A/B	A	30	
EET 16049	39.6	CK5 CHONDRITE	A/B	A	30	
EET 16170	10.7	CK5 CHONDRITE	A/Be	A/B	30	
EET 16172	1.2	CK5 CHONDRITE	A/B	A	30	8
EET 16201	1.0	CK5 CHONDRITE	A	A	30	11-25
EET 16203	1.1	CK5 CHONDRITE	A	B	30	
EET 16100	3.6	CM1 CHONDRITE	Ae	B/C		
EET 16129	0.7	CM1/2 CHONDRITE	Be	B	1-38	
EET 16050	0.5	CM2 CHONDRITE	B	A	0-48	1
EET 16079	3.5	CM2 CHONDRITE	A/Be	A/B	0-28	1
EET 16097	4.1	CM2 CHONDRITE	Ae	A/B	1-3	
EET 16127	1.7	CM2 CHONDRITE	Be	A/B	1-32	
EET 16128	1.2	CM2 CHONDRITE	B	B	0-24	1-38
EET 16171	0.7	CM2 CHONDRITE	Be	A/B	1-36	
MIL 15188	1.1	CM2 CHONDRITE	A	A	0-43	
MIL 15524	1.4	CV3 CHONDRITE	C	C	1-12	1
MIL 15565	0.9	CV3 CHONDRITE	B	C	1-28	1

E Chondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
DOM 14021	386.4	EH3 CHONDRITE	A	A/B	1	0-16

H Type

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 15470	0.6	H CHONDRITE (IMPT MELT)	Ce	B/C	19	17

Irons

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
DOM 14118	21.8	IRON-IAB	A	A/B		
EET 16046	69.5	IRON-IAB	B	A/B	3-4	5-7
EET 16047	46.3	IRON-IAB	A	A/B	3-4	5-7

**Notes to Tables 1 and 2:

"Weathering" Categories:

A: Minor rustiness; rust haloes on metal particles and rust stains along fractures are minor.
B: Moderate rustiness; large rust haloes occur on metal particles and rust stains on internal fractures are extensive.
C: Severe rustiness; metal particles have been mostly stained by rust throughout.
E: Evaporite minerals visible to the naked eye.

"Fracturing" Categories:

A: Minor cracks; few or no cracks are conspicuous to the naked eye and no cracks penetrate the entire specimen.
B: Moderate cracks; several cracks extend across exterior surfaces and the specimen can be readily broken along the cracks.
C: Severe cracks; specimen readily crumbles along cracks that are both extensive and abundant.

Classification of the ordinary chondrites in Table 1 & 2 was done by Energy Dispersive Spectroscopic (EDS) methods using a Scanning Electron Microscope (SEM). This can include the analysis of several olivine and pyroxene grains to determine the approximate Fayalite and Ferrosilite values of the silicates, grouping them into H, L or LL chondrites. Petrologic types are determined by optical microscopy and are assigned based on the distinctiveness of chondrule boundaries on broken surfaces of a 1-3 g chip. While this technique is suitable for general characterization and delineation of equilibrated ordinary chondrites, those undertaking detailed study of any meteorite classified by optical methods alone should use caution. It is recommended that a polished thin section be requested to accompany any chip and appropriate steps for a more detailed characterization should be undertaken by the user. (Cari Corrigan, Smithsonian Institution)

Table 3

Tentative Pairings for New Meteorites

Table 3 summarizes possible pairings of the new specimens with each other and with previously classified specimens based on descriptive data in this newsletter issue. Readers who desire a more comprehensive review of the meteorite pairings in the U.S. Antarctic collection should refer to the compilation provided by Dr. E.R. D. Scott, as published in the Antarctic Meteorite Newsletter vol. 9 (no. 2) (June 1986). Possible pairings were updated in Meteoritical Bulletins 76, 79, 82 through 106, which are available online from the Meteoritical Society webpage:

http://www.lpi.usra.edu/meteor/metbull.php

CK5 CHONDRITE

EET 16029, EET 16048, EET 16049, EET 16170, EET 16172, EET 16201, and EET 16203 with EET 16006

CM2 CHONDRITE

EET 16079, EET 16097, EET 16127, EET 16128, and EET 16171 with EET 16050

CV3 CHONDRITE

MIL 15565 with MIL 15524

IRON

EET 16047 with EET 16046

Petrographic Descriptions

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
DOM 14021	Dominion Range	22548	9.8 x 5.5 x 4.0	386.4	EH3 Chondrite

Macroscopic Description: Rachel Funk

99% Black/brown slightly fractured fusion crust. The interior is a black matrix with black and white inclusions/chondrules and metals throughout.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section shows an aggregate of chondrules (up to 1 mm), chondrule fragments, and pyroxene grains in a matrix of about 30% metal and sulfide. Chondrules contain relatively abundant olivine. Weathering is modest, with staining of some enstatite grains and minor alteration of metal and sulfides. Microprobe analyses show the olivine is Fa_1 and pyroxene is Fs_{0-16}. The nickel-iron contains 2.5% Si. The meteorite is a type 3 enstatite chondrite, probably an EH3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
DOM 14118	Dominion Range	23567	2.0 x 1.8 x 1.5	21.8	Iron-IAB

Macroscopic Description: Tim McCoy, Cari Corrigan

This small, equidimensional specimen has largely rounded surfaces and forms a somewhat pyramidal mass. One end exhibits an irregular, jagged surface with marked indentations.

Thin Section (,1) Description: Cari Corrigan, Tim McCoy

The section consists of a metallic matrix composed of kamacite grains with lengths of 1-4 mm and length to width ratio of 2:4. Nickel-rich schreibersite occurs within and between kamacite lamellae as a minor phase. Individual kamacite grains exhibit numerous and highly distorted Neumann bands indicative of extensive deformation, likely from shock. Graphite-rich nodules occur oriented in the direction of elongation of the kamacite grains and are of similar size to the kamacite lamellae. Graphite inclusions typically include minute metal grains and exhibit ragged edges with the metallic host. No sulfides are present within the graphite. No silicates were observed. The meteorite exhibits a ~0.5 mm thick fusion crust with á$_2$ structure underlying that crust. Microprobe traverses across the iron indicate a composition of 7.2% Ni and 0.7% P. The meteorite is an iron, likely of group IAB, although it lacks the sulfide component typically found in IAB irons.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15188	Miller Range	24102	1.5 x 0.5 x 1.0	1.1	CM2 Chondrite

Macroscopic Description: Cari Corrigan

The exterior of this flattened mass has 95% black fusion crust. The interior is black.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section consists of a few small chondrules (up to 0.5 mm), mineral grains, and CAIs set in a black matrix; rare metal and sulfide grains are present. Olivine compositions are Fa_{0-43}. Aqueous alteration of the matrix is substantial, but the chondrules are only modestly altered. The meteorite is a CM2 chondrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15470	Miller Range	23601	1.0 x 0.9 x 0.5	0.6	H Chondrite (Impact Melt)

Macroscopic Description: Doug Ross

The exterior is rusty with visible metal. The interior is a weathered brown matrix.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

This section contains a mixture of unmelted clasts and melted matrix. Metal-sulfide intergrowths are common. Olivine compositions are Fa_{19} and pyroxenes are Fs_{17}. This meteorite is an H chondrite impact melt breccia.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15524	Miller Range	23604	1.6 x 1.1 x 0.7	1.4	CV3 Chondrite
MIL 15565	Miller Range	23622	1.1 x 0.9 x 0.6	0.9	CV3 Chondrite

Macroscopic Description: Doug Ross

Exterior on 524 is rusty brown with no visible fusion crust; on 565 25% has black fusion crust with some gray chondrules/inclusions visible. The rusty weathered brown interior has gray and orange chondrules with evaporites present.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The sections exhibit large chondrules (up to 3 mm) and CAIs in a dark matrix. Olivines range from Fa_{1-28}, with most Fa_{1-5}, and pyroxene of Fs_1. The meteorites are unequilibrated carbonaceous chondrites, probably CV3 chondrites.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15530	Miller Range	25888	1.0 x 0.7 x 0.7	0.7	Ureilite

Macroscopic Description: Doug Ross

The exterior is shiny black. The interior contains coarse metallic inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section consists of an aggregate of large olivine and pyroxene grains up to 1 mm across. Individual olivine grains are rimmed by carbon-rich material containing traces of metal. Olivines have cores of Fa_{18}, with rims reduced to Fa_{10}. Pigeonite is $Fs_{15}Wo_9$. The meteorite is a ureilite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16006	Elephant Moraine	24609	4.0 x 3.0 x 2.5	50.2	CK5 Chondrite
EET 16029	Elephant Moraine	24443	1.8 x 1.7 x 0.7	3.2	CK5 Chondrite
EET 16048	Elephant Moraine	24281	1.0 x 0.9 x 0.5	0.9	CK5 Chondrite
EET 16049	Elephant Moraine	24278	4.0 x 2.8 x 2.6	39.6	CK5 Chondrite
EET 16170	Elephant Moraine	24415	2.5 x 2.1 x 1.3	10.7	CK5 Chondrite
EET 16172	Elephant Moraine	24636	1.5 x 1.0 x 0.5	1.2	CK5 Chondrite
EET 16201	Elephant Moraine	24693	1.3 x 0.8 x 0.9	1.0	CK5 Chondrite
EET 16203	Elephant Moraine	24686	1.5 x 0.9 x 0.7	1.1	CK5 Chondrite

Macroscopic Description: Rachel Funk, Cecilia Satterwhite

Black fusion crust is present on all these meteorites, some have fracturing others are frothy in areas and evaporites are present on some surfaces. Exposed areas without fusion crust range from gray to black matrix with some inclusions visible. The interiors range from a medium gray to dark gray matrix with white, gray and black chondrules/inclusions, some metal flecks and oxidation are visible on some of the interiors.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The sections consist of large (up to 1.5 mm), well-defined chondrules in a matrix of finer-grained silicates, sulfides, and abundant magnetite grains. The meteorites are minimally weathered, but extensively shock blackened. Silicates are homogeneous. Olivine is Fa_{30-31} and pyroxene is $Fs_{11-25}Wo_{1-39}$. The meteorites are CK5 chondrites and are likely paired with each other and with the larger pairing group EET 87507 (Righter etal 2015 METSOC abstract).

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16039	Elephant Moraine	24489	2.2 x 2.0 x 1.7	8.4	Howardite

Macroscopic Description: Rachel Funk

There is a black, glassy fusion crust covering 70% of the rock. The fusion crust is fractured and some fractures penetrate the interior of the rock. The exposed surface reveals a gray matrix with white inclusions and minor amounts of orange and yellow rust. The interior gray matrix contains beige clasts (up to 1 cm in size) and white clasts (up to 2 mm in size).

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section shows a groundmass of comminuted pyroxene and plagioclase (up to 0.5 mm) with fine- to coarse-grained basaltic clasts ranging up to 2 mm. Most of the pyroxene is orthopyroxene with compositions ranging from $Fs_{32-53}Wo_{2-39}$ and feldspar $An_{91-93}Or_{0.4}$. The meteorite is a howardite. Possible pairing with EET 87512 should be considered.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16044	Elephant Moraine	24645	6.0 x 3.0 x 1.6	61.7	Diogenite

Macroscopic Description: Rachel Funk

35% of the exterior is covered by a jet black, speckled fusion crust. There are small fractures that penetrate the rock. The exposed surface is gray with green crystals (up to 3 mm in size) protruding out of the sample. The interior has a light gray matrix with green crystals and some dark gray inclusions. There are minor amounts of orange/brown rust surrounding the crystals and within the matrix toward the exterior of the rock.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section shows a groundmass of coarse (up to 1.5 mm) comminuted pyroxene, with minor plagioclase and SiO_2. Orthopyroxene has a composition of $Fs_{25-29}Wo_3$. The Fe/Mn ratio of the pyroxene is ~30. The meteorite is a diogenite. Possible pairing with EET 87530 should be considered.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16046	Elephant Moraine	24644	4.0 x 4.0 x 3.7	69.5	Iron-IAB
EET 16047	Elephant Moraine	24641	4.5 x 2.5 x 2.2	46.3	Iron-IAB

Macroscopic Description: Tim McCoy, Cari Corrigan

These highly irregular masses exhibit numerous angular indentations and jagged protrusions. EET 16046 shows one relatively flat surface which appears to sample the original exterior of the parent meteorite.

Thin Section (,1) Description: Cari Corrigan, Tim McCoy

The sections are composed largely of iron-nickel metal with interspersed silicate grains of up to 0.5 mm. The metallic host is composed of kamacite with large amounts of plessite, which includes clear taenite borders. The silicates include olivine (Fa_{3-4}), pyroxene ($Fs_{5-7}Wo_{1-2}$) and feldspar. These silicates are intergrown with abundant troilite, graphite and large schreibersite grains. The meteorite is an iron with silicate inclusions and is probably a silicate-bearing, low-Ni IAB iron similar in composition to, e.g., Landes. Pairing with EET 87504/5/6 is possible.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16050	Elephant Moraine	24272	1.1 x 1.1 x 0.3	0.5	CM2 Chondrite
EET 16079	Elephant Moraine	24635	1.6 x 1.6 x 1.0	3.5	CM2 Chondrite
EET 16097	Elephant Moraine	24671	2.0 x 1.5 x 1.0	4.1	CM2 Chondrite
EET 16127	Elephant Moraine	24280	1.6 x 1.5 x 0.8	1.7	CM2 Chondrite
EET 16128	Elephant Moraine	24634	1.5 x 1.4 x 0.7	1.2	CM2 Chondrite
EET 16171	Elephant Moraine	24601	1.4 x 1.2 x 0.3	0.7	CM2 Chondrite

Macroscopic Description: Cecilia Satterwhite

The exteriors of these carbonaceous all have some fractured black fusion crust, some are frothy in areas and evaporites are present. Areas without fusion crust are black matrix with white and light gray specks. Interiors are fine grained black with white and gray specks/inclusions/chondrules, some areas are weathered and rust is visible on some of these meteorites.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The sections consist of a few small chondrules (up to 0.5 mm), mineral grains and CAIs set in a black matrix; rare metal and sulfide grains are present. Olivine compositions are Fa_{0-48} with most $<Fa_2$, pyroxenes are Fs_{1-38}. Aqueous alteration of the matrix is substantial, but the chondrules are only modestly altered. The meteorites are CM2 chondrites.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16100	Elephant Moraine	24485	2.3 x 1.7 x 1.0	3.6	CM1 Chondrite

Macroscopic Description: Rachel Funk

45% of rock is covered by black, fractured fusion crust with evaporites. Fusion crust is vesicular in some areas. The exposed surface is black and fractured. The interior is a jet black matrix with evaporites.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section consists of small (up to 0.5 mm) completely altered chondrules set in an altered matrix. Rare sulfide grains are present. No unaltered mafic silicates remain. A few rare calcite grains were encountered. The meteorite is a CM1 chondrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16119	Elephant Moraine	24625	2.3 x 1.7 x 1.0	4.1	Howardite

Macroscopic Description: Rachel Funk

75% of rock is covered by black, glassy fusion crust. One side of rock is completely void of fusion crust. The exposed surface is gray with white and beige clasts. The interior is a light gray matrix with beige clasts (up to 3 mm in size) and white clasts (up to 1 mm in size).

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section shows a groundmass of comminuted pyroxene and plagioclase (up to 0.5 mm) with fine- to coarse-grained basaltic clasts ranging up to 3 mm. Most of the pyroxene is orthopyroxene with compositions ranging from $Fs_{25-52}Wo_{2-3}$ and feldspar $An_{95}Or_{0.3}$. The meteorite is a howardite. Possible pairing with EET 87512 should be considered.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16129	Elephant Moraine	24484	1.0 x 1.0 x 0.5	0.7	CM1/2 Chondrite

Macroscopic Description: Cecilia Satterwhite

The exterior has black/brown fusion crust with some rusty areas. Interior is a black fine grained matrix with some weathered areas.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section consists of small (up to 0.5 mm) completely altered chondrules set in an altered matrix. Rare sulfide grains are present. Few unaltered mafic silicates remain with olivine compositions of Fa_{1-38}. A few rare calcite grains were encountered. The meteorite is a CM1/2 chondrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16199	Elephant Moraine	24428	1.3 x 1.0 x 0.4	0.7	Winonaite

Macroscopic Description: Doug Ross

90% of the exterior has brown fusion crust, one surface is highly vesicular with evaporites. The dark brown/gray interior matrix has large gray chondrules/inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section is dominated by silicates with abundant metal occurring as veins, networks and blebs up to 1 mm in size, with minor troilite. Graphite appears to be absent. The silicates include olivine (Fa_{6-9}), pyroxene ($Fs_{1-7}Wo_{1-2}$), and feldspar. The combination of low-FeO mafics and abundant metal suggests this meteorite is tentatively classified as a winonaite, although it lacks features common to winonaites (graphite and daubreelite). Further studies are warranted to confirm the classification.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
EET 16212	Elephant Moraine	24427	1.3 x 1.0 x 1.7	1.0	Acapulcoite

Macroscopic Description: Doug Ross

40% of the exterior has black/brown fusion crust, frothy in areas, some rusty and iridescent areas, one surface is shiny. The coarse grained matrix has some oxidation and varied crystals from orange to white and green.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy

The section consists of an equigranular aggregate of olivine, pyroxene, plagioclase, and metal with minor sulfide and chromite. Average grain size is 0.5 mm, with some grains up to 1 mm. Olivine (Fa_{10}) and pyroxene (Fs_{11}) are homogeneous. One calcic pyroxene grain was analyzed (Fs_4). This section is moderately weathered. The meteorite is an acapulcoite.

Sample Request Guidelines

The Meteorite Working Group (MWG), is a peer-review committee which meets twice a year to guide the collection, curation, allocation, and distribution of the U.S. collection of Antarctic meteorites. The deadline for submitting a request is 2 weeks prior to the scheduled meeting.

Requests that are received by the MWG secretary by **Sept. 21, 2017 deadline** will be reviewed at the MWG meeting on **Oct. 5-6 in Washington, DC.** Requests that are received after the deadline may be delayed for review until MWG meets again in the Spring of 2018. Please submit your requests on time. Questions pertaining to sample requests can be directed to the MWG secretary by e-mail, fax or phone.

Requests for samples are welcomed from research scientists of all countries, regardless of their current state of funding for meteorite studies. Graduate student requests should have a supervising scientist listed to confirm access to facilities for analysis. All sample requests will be reviewed in a timely manner. Sample requests that do not meet the curatorial allocation guidelines will be reviewed by the Meteorite Working Group (MWG). Issuance of samples does not imply a commitment by any agency to fund the proposed research. Requests for financial support must be submitted separately to an appropriate funding agency. As a matter of policy, U.S. Antarctic meteorites are the property of the National Science Foundation, and all allocations are subject to recall.

Samples can be requested from any meteorite that has been made available through announcement in any issue of the ***Antarctic Meteorite Newsletter*** (beginning with 1(1) in June, 1978). Many of the meteorites have also been described in five *Smithsonian Contributions to the Earth Sciences*: Nos. 23, 24, 26, 28, and 30. Tables containing all classified meteorites as of August 2006 have been published in the Meteoritical Bulletins and *Meteoritics* and *Meteoritics and Planetary Science.*

They are also available online at:

http://www.meteoriticalsociety.org/simple_template.cfm?code=pub_bulletin

The most current listing is found online at:

http://curator.jsc.nasa.gov/antmet/us_clctn.cfm

All sample requests should be made electronically using the form at:

http://curator.jsc.nasa.gov/antmet/requests.cfm

The purpose of the sample request form is to obtain all information MWG needs prior to their deliberations to make an informed decision on the request. Please use this form if possible.

The preferred method of request transmittal is via e-mail. Please send requests and attachments to:

JSC-ARES-MeteoriteRequest@nasa.gov

Type **MWG Request** in the e-mail subject line. Please note that the form has signature blocks. The signature blocks should only be used if the form is sent via Fax or mail.

Each request should accurately refer to meteorite samples by their respective identification numbers and should provide detailed scientific justification for proposed research. Specific requirements for samples, such as sizes or weights, particular locations (if applicable) within individual specimens, or special handling or shipping procedures should be explained in each request. Some meteorites are small, of rare type, or are considered special because of unusual properties. Therefore, it is very important that all requests specify both the optimum amount of material needed for the study and the minimum amount of material that can be used. Requests for thin sections that will be used in destructive procedures such as ion probe, laser ablation, etch, or repolishing must be stated explicitly.

Consortium requests should list the members in the consortium. All necessary information should be typed on the electronic form, although informative attachments (reprints of publication that explain rationale, flow diagrams for analyses, etc.) are welcome.

Antarctic Meteorite Laboratory Contact Numbers

Please submit request to**: JSC-ARES-MeteoriteRequest@nasa.gov**

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Meteorites On-Line

Several meteorite web sites are available to provide information on meteorites from Antarctica and elsewhere in the world. Some specialize in information on martian meteorites and on possible life on Mars. Here is a general listing of ones we have found. We have not included sites focused on selling meteorites even though some of them have general information. Please contribute information on other sites so we can update the list.

JSC Curator, Antarctic meteorites	http://curator.jsc.nasa.gov/antmet/
JSC Curator, HED Compendium	http://curator.jsc.nasa.gov/antmet/hed/
JSC Curator, Lunar Meteorite Compendium	http://curator.jsc.nasa.gov/antmet/lmc/
JSC Curator, Mars Meteorite Compendium	http://curator.jsc.nasa.gov/antmet/mmc/
ANSMET	http://caslabs.case.edu/ansmet/
Smithsonian Institution	http://mineralsciences.si.edu/
Lunar Planetary Institute	http://www.lpi.usra.edu
NIPR Antarctic meteorites	http://www.nipr.ac.jp/
Meteoritical Bulletin online Database	http://www.lpi.usra.edu/meteor/metbull.php
Museo Nazionale dell'Antartide	http://www.mna.it/collezioni/catalogo-meteoriti-sede-di-siena
BMNH general meteorites	http://www.nhm.ac.uk/our-science/departments-and-staff/earth-sciences/mineral-and-planetary-sciences.html
Chinese Antarctic meteorite collection	http://birds.chinare.org.cn/en/resourceList/
UHI planetary science discoveries	http://www.psrd.hawaii.edu/index.html
Meteoritical Society	http://www.meteoriticalsociety.org/
Meteoritics and Planetary Science	http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1945-5100
Meteorite! Magazine	http://www.meteoritemag.org/
Geochemical Society	http://www.geochemsoc.org
Washington Univ. Lunar Meteorite	http://meteorites.wustl.edu/lunar/moon_meteorites.htm
Washington Univ. "meteor-wrong"	http://meteorites.wustl.edu/meteorwrongs/meteorwrongs.htm
Portland State Univ. Meteorite Lab	http://meteorites.pdx.edu/
Northern Arizona University	http://www4.nau.edu/meteorite/
Martian Meteorites	http://www.imca.cc/mars/martian-meteorites.htm

Other Websites of Interest

OSIRIS-REx	http://osiris-rex.lpl.arizona.edu/
Mars Exploration	http://mars.jpl.nasa.gov
Rovers	http://marsrovers.jpl.nasa.gov/home/
Near Earth Asteroid Rendezvous	http://near.jhuapl.edu/
Stardust Mission	http://stardust.jpl.nasa.gov
Genesis Mission	http://genesismission.jpl.nasa.gov
ARES	http://ares.jsc.nasa.gov/
Astromaterials Curation	http://curator.jsc.nasa.gov/