Antarctic Meteorite Newsletter

Volume 40, Number 1 February 2017

Curator's Comments

Kevin Righter, NASA-JSC

This newsletter reports 180 new meteorites from the 2012, 2013, and 2015 ANSMET seasons from Larkman Nunatak (LAR12), and the Miller Range (MIL13 and MIL15). Meteorites include 3 CK, 3 CM1, 15 CM2, 2 CV3, 1 CO3, 1 CR2 carbonaceous chondrite, 6 enstatite chondrites, 1 eucrite, 1 mesosiderite, and 1 ureilite.

With this newsletter, characterization and announcement of the 2012 (382 meteorites total) and 2013 (320 meteorites total) seasons are complete. The 2012 season collection is from GRA, GRO, GDR, LAR, PAT, SCO, and SZA and features large CO, CK, CR and CV chondrites (SZA 12430, SZA 12431, LAR 12247, and LAR 12002, respectively), EH3 chondrite (LAR 12001), diogenites (LAR 12010, 12248, 12320), howardite (LAR 12326), 3 irons (LAR 12059, 12204, and 12138), 3 shergottites (LAR 12011, 12095, and 12240), and the collections second winonaite (GRA 12510).

The 2013 season collection from the Miller Range (MIL13) features a lunar meteorite (MIL 13317), IAB iron (MIL 13013), aubrite (MIL 13004), CM1/2 chondrite (MIL 13005), and an unbrecciated eucrite (MIL 13019), as well as many others.

The diversity of materials from these two seasons is astounding and reflected in the large and steady number of requests we have received in the past several years. Speaking of numbers, with the recent field team collecting ~220 specimens, the total collected by ANSMET teams is ~22,013. Why the "~" you ask? During most field seasons, there are terrestrial samples collected and we slowly discover them as we classify all the samples. Therefore, we cannot give a specific number until all samples are classified (for example, the 2013 MIL season included 12 terrestrial samples). As of the Spring 2017 (this) newsletter, we have classified and announced 20,540 samples. And finally, just for more numbers – we have received >3,400 sample requests since 1978.

Updates to JSC webpage:

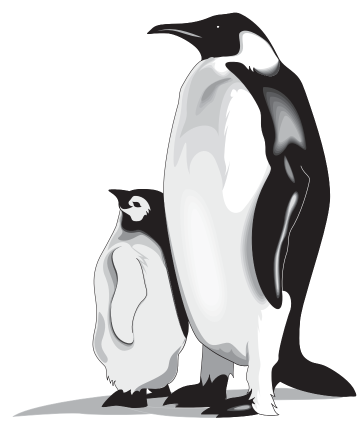
The bibliography of US Antarctic Meteorites has been updated to reflect 59 new publications from 2016. In addition, search options have been added, including ability to search by author, text, or year; users also have an option to output the search to an excel file.

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

Curator's Comments..................1
New Meteorites..........................9
Location Abbreviations and Map...............................9
Table 1: Newly Classified Antarctic Meteorites..............10
Table 2: Newly Classified Meteorites by Type................14
Notes to Tables 1 & 2.................15
Petrographic Descriptions..........16
Sample Request Guidelines........26
Antarctic Meteorite Laboratory Contacts..............................26
Meteorites On-Line....................27



Sample Request Deadline
March 10, 2017

MWG Meets
March 25-26, 2017

The structure of the webpage has changed slightly to reflect updates and additions. The collection excel sheet has been updated to include all samples through AMN 39, no. 2, the list of bandsawed samples has been updated, and portions have been updated to reflect our current request, review, approval, allocation, and loan agreement processes.

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 characterized and curated by the Department of Mineral Sciences of the Smithsonian Institution and Astromaterials Curation Office at NASA Johnson Space Center." 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.

Reclassifications

Over the last several years, we have been measuring magnetic susceptibility during the initial characterization of meteorites (see AMN vol. 39, no. 1). To make that data useful, and to verify what looked like a LL shower in the Dominion Range, we recently made thin sections of 15 large chondrites classified as LL, to compare to the magnetic susceptibility data. As it turns out, all 15 samples had olivine Fa contents of 24-25, which means these samples are L chondrites, not LL chondrites (see LPSC 2017 abstract # 2396). In fact, among the ~60 samples from Larkman Nunatak and Dominion Range that are part of the calibration of magnetic susceptibility versus X_{Fa} (probe data), all H chondrites had log c values > 4.9, and no LL chondrites had log c values > 4.4.

As a result, and using MS data published in AMN 39, no. 1, we have reclassified the samples listed below. We also note that there are ~140 ordinary chondrites from the 2003 season and ~990 from the 2008 season from the Dominion Range whose classification may be suspect and should be treated with caution until we verify these as well. There may be a large L shower associated with the Dominion Range and so the statistics from this region may be skewed from a regular distribution (see LPSC 2017 abstract # 2396).

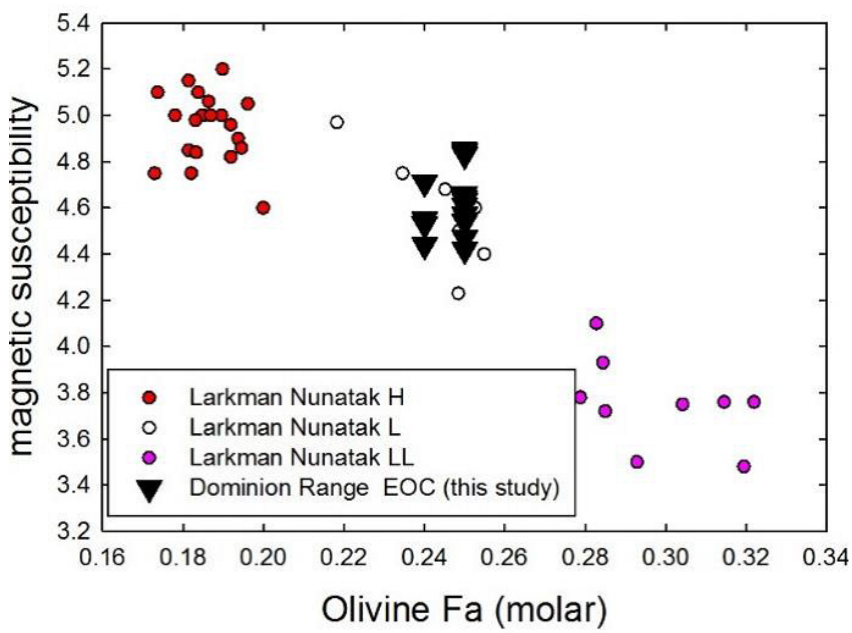


Table 1: Reclassified to L - based on new microprobe data

Sample	Mass	Mag. Susc.	New Fa[2]	Orig.[1]/ Revised[3]
DOM 08017	1021.1	4.85	25	LL5/L5
DOM 08018	1447.8	4.83	25	LL6/L6
DOM 08019	1434.5	4.63	25	LL5/L5
DOM 08020	1020.6	4.84	25	LL5/L5
DOM 08021	1009.1	4.54	25	LL5/L5
DOM 08023	834.1	4.57	25	LL6/L6
DOM 08025	566.1	4.44	24	LL6/L6
DOM 08031	325.9	4.66	25	LL6/L6
DOM 10002	1621.5	4.61	25	LL5/L5
DOM 10003	1104.2	4.53	24	LL5/L5
DOM 10005	1083.3	4.64	25	LL6/L6
DOM 10007	583.7	4.42	25	LL6/L6
DOM 10008	471.2	4.71	24	LL5/L5
DOM 10200	445.9	4.55	24	LL6/L6
DOM 10300	409.6	4.47	25	LL6/L6

1 - Classified as LL using immersion oils reported in AMN.
2 - Newly measured Fa content.
3 - Revised classification based on electron microprobe and magnetic susceptibility data.

Reclassified to H using magnetic susceptibility

Sample	AMN Classification	M_0 (10^{-3})	Mass (g)	Log χ (10^{-9} m^3/kg)	Revised Classification
DOM 10030	L5	109	67.75	5.09	H5
DOM 10039	L5	189	95.23	5.25	H5
DOM 10051	L5	225	197	5.22	H5
DOM 10052	L5	189	147.72	5.14	H5
DOM 10055	L5	115	67.84	5.11	H5
DOM 10056	L5	62.7	43.15	4.96	H5
DOM 10072	L6	39.8	17.86	5.04	H6
DOM 10074	L6	43.2	14.37	5.15	H6
DOM 10076	L6	41.6	18.5	5.04	H6
DOM 10078	L5	39.2	14.13	5.12	H5
DOM 10086	L6	46.2	23.61	4.99	H6
DOM 10089	LL5	84.5	21.95	5.28	H5
DOM 10149	L5	110	61.01	5.12	H5
DOM 10160	L6	16.3	5.94	5.07	H6
DOM 10164	L6	27.6	11.31	5.05	H6
DOM 10167	L6	5.6	2.49	4.94	H6
DOM 10217	L5	35.7	18.61	4.97	H5
DOM 10228	L6	71.5	59.28	4.94	H6
DOM 10234	L6	28	13.72	4.98	H6
DOM 10235	L6	19.4	9.07	4.98	H6
DOM 10237	L6	22.4	10.18	5.00	H6
DOM 10246	LL6	143	79.4	5.17	H6
DOM 10247	L6	75.9	43.8	5.04	H6
DOM 10260	LL5	63.5	34.82	5.01	H5
DOM 10270	L6	4.85	2.06	4.95	H6

Sample	AMN Classification	M_0 (10^{-3})	Mass (g)	Log χ (10^{-9} m^3/kg)	Revised Classification
DOM 10293	L6	69.2	41.23	5.01	H6
DOM 10295	L5	73.2	42.19	5.03	H5
DOM 10298	L6	99.5	46.17	5.14	H6
DOM 10370	L6	68.1	18.33	5.26	H6
DOM 10371	L6	77.1	24.64	5.20	H6
DOM 10682	L6	84.2	40.44	5.10	H6
DOM 10686	L6	209.0	181.6	5.13	H6

Reclassified to L using magnetic susceptibility

Sample	AMN Classification	M_0 (10^{-3})	Mass (g)	Log χ (10^{-9} m^3/kg)	Revised Classification
DOM 10032	LL6	36.7	56.31	4.66	L6
DOM 10033	LL6	95.3	124.11	4.88	L6
DOM 10035	LL6	66	87.78	4.81	L6
DOM 10036	LL6	47.5	81.3	4.68	L6
DOM 10037	LL6	40.5	48.46	4.74	L6
DOM 10038	LL6	57.5	79.29	4.77	L6
DOM 10053	LL6	48.9	93.24	4.66	L6
DOM 10054	LL6	48.2	77.71	4.70	L6
DOM 10057	LL6	42	67.03	4.68	L6
DOM 10058	LL6	62.3	67.88	4.84	L6
DOM 10060	LL6	26.9	42.31	4.59	L6
DOM 10061	LL6	21.4	40.63	4.50	L6
DOM 10062	LL6	22	21.37	4.71	L6
DOM 10063	LL6	22.9	20.48	4.74	L6
DOM 10065	LL6	28.3	26.98	4.73	L6
DOM 10066	LL6	29.3	28	4.73	L6
DOM 10067	LL6	14.4	19.62	4.56	L6
DOM 10068	LL6	17.8	23.95	4.57	L6
DOM 10070	LL6	8.6	12.63	4.50	L6
DOM 10073	LL6	8.88	8.88	4.65	L6
DOM 10075	LL6	15	22.046	4.53	L6
DOM 10079	LL6	16.7	23.25	4.56	L6
DOM 10081	LL6	36.2	36.26	4.76	L6
DOM 10082	LL6	32.7	33.95	4.73	L6
DOM 10083	LL6	26	28.31	4.68	L6
DOM 10084	LL5	14.6	17.16	4.62	L5
DOM 10087	LL6	30	45.15	4.62	L6
DOM 10140	LL5	55.3	223.77	4.60	L5
DOM 10143	LL6	58.3	124.56	4.67	L6
DOM 10144	LL6	45.4	80.66	4.67	L6
DOM 10145	LL6	33.5	71.35	4.56	L6
DOM 10146	LL6	27.9	42.44	4.61	L6
DOM 10148	LL6	39.4	54.51	4.70	L6
DOM 10150	LL6	24.2	23	4.72	L6
DOM 10151	LL6	34.4	31.93	4.77	L6
DOM 10152	LL6	27.6	34.26	4.65	L6
DOM 10153	LL6	20.2	35.55	4.51	L6

Sample	AMN Classification	M_0 (10^{-3})	Mass (g)	Log χ (10^{-9} m^3/kg)	Revised Classification
DOM 10154	LL5	27.1	27.33	4.71	L5
DOM 10155	LL5	34.5	52.95	4.65	L5
DOM 10156	LL6	32.5	36.2	4.71	L6
DOM 10157	LL5	32.7	23.93	4.84	L5
DOM 10162	LL6	12.8	14.7	4.62	L6
DOM 10163	LL6	9.64	10.38	4.63	L6
DOM 10166	LL6	11.8	11.3	4.68	L6
DOM 10168	LL6	11.4	14	4.59	L6
DOM 10169	LL6	12.2	15	4.59	L6
DOM 10181	LL6	8.76	8.73	4.65	L6
DOM 10182	LL5	11.6	10.03	4.72	L5
DOM 10184	LL6	20.3	30.03	4.55	L6
DOM 10185	LL6	16.9	21.06	4.60	L6
DOM 10210	LL5	29.9	36	4.68	L5
DOM 10212	LL5	25.9	25.39	4.72	L5
DOM 10214	LL5	17	21.42	4.60	L5
DOM 10216	LL5	33.3	33.67	4.74	L5
DOM 10218	LL5	24.1	33.8	4.60	L5
DOM 10219	LL5	9.92	11.2	4.61	L5
DOM 10220	LL6	47	78.87	4.69	L6
DOM 10221	LL6	35.3	52.2	4.66	L6
DOM 10222	LL6	28.1	46.76	4.59	L6
DOM 10223	LL6	33.6	49.76	4.65	L6
DOM 10224	LL6	43.5	49.55	4.76	L6
DOM 10225	LL6	34	60.04	4.61	L6
DOM 10226	LL6	27.8	32.7	4.67	L6
DOM 10227	LL6	24.8	44.43	4.55	L6
DOM 10229	LL6	46.1	56.34	4.76	L6
DOM 10230	LL6	13.1	17.83	4.55	L6
DOM 10233	LL6	8.58	11.34	4.54	L6
DOM 10236	LL6	16.3	19.23	4.62	L6
DOM 10238	LL6	8.94	9.23	4.64	L6
DOM 10239	LL6	14.7	18.83	4.58	L6
DOM 10240	LL6	56.1	110.53	4.68	L6
DOM 10241	LL6	51.6	102.54	4.66	L6
DOM 10242	LL6	43.5	72.7	4.67	L6
DOM 10243	LL6	34.8	52.38	4.65	L6
DOM 10244	LL6	56.8	103.15	4.70	L6
DOM 10245	LL6	35.3	45.95	4.69	L6
DOM 10249	LL6	46.5	64.14	4.73	L6
DOM 10261	LL6	36.3	36.29	4.76	L6
DOM 10263	LL6	21.7	30.78	4.57	L6
DOM 10264	LL6	27.1	21.31	4.80	L6
DOM 10265	LL6	17	16.88	4.69	L6
DOM 10266	LL6	30.9	28.35	4.75	L6
DOM 10267	LL6	26.2	33.53	4.64	L6
DOM 10268	LL5	22.6	36.51	4.55	L5
DOM 10269	LL6	36.9	36.62	4.77	L6
DOM 10272	LL5	5.08	5.64	4.58	L5

Sample	AMN Classification	M_0 (10^{-3})	Mass (g)	Log χ (10^{-9} m^3/kg)	Revised Classification
DOM 10274	LL5	8.35	7.94	4.67	L5
DOM 10276	LL5	9.41	9.36	4.66	L5
DOM 10277	LL5	12.8	12.42	4.68	L5
DOM 10279	LL5	5.61	4.67	4.70	L5
DOM 10290	LL6	36.4	48.31	4.69	L6
DOM 10291	LL6	33.7	39.56	4.71	L6
DOM 10292	LL6	44.2	44.86	4.79	L6
DOM 10294	LL6	47.2	45.44	4.82	L6
DOM 10296	LL6	38.9	48.63	4.72	L6
DOM 10297	LL6	24.1	28.88	4.64	L6
DOM 10372	LL6	16.1	19.45	4.61	L6
DOM 10373	LL6	20.2	30.39	4.54	L6
DOM 10374	LL6	32.3	57.07	4.60	L6
DOM 10375	LL5	52.6	73.07	4.75	L5
DOM 10376	LL5	56.2	50.6	4.87	L5
DOM 10377	LL6	44.6	41.88	4.82	L6
DOM 10379	LL6	46.3	91.47	4.64	L6
DOM 10432	LL6	4.66	8.75	4.38	L6
DOM 10436	LL5	8.4	14	4.45	L5
DOM 10437	LL5	9.62	15.9	4.46	L5
DOM 10438	LL5	14	23.38	4.48	L5
DOM 10443	LL5	26.7	46.1	4.57	L5
DOM 10444	LL6	26.7	42.29	4.59	L6
DOM 10446	LL5	21.1	35.38	4.53	L5
DOM 10447	LL5	37.8	78.54	4.59	L5
DOM 10448	LL6	22.3	55.71	4.45	L6
DOM 10449	LL5	57.7	89.64	4.74	L5
DOM 10457	LL5	31	62.33	4.56	L5
DOM 10460	LL6	37.8	44.38	4.73	L6
DOM 10461	LL6	34.9	80.48	4.55	L6
DOM 10462	LL6	22.3	49.46	4.47	L6
DOM 10463	LL6	44.1	60.77	4.72	L6
DOM 10464	LL6	51	41.19	4.88	L6
DOM 10465	LL6	37	40.21	4.74	L6
DOM 10466	LL6	20.7	15.5	4.81	L6
DOM 10468	LL6	19.5	24.08	4.61	L6
DOM 10545	LL6	19.95	14.2	4.82	L6
DOM 10680	LL6	25.7	59.58	4.49	L6
DOM 10681	LL6	43.8	71.09	4.68	L6
DOM 10683	LL6	37.1	50.69	4.69	L6
DOM 10684	LL6	40.9	57.79	4.70	L6
DOM 10685	LL6	48.4	57.44	4.78	L6
DOM 10687	LL6	48.7	73.92	4.72	L6
DOM 10688	LL6	79.6	156.11	4.75	L6
DOM 10689	LL6	89.9	210.59	4.81	L6

ANSMET 2016-2017 Field Season

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

The 2016-17 field season was marked by a major change in plans, and then a major delay getting into the field, ugh! ANSMET had planned to send a group of eight to work out of the Shackleton Glacier Camp (SHG) in the southern TransAntarctic Mountains. From there the group would split into two teams of four, and each team would search for and recover meteorites from nearby ice fields. That plan was not meant to be, however, because by mid-December the SHG was experiencing a serious shortage of fuel and logistical resources, and would be unable to support the ANSMET team. We quickly descoped our field season (so as to not be cancelled outright) and planned for a trip to the Elephant Moraine (EET) icefields, which could be supported out of McMurdo Station. ANSMET had recovered over 2000 meteorites from EET in the past, but the area had not been visited since 1999 due to extensive snow cover. The new season plan would allow ANSMET to recover meteorites from previously searched and unsearched areas of the vast icefields at EET (Figure 1).

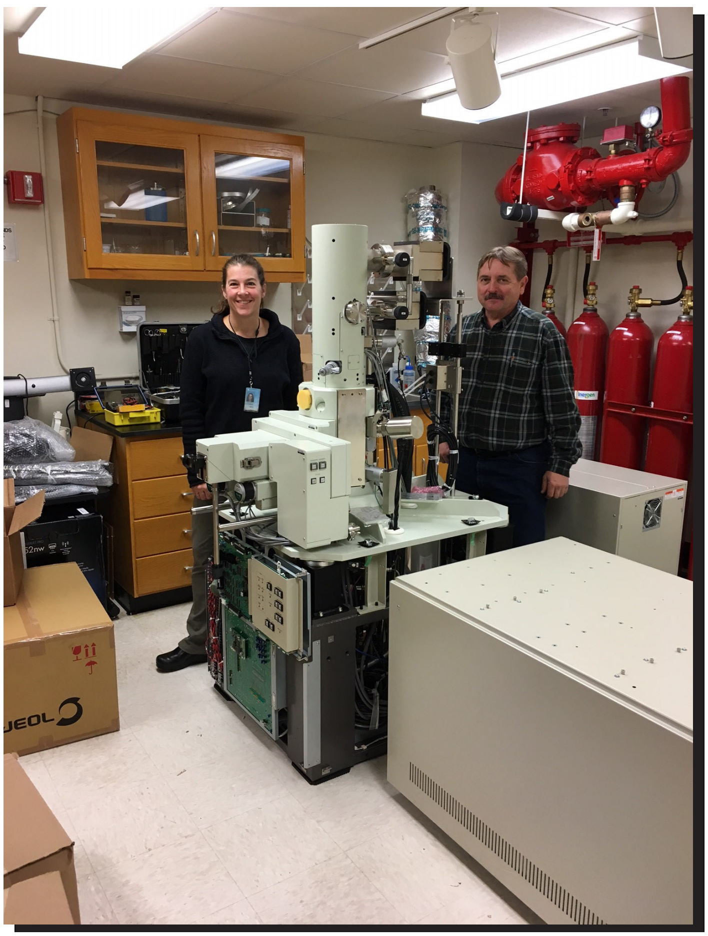
The team was ready for put-in to EET on December 15, but a slew of bad weather at McMurdo and/or EET delayed John Schutt, Jani Radebaugh, Brian Rougeux, and Minako Righter until December 29. Another week of bad weather kept Jim Karner and Alex Meshik in McMurdo until Jan. 3. The full team was at EET from Jan. 4 to Jan. 19, but during that time the team was limited to only seven full days of searching out of a possible 14 working days. It turns out EET has a lot of bad weather - seriously windy, cold, lots of blowing snow! Anyway, the team worked hard when it could and employed recon and systematic searching throughout the vast EET icefields. The team recovered a total of 173 meteorites; that, added to Duck Mittlefelhdt and John Schutt's recon efforts earlier in the season, made for a grand total of 219 meteorites recovered for the 2016-17 field season. A smaller quantity than in most ANSMET seasons, but hopefully they will be of high quality!

Figure 1. ANSMET team members search for meteorites near their camp at EET.

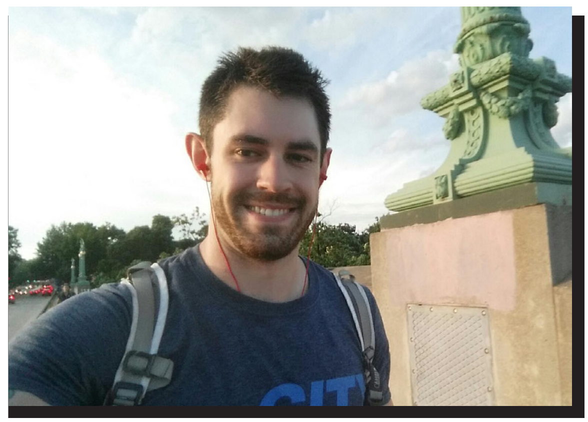
Report from the Smithsonian –
Cari Corrigan

All is well in the Division of Meteorites at the Smithsonian. We are pleased to report that our new electron microprobe (a JEOL JXA 8530f Hyperprobe) arrived on November 1st, 2016, and is built and in the initial stages of testing. This new instrument will be used to classify the Antarctic Meteorites and will provide us with state of the art capabilities to do so. Here's hoping that all of the microprobe analyses in the Fall newsletter come to you from the new instrument!

We have two new volunteers on board with the Division of Meteorites. Greg Polley, who has a Masters Degree in Geology from the University of Maryland and has been working to complete the inventory of photographs of every Antarctic meteorite thin section in our collection. Doug Ross, a local musician and meteorite enthusiast, has recently come on board as well, and has been great about lending a hand while learning more about meteorites. We are happy to have them here, and appreciate their help and enthusiasm!



Cari Corrigan and Tim Rose and the HYPER PROBE



Greg Polley - SI Volunteer

Doug Ross - SI Volunteer

New Meteorites

2012-2015 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:

Rachel Funk, Roger Harrington and Cecilia Satterwhite
Antarctic Meteorite Laborabory
NASA Johnson Space Center
Houston, Texas

Cari Corrigan, Julie Hoskins, Nicole Lunning and Tim McCoy
Department of Mineral Sciences
U.S. National Museum of Natural History - Smithsonian Institution
Washington, D.C.

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

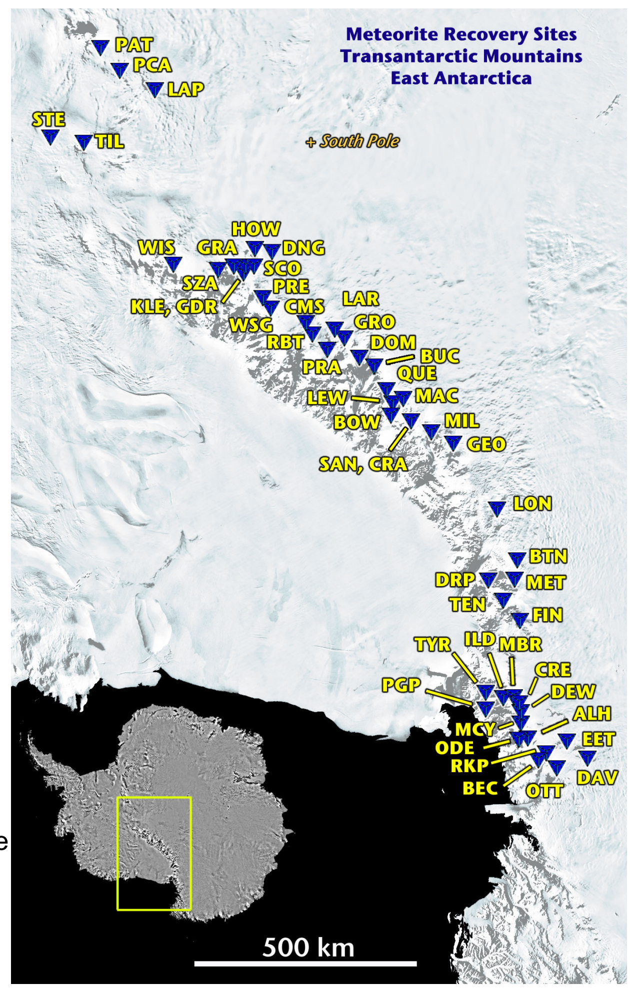


Table 1
Newly Classified Antarctic Meteorites

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
LAR 12056	57.0	LL6 Chondrite	A/B	A	30	25
LAR 12156	59.2	EH3 Chondrite	A	A/B		0-7
LAR 12196	16.6	H6 Chondrite	A	A	20	
LAR 12215	6.6	H6 Chondrite	B/C	A/B	19	17
LAR 12241	126.0	LL5 Chondrite	A	B/C	31	25
LAR 12244	131.2	EH3 Chondrite	A/B	A		0-3
LAR 12279	76.9	EL6 Chondrite	A/B	A		0-1
MIL 13002	3691.3	H5 Chondrite	B	B/C	19	17
MIL 13008	2060.8	L5 Chondrite	A/B	B	23	21
MIL 13011	730.3	L5 Chondrite	B/C	A/B	25	21
MIL 13032	0.6	CV3 Chondrite	A/B	A	1-2	1-2
MIL 13034	4.4	H4 Chondrite	B	A	19	3-18
MIL 13037	0.2	CM1 Chondrite	A/Be	A		
MIL 13039	39.5	H4 Chondrite	B/C	A	17	16
MIL 13059	0.7	LL5 Chondrite	A/B	A	29	25
MIL 13063	0.2	CM1 Chondrite	A/B	A/B		
MIL 13065	0.1	CM2 Chondrite	A/B	A	1-5	2-7
MIL 13100	26.8	L6 Chondrite	A/Be	B/C	26	
MIL 13101	11.1	H5 Chondrite	B/C	A/B	21	
MIL 13102	36.9	L6 Chondrite	A/B	A/B	26	
MIL 13103	41.5	L6 Chondrite	B/C	A/B	23	21
MIL 13104	46.5	LL5 Chondrite	Be	B	30	25
MIL 13105	37.4	H5 Chondrite	B/C	A/B	20	
MIL 13106	15.9	H6 Chondrite	B/C	A	19	
MIL 13107	37.7	H6 Chondrite	Ce	B	20	18
MIL 13108	24.6	L5 Chondrite	B	A/B	25	
MIL 13109	12.6	H6 Chondrite	Ce	A	20	
MIL 13130	16.8	LL6 Chondrite	A/B	A	28	
MIL 13131	11.4	H6 Chondrite	B/C	A	20	
MIL 13133	11.7	H5 Chondrite	B/C	A/B	21	
MIL 13134	15.6	L6 Chondrite	B	A	25	
MIL 13135	11.7	H6 Chondrite	A/B	A	18	
MIL 13136	0.8	CK3-6 Chondrite	B	A	18-34	
MIL 13137	0.5	CM2 Chondrite	B	A	1-47	1-4
MIL 13138	3.6	LL5 Chondrite	B	A	29	24
MIL 13140	9.0	LL5 Chondrite	Be	A	28	24
MIL 13141	3.6	LL4 Chondrite	Be	A	28	24
MIL 13142	17.3	LL6 Chondrite	B	A/B	28	
MIL 13144	2.3	H6 Chondrite	B/C	A	20	
MIL 13145	10.6	L5 Chondrite	B/C	A	26	
MIL 13146	10.4	H6 Chondrite	B/C	A/B	19	
MIL 13147	2.3	L6 Chondrite	B/C	A/B	25	
MIL 13148	6.6	H6 Chondrite	B/C	A	21	
MIL 13149	42.5	H5 Chondrite	Be	A/B	21	
MIL 13150	0.6	L5 Chondrite	A/B	A	25	
MIL 13151	1.0	H4 Chondrite	B/C	A/B	18	17

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13152	1.8	EH3 Chondrite	B/C	A/B		0-1
MIL 13153	1.1	H6 Chondrite	B/C	A/B	18	
MIL 13154	0.7	L5 Chondrite	A/B	A/B	25	
MIL 13155	1.7	LL4 Chondrite	B	A	29	
MIL 13156	1.6	L6 Chondrite	B/C	A	25	
MIL 13157	0.8	LL5 Chondrite	A/B	A	29	
MIL 13158	1.7	H6 Chondrite	B/C	A	20	
MIL 13159	2.0	H6 Chondrite	B/C	A	20	
MIL 13160	5.3	H6 Chondrite	C	A/B	18	
MIL 13161	3.7	H5 Chondrite	Ce	A/B	18	
MIL 13162	5.0	H5 Chondrite	B/C	B/C	19	
MIL 13163	5.0	H5 Chondrite	C	A	20	
MIL 13164	5.2	L5 Chondrite	C	B/C	26	
MIL 13165	5.4	L4 Chondrite	C	A/B	25	22
MIL 13166	16.6	L5 Chondrite	Ce	A	25	
MIL 13167	10.2	LL5 Chondrite	A/B	B	29	24
MIL 13168	5.7	L5 Chondrite	C	B	25	
MIL 13169	2.0	CM2 Chondrite	Be	A/B	0-67	
MIL 13170	1.8	H5 Chondrite	B	A‘	19	
MIL 13171	1.1	LL4 Chondrite	A/Be	A	28	25
MIL 13172	1.2	LL4 Chondrite	A/B	A	30	
MIL 13173	2.5	L5 Chondrite	B/C	A	25	
MIL 13174	2.6	Mesosiderite	Be	A/B		28-57
MIL 13175	1.3	L6 Chondrite	B	A	26	
MIL 13176	3.3	H5 Chondrite	B/C	A/B	20	
MIL 13177	2.9	LL5 Chondrite	B	A	29	
MIL 13178	1.5	H6 Chondrite	B/C	A/B	21	
MIL 13179	0.3	L6 Chondrite	B	A	26	22
MIL 13180	1.1	Ureilite	B	A	12-13	11
MIL 13181	0.8	L6 Chondrite	B	A	26	
MIL 13182	1.4	L5 Chondrite	B/C	A	26	23
MIL 13183	0.1	LL6 Chondrite	B	A	29	
MIL 13184	0.9	L6 Chondrite	B	A	25	
MIL 13185	1.1	H5 Chondrite	B/C	A	20	
MIL 13186	0.5	LL4 Chondrite	B	A	29	
MIL 13188	0.9	LL5 Chondrite	B	A	29	
MIL 13189	2.7	L6 Chondrite	B/C	A	25	
MIL 13190	1.9	L4 Chondrite	B	A	26	
MIL 13191	4.6	LL4 Chondrite	B	A	29	
MIL 13192	2.4	LL5 Chondrite	B	A/B	29	
MIL 13193	7.6	H6 Chondrite	B/C	A	19	
MIL 13194	5.5	H5 Chondrite	B/C	A	21	
MIL 13195	6.7	H4 Chondrite	B	A/B	20	17
MIL 13196	10.7	H6 Chondrite	B/C	A/B	19	
MIL 13198	8.4	H5 Chondrite	B/C	A/B	19	17
MIL 13199	11.2	H5 Chondrite	B/C	A	20	
MIL 13210	2.2	L6 Chondrite	B	A	25	
MIL 13211	0.5	EH3 Chondrite	A/B	B		1-3
MIL 13213	3.2	H6 Chondrite	B/C	A	18	

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13214	1.5	CO3 Chondrite	B/C	B	1-28	1-2
MIL 13215	6.1	H5 Chondrite	B	A	20	
MIL 13216	1.2	LL4 Chondrite	B	A/B	29	
MIL 13217	2.5	H5 Chondrite	B	A	19	
MIL 13218	2.0	H6 Chondrite	C	B	20	
MIL 13219	1.2	H5 Chondrite	C	B	20	
MIL 13220	0.6	L6 Chondrite	B/C	A	25	
MIL 13221	1.0	H5 Chondrite	B/C	A	20	
MIL 13222	1.4	LL5 Chondrite	A/B	A	30	
MIL 13223	0.7	L5 Chondrite	A/B	A	25	
MIL 13224	0.7	LL6 Chondrite	A/B	A	29	
MIL 13226	0.7	EH3 Chondrite	A/B	A/B		0-1
MIL 13227	2.2	L5 Chondrite	A/B	A	25	
MIL 13228	3.3	LL5 Chondrite	B	A	28	25
MIL 13229	3.9	H5 Chondrite	B/C	A/B	20	
MIL 13230	1.8	L6 Chondrite	B/C	A	26	
MIL 13231	0.8	H5 Chondrite	B	A	18	
MIL 13232	0.3	L5 Chondrite	B	A	26	
MIL 13233	0.1	CM2 Chondrite	B	A	0-2	
MIL 13234	0.7	H5 Chondrite	B	A/B	20	
MIL 13235	1.5	LL6 Chondrite	B	A	29	24
MIL 13236	0.7	L4 Chondrite	B	A	25	21
MIL 13237	1.0	H6 Chondrite	B/C	A	20	
MIL 13238	0.4	LL6 Chondrite	B	A	28	
MIL 13239	1.5	H6 Chondrite	B/C	A	19	
MIL 13240	0.9	LL5 Chondrite	B	A	30	
MIL 13241	0.6	CV3 Chondrite	A/Be	A/B	1-2	6
MIL 13242	0.8	H5 Chondrite	A/B	A/B	19	
MIL 13243	0.6	L5 Chondrite	A/B	A	26	
MIL 13244	0.2	H6 Chondrite	A/B	A	20	
MIL 13245	0.4	H6 Chondrite	A/B	A	20	
MIL 13246	2.2	LL5 Chondrite	B	A	29	
MIL 13247	5.5	CK6 Chondrite	B/C	A	36	
MIL 13248	5.5	LL3.5 Chondrite	B	A	1-37	12-19
MIL 13249	7.1	H6 Chondrite	B/Ce	A/B	21	
MIL 13250	1.5	L6 Chondrite	C	B	26	
MIL 13251	3.8	L6 Chondrite	B	A/B	26	
MIL 13252	2.2	H6 Chondrite	B/C	B	20	
MIL 13253	0.9	L5 Chondrite	A/B	A/B	25	
MIL 13254	1.1	LL5 Chondrite	A/B	A	30	
MIL 13255	0.3	H5 Chondrite	A/B	A	20	
MIL 13256	0.4	H5 Chondrite	A/B	A	18	
MIL 13257	1.8	H5 Chondrite	B	B	20	
MIL 13258	1.0	L5 Chondrite	A/B	A/B	25	
MIL 13259	0.6	LL5 Chondrite	A/B	A	31	
MIL 13260	12.4	LL4 Chondrite	A/B	A/B	27	15-23
MIL 13261	7.7	L6 Chondrite	B/C	B	25	
MIL 13262	4.1	L6 Chondrite	C	A/B	26	
MIL 13264	0.6	LL5 Chondrite	A	A/B	29	

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13265	11.5	H6 Chondrite	A/B	B	20	
MIL 13266	3.0	H6 Chondrite	A/B	A	20	
MIL 13267	3.5	H6 Chondrite	B	A/B	20	
MIL 13268	0.8	LL5 Chondrite	A/B	A	29	24
MIL 13269	1.2	CM2 Chondrite	Ae	B/C	1-47	1-12
MIL 13270	1.9	H6 Chondrite	B/C	A/B	20	
MIL 13271	1.1	LL5 Chondrite	A/B	A	28	
MIL 13272	2.0	H6 Chondrite	B/C	A	19	
MIL 13273	1.4	L6 Chondrite	B	B	25	
MIL 13274	1.0	H6 Chondrite	A/B	A/B	21	
MIL 13275	0.4	L6 Chondrite	A/B	A/B	25	
MIL 13276	2.9	H5 Chondrite	B	A/B	19	
MIL 13277	0.5	L6 Chondrite	A/B	A/B	25	
MIL 13278	2.2	H6 Chondrite	B/Ce	A	21	
MIL 13279	1.2	LL6 Chondrite	B/C	A/B	29	
MIL 13311	24.3	L4 Chondrite	C	A/B	24	21
MIL 13312	26.4	H6 Chondrite	Be	A/B	20	18
MIL 13313	23.1	H5 Chondrite	C	A/B	20	
MIL 13314	10.3	H6 Chondrite	B	A	18	
MIL 13315	1.5	Eucrite	A	B/C		26-62
MIL 13316	0.9	CM2 Chondrite	A	B	1-45	2
MIL 13320	1.4	CK5 Chondrite	A/B	B	34	
MIL 13321	1.8	CM2 Chondrite	A/Be	B	1-36	
MIL 13322	2.6	CM2 Chondrite	A/Be	B	2-13	2-6
MIL 13323	3.7	CK5 Chondrite	B	B	32	
MIL 13324	2.3	CM2 Chondrite	Be	B	1-38	
MIL 13325	1.1	CM1 Chondrite	A/B	A/B		
MIL 13326	1.8	CM2 Chondrite	A/B	B	1-46	6
MIL 13327	0.7	H5 Chondrite	B/Ce	B	19	17
ALH 15575	107.6	H5 Chondrite	B/C	A/B	19	17
MIL 15029	34.0	CM2 Chondrite	B	B	1-69	1
MIL 15031	237.3	CM2 Chondrite	B	B/C	1-44	23
MIL 15081	9.1	CM2 Chondrite	A/B	A	1-2	
MIL 15231	4.9	CM2 Chondrite	B	A/B	1-42	
MIL 15308	18.2	CM2 Chondrite	B/C	B	1-51	
MIL 15328	320.6	CR2 Chondrite	B	B/C	1-33	2-4

Table 2
Newly Classified Meteorites Listed by Type

Achondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13315	1.5	Eucrite	A	B/C		26-62
MIL 13180	1.1	Ureilite	B	A	12-13	11

Carbonaceous Chondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13136	0.8	CK3-6 Chondrite	B	A	18-34	
MIL 13320	1.4	CK5 Chondrite	A/B	B	34	
MIL 13323	3.7	CK5 Chondrite	B	B	32	
MIL 13247	5.5	CK6 Chondrite	B/C	A	36	
MIL 13037	0.2	CM1 Chondrite	A/Be	A		
MIL 13063	0.2	CM1 Chondrite	A/B	A/B		
MIL 13325	1.1	CM1 Chondrite	A/B	A/B		
MIL 13065	0.1	CM2 Chondrite	A/B	A	1-5	2-7
MIL 13137	0.5	CM2 Chondrite	B	A	1-47	1-4
MIL 13169	2.0	CM2 Chondrite	Be	A/B	0-67	
MIL 13233	0.1	CM2 Chondrite	B	A	0-2	
MIL 13269	1.2	CM2 Chondrite	Ae	B/C	1-47	1-12
MIL 13316	0.9	CM2 Chondrite	A	B	1-45	2
MIL 13321	1.8	CM2 Chondrite	A/Be	B	1-36	
MIL 13322	2.6	CM2 Chondrite	A/Be	B	2-13	2-6
MIL 13324	2.3	CM2 Chondrite	Be	B	1-38	
MIL 13326	1.8	CM2 Chondrite	A/B	B	1-46	6
MIL 15029	34.0	CM2 Chondrite	B	B	1-69	1
MIL 15031	237.3	CM2 Chondrite	B	B/C	1-44	23
MIL 15081	9.1	CM2 Chondrite	A/B	A	1-2	
MIL 15231	4.9	CM2 Chondrite	B	A/B	1-42	
MIL 15308	18.2	CM2 Chondrite	B/C	B	1-51	
MIL 13214	1.5	CO3 Chondrite	B/C	B	1-28	1-2
MIL 15328	320.6	CR2 Chondrite	B	B/C	1-33	2-4
MIL 13032	0.6	CV3 Chondrite	A/B	A	1-2	1-2
MIL 13241	0.6	CV3 Chondrite	A/Be	A/B	1-2	6

Chondrites - Type 3

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13248	5.5	LL3.5 Chondrite	B	A	1-37	12-19

E Chondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
LAR 12156	59.2	EH3 Chondrite	A	A/B		0-7
LAR 12244	131.2	EH3 Chondrite	A/B	A		0-3
MIL 13152	1.8	EH3 Chondrite	B/C	A/B		0-1
MIL 13211	0.5	EH3 Chondrite	A/B	B		1-3
MIL 13226	0.7	EH3 Chondrite	A/B	A/B		0-1
LAR 12279	76.9	EL6 Chondrite	A/B	A		0-1

Stony Iron

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13174	2.6	Mesosiderite	Be	A/B		28-57

**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)

Petrographic Descriptions

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
LAR 12156	**Larkman Nunatak**	**23140**	**2.0 x 4.5 x 3.0**	**59.20**	**EH3 chondrite**

Macroscopic Description: Rachel Funk
Black fusion crust covers the exterior of this enstatite chondrite, fractures and minor amounts of reddish/orange rust are visible. The interior is a dark groundmass with minor amounts of orange rust and shiny metals are visible 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 minor abundances of olivine. Weathering is minor. Microprobe analyses show the pyroxene is Fs_{0-7} and that the Fe,Ni metal contains 3 wt. % Si. The meteorite is an EH3 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
LAR 12244	**Larkman Nunatak**	**23296**	**5.5 x 4.0 x 2.5**	**131.2**	**EH3 chondrite**

Macroscopic Description: Rachel Funk
80% of the exterior is covered with dark brown glossy fusion crust with minor amounts of orange rust visible. The dark gray groundmass has 1-2 mm sized gray chondrules and 1 mm sized white inclusions. Orange rust and shiny metals are visible 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 minor abundances of olivine. Weathering is severe. Microprobe analyses show the pyroxene is Fs_{0-3} and that the Fe,Ni metal contains 3 wt. % Si. The meteorite is an EH3 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
LAR 12279	**Larkman Nunatak**	**23999**	**5.0 x 4.5 x 3.0**	**76.9**	**EL6 chondrite**

Macroscopic Description: Rachel Funk
The exterior of this meteorite is covered with dark brown fusion crust, some fractures and rust is visible. The interior is a dark matrix with metal and minor amounts of rust visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
Only vague traces of chondritic structure are visible in the thin section, which shows the meteorite to consist largely of prismatic or granular enstatite (grain size 0.1-0.2 mm), a considerable amount of nickel-iron, and minor amounts of sulfides and plagioclase. The meteorite is modestly weathered, with brown limonitic staining throughout the section. Microprobe analyses show that the enstatite is Fs_{0-1}; the Fe-Ni metal contains 1.0 wt. % Si. The meteorite is an EL6 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13032	**Miller Range**	**22690**	**1.2 x 1.0 x 0.5**	**0.595**	**CV3 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
The exterior has brown/black fusion crust with orange brown oxidation in areas. The meteorite exhibits a black interior with a few large white inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section exhibits large chondrules (up to 3 mm) and CAIs in a dark matrix. Olivines range from Fa_{1-2} and pyroxenes from Fs_{1-2}. The meteorite is a carbonaceous chondrite, probably a CV3.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13037	**Miller Range**	**22692**	**0.7 x 0.5 x 0.1**	**0.164**	**CM1 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
Exterior has some black fusion crust and small patch of gray matrix visible on one surface. The meteorite exhibits a brown core in a rim of fusion crust.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This section bisects the center of the main mass of this meteorite. It consists of a core (~3.5 x 1.5 mm) consisting of completely altered chondrules set in an altered matrix. Rare small sulfide grains are present. No unaltered mafic silicates remain. This core is completely rimmed by a 1-2 mm thick, highly vesicular fusion crust. The meteorite is a CM1 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13063	**Miller Range**	**22680**	**0.7 x 0.7 x 0.3**	**0.232**	**CM1 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
Patches of black fusion crust are visible on the fractured exterior of this small carbonaceous chondrite. The meteorite exhibits a black interior.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of mostly small (up to 0.5 mm) completely altered chondrules set in an altered matrix with abundant carbonate. Rare small sulfide grains are present. Only one unaltered mafic silicate grain remains. The meteorite is a CM1 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13065	**Miller Range**	**21140**	**0.7 x 1.0 x 0.5**	**0.106**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
98% of the exterior of this carbonaceous chondrite has black fusion crust, one surface is frothy. The meteorite exhibits a black interior.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral fragments and CAIs set in a black matrix. The matrix is unusually rich in opaque minerals. The entire meteorite is rimmed by a 1.5 mm thick primary fusion crust and a much thinner secondary fusion crust. The entire meteorite may have been thermally altered and oxidized producing the abundant opaques in the interior. Olivine compositions are Fa_{1-5}, and pyroxene is Fs_{2-7}. The meteorite is possibly an atmospherically heated CM2 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13136	**Miller Range**	**24346**	**1.0 x 1.0 x 0.4**	**0.813**	**CK3-6 chondrite**

Macroscopic Description: Cecilia Satterwhite
The exterior is covered with black fractured fusion crust. The interior is a gray matrix with some specks of white inclusions/chondrules.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy, Nicole Lunning
The section is composed of several clasts, including one large (~3 mm) clast that contains large (~1 mm) chondrules rimmed by fine grained sulfides and magnetite. The large clast may be a different petrologic type than its host breccia. There is also one large (1 mm) sulfide clast within the matrix. Excluding the clasts, no chondrules are present. The meteorite is moderately weathered, but extensively shock blackened. Olivines range from $Fa_{18-34.}$ The meteorite is a CK3-6 chondrite breccia.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13137	**Miller Range**	**22266**	**1.0 x 0.8 x 0.5**	**0.542**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite

50% of the exterior has black fractured fusion crust. The interior is a dark gray to black matrix with some oxidation.

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

The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-47}, orthopyroxene is Fs_{1-4}. Aqueous alteration of the matrix is substantial, but the chondrules are only moderately altered. The meteorite is a CM2 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13152	**Miller Range**	**21349**	**1.5 x 1.0 x 0.7**	**1.823**	**EH3 chondrite**

Macroscopic Description: Cecilia Satterwhite

The brown/black fusion crust on the exterior has oxidation and rusty areas. The matrix is mostly weathered and rusty with patches of dark gray areas visible, small inclusions/chondrules are present.

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 minor abundances of olivine. Weathering is moderate. Microprobe analyses show the pyroxene is Fs_{0-1} and that the Fe,Ni metal contains 3 wt. % Si. The meteorite is an EH3 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13169	**Miller Range**	**23775**	**1.0 x 2.2 x 0.5**	**2.01**	**CM2 chondrite**

Macroscopic Description: Rachel Funk

Jet black fusion crust covers 40% of the exterior of this carbonaceous chondrite. Minor amounts of evaporites are visible and the exposed interior is black in color. The interior is a black matrix with white inclusions.

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

The section consists of abundant small (up to 1 mm) chondrules, and mineral fragments in a dark matrix. Rare sulfides occur within the matrix. Olivine ranges in composition from Fa_{0-67}, with two clusters with ranges of Fa_{27-67} and of Fa_{0-2}. The meteorite is a CM2 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13174	**Miller Range**	**22495**	**0.7 x 2.0 x 0.5**	**2.61**	**Mesosiderite**

Macroscopic Description: Rachel Funk

90% black/brown fusion crust with minor evaporites and rust are visible on the exterior surface. One fracture penetrates the surface. The black matrix has orange rust present and metal is visible.

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

This meteorite is dominated by orthopyroxene, clinopyroxene and plagioclase grains in a matrix of approximately 30% metal. Minor sulfide and chromite grains are present with sulfide often occurring as dispersed, small grains surrounding larger metal grains. Grain sizes are up to 1 mm. Pyroxenes are zoned orthopyroxene, $Fs_{28-57}Wo_{2-11}$, and exsolved clinopyroxene with augite $Fs_{25-27}Wo_{42-45}$. Feldspars are An_{88-91}. This small meteorite is probably a metal rich clast from a mesosiderite, although metal rich eucrites are known.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13180	**Miller Range**	**21725**	**1.0 x 1.0 x 0.5**	**1.139**	**Ureilite**

Macroscopic Description: Cecilia Satterwhite
98% of the exterior has black/brown fusion crust. The dark gray to black matrix has metal and some oxidation.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of an aggregate of large olivine and pyroxene grains up to 2 mm across. Individual olivine grains are rimmed by carbon-rich material containing traces of metal. Olivine compositions are nearly homogeneous at Fa_{12-13}. Pigeonite compositions are Fs_{11},Wo_{6} and augite compositions are $Fs_{1-2}Wo_{42}$. The meteorite is a ureilite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13211	**Miller Range**	**21445**	**0.7 x 0.7 x 0.5**	**0.470**	**EH3 chondrite**

Macroscopic Description: Rachel Funk, Tim McCoy
50% of the exterior surface has black/brown fusion crust with rust spots. The exposed surface is a brown/black color. The meteorite exhibits a black interior.

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 minor abundances of olivine. Weathering is moderate. Microprobe analyses show the pyroxene is Fs_{1-3} and that the Fe,Ni metal contains 3 wt. % Si. The meteorite is an EH3 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13214	**Miller Range**	**21436**	**1.1 x 1.0 x 0.6**	**1.50**	**CO3 chondrite**

Macroscopic Description: Rachel Funk
Black fusion crust covers 80% of the exterior surface. The interior is a black matrix with orange rust, metal visible and beige inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of abundant small (up to 1 mm) chondrules, chondrule fragments and mineral grains in a dark matrix. Metal and sulfide occur within and rimming the chondrules. Olivine ranges in composition from Fa_{1-28}, with a continuous range of intermediate compositions and a slight peak at Fa_{1-3} with one analysis of Fa_{28}. Pyroxene analyses are Fs_{1-2}. The matrix appears to consist largely of Fe-rich olivine. Terrestrial weathering effects are extensive. The meteorite is a CO3 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13226	**Miller Range**	**24319**	**0.8 x 0.7 X 0.6**	**0.663**	**EH3 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
98% of the exterior has brown fractured fusion crust with oxidation. The meteorite exhibits a black interior.

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. Weathering is severe. Microprobe analyses show the pyroxene is Fs_{0-1} and that the Fe,Ni metal contains 2.5 wt. % Si. The meteorite is an EH3 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13233	**Miller Range**	**23723**	**0.6 x 0.5 x 0.2**	**0.129**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
98% black fusion crust covers the exterior surface. The meteorite exhibits a black interior.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy, Nicole Lunning
The section consists of abundant small (up to 1 mm) chondrules, and mineral fragments in a dark matrix. Rare sulfides occur within the matrix. Olivine ranges in composition from Fa_{0-2}. The meteorite is a CM2 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13241	**Miller Range**	**24344**	**0.9 x 0.7 x 0.4**	**0.642**	**CV3 chondrite**

Macroscopic Description: Cecilia Satterwhite, Tim McCoy
50% of the exterior surface has black fusion crust, areas without fusion crust is weathered brown. The meteorite exhibits a black interior with a few large white inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy, Nicole Lunning
This very small, extensively altered meteorite exhibits large chondrules and CAIs in a dark matrix. Olivines range from Fa_{1-2} and a pyroxene is Fs_6. The meteorite is a carbonaceous chondrite, probably a CV3, although the small size and the extensive terrestrial alteration make the classification uncertain.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13247	**Miller Range**	**24394**	**2.3 x 1.7 x 0.6**	**5.548**	**CK6 chondrite**

Macroscopic Description: Cecilia Satterwhite
Black/brown fusion crust covers 70% of the exterior surface, one surface is frothy. Areas without fusion crust are rusty brown. The interior is a gray matrix with heavy oxidation and rust in some areas.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few relict chondrules in a matrix of finer-grained silicates, sulfides and magnetite. The meteorite is only slightly weathered. Silicates are homogeneous. Olivine is Fa_{36}, clinopyroxene at $Fs_{10}Wo_{50}$. The meteorite appears to be a CK6 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13248	**Miller Range**	**24343**	**2.4 x 1.3 x 0.6**	**5.535**	**LL3.5 chondrite**

Macroscopic Description: Cecilia Satterwhite
Black/brown fusion crust is present on 85% of the surface with visible chondrules and brown weathered areas. The dark gray to brown matrix has oxidation scattered throughout and abundant inclusions/chondrules of various colors and sizes are visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section exhibits numerous large, well-defined chondrules (up to 2 mm) in a black matrix of fine-grained silicates, metal and troilite. Weak shock effects are present. Polysynthetically twinned pyroxene is extremely abundant. The meteorite is moderately weathered. Silicates are unequilibrated; olivines range from Fa_{1-37} and pyroxenes from Fs_{12-19}. The meteorite is an LL3 chondrite (estimated subtype 3.5).

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13269	**Miller Range**	**22295**	**0.9 x 1.2 x 0.8**	**1.22**	**CM2 chondrite**

Macroscopic Description: Rachel Funk

Black fractured fusion crust covers 30% of the exterior surface. Some fractures penetrate the interior and minor evaporites are visible. The interior has a black matrix with white and gray inclusions/chondrules.

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

The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-47}, orthopyroxene is Fs_{1-12}. 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 13315	**Miller Range**	**21331**	**1.5 x 1.0 x 0.9**	**1.46**	**Eucrite**

Macroscopic Description: Rachel Funk

35% black fusion crust is present on the exterior surface. The exposed interior is gray with black and white minerals. The black fine grained interior matrix has white grains visible and minor yellow inclusions.

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

This meteorite is dominated by coarse-grained (~1 mm average size) pyroxene and feldspar grains. Two fine-grained (cataclastic) zones cross-cut the specimen. Mineral compositions are homogeneous with orthopyroxene ($Fs_{62}Wo_2$), with lamellae of augite ($Fs_{26}Wo_{44}$), and plagioclase ($An_{86}Or_1$). The Fe/Mn ratio of the pyroxene is ~30. The meteorite is a eucrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13316	**Miller Range**	**21430**	**1.2 x 1.5 x 0.5**	**0.93**	**CM2 chondrite**

Macroscopic Description: Rachel Funk

Black fractured fusion crust on 35% of the exterior surface. The interior is a black matrix with 1 mm sized gray inclusions visible.

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

The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-45}, orthopyroxene is Fs_2. 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 13320	**Miller Range**	**21348**	**1.0 x 1.0 x 0.6**	**1.44**	**CK5 chondrite**

Macroscopic Description: Rachel Funk

25% of the exterior surface has black fractured fusion crust. The exposed surface is black and fractured. The dark gray cloudy matrix has black inclusions visible.

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

The section consists of large (up to 2 mm) chondrules in a matrix of finer-grained silicates, sulfides and abundant magnetite grains. The meteorite is little weathered, but extensively shock blackened. Olivine is homogeneous and $Fa_{34.}$ The meteorite is a CK5 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13321	**Miller Range**	**21734**	**1.5 x 1.5 x 1.1**	**1.82**	**CM2 chondrite**

Macroscopic Description: Rachel Funk
50% of the exterior is covered with black fractured fusion crust. The exposed surface is black and fractured and minor evaporites are visible. The black matrix has white and gray chondrules/inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-36}. 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 13322	**Miller Range**	**21315**	**1.8 x 1.5 x 1.1**	**2.60**	**CM2 chondrite**

Macroscopic Description: Rachel Funk
Black fractured fusion crust covers 80% of the exterior surface, evaporites are present. The exposed surface is black with black and gray chondrules and inclusions. The black matrix has gray and beige chondrules/inclusions visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{2-13}, orthopyroxene is Fs_{2-6}. 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 13323	**Miller Range**	**21724**	**1.1 x 1.9 x 0.9**	**3.66**	**CK5 chondrite**

Macroscopic Description: Rachel Funk
Exterior has black fractured fusion crust (15%). Exposed interior is black and fractured. The interior is a cloudy gray that has a crumbly texture.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy, Nicole Lunning
The section consists of large (up to 2 mm) chondrules in a matrix of finer-grained silicates, sulfides and abundant magnetite grains. The meteorite is moderately weathered, but extensively shock blackened. Olivine is homogeneous and $Fa_{32.}$ The meteorite is a CK5 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13324	**Miller Range**	**21739**	**1.5 x 1.4 x 0.9**	**2.33**	**CM2 chondrite**

Macroscopic Description: Rachel Funk
Black fractured fusion crust on 50% of the exterior surface with minor amounts of evaporites. Exposed surface is black with fractures. The interior is a black matrix with minor amounts of orange rust.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-38}. 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 13325	**Miller Range**	**21713**	**0.9 x 1.2 x 1.1**	**1.13**	**CM1 chondrite**

Macroscopic Description: Rachel Funk
5% of the exterior has black fusion crust. Exposed surface is black. The black interior has gray chondrules/inclusions and minor orange rust.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy, Nicole Lunning
The section consists of mostly small (up to 1 mm) completely altered chondrules set in an altered matrix with abundant carbonate. Rare small sulfide grains are present. No unaltered mafic silicates remain. The meteorite is a CM1 chondrite.

Sample No.:	Location:	Field No.:	Dimensions (cm):	Weight (g):	Classification:
MIL 13326	**Miller Range**	**23777**	**1.4 x 1.5 x 0.6**	**1.84**	**CM2 chondrite**

Macroscopic Description: Rachel Funk
No fusion crust on the exterior. The exposed surface is black with gray chondrules/inclusions visible and a vesicular texture. The interior is a black matrix with gray chondrules and inclusions.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-46}, orthopyroxene is Fs_6. 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 15029	**Miller Range**	**24100**	**4.5 x 3.0 x 3.0**	**34.01**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite
The exterior surface has weathered black patches of fusion crust. Areas without fusion crust are brown in color with rusty areas. Some dark gray to black matrix is exposed and inclusions and chondrules are visible. Some areas have vugs. The interior is a fine grained black matrix with some oxidation; small white and rusty inclusions are visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-69}, orthopyroxene is Fs_1. 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 15031	**Miller Range**	**24161**	**7.0 x 5.0 x 5.0**	**237.3**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite
Brown/black fractured patchy fusion crust covers 60% of this meteorite's exterior surface; evaporites are heavy in some areas; fractures penetrate the surface; areas w/o fusion crust are black. The interior is a black matrix with heavy evaporite deposits; some light gray to white inclusions are visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-44}, orthopyroxene is Fs_{23}. 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 15081	**Miller Range**	**24166**	**3.3 x 2.0 x 1.5**	**9.105**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite
90% of the exterior has brown/black fusion crust; frothy and pitted in areas.
The matrix is black, fine grained with tiny specks of light colored inclusions, a few are weathered and rusty.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-2}. 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 15231	**Miller Range**	**23090**	**2.4 x 1.5 x 1.5**	**4.935**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite
80% of the exterior surface has black fractured fusion crust with small deposits of evaporites; areas without fusion crust are a brownish color. The interior is a fine grained black matrix with small white inclusions; oxidation is visible and heavy along the rim.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-42}. 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 15308	**Miller Range**	**23092**	**3.5 x 2.3 x 2.0**	**18.176**	**CM2 chondrite**

Macroscopic Description: Cecilia Satterwhite
The exterior surface has 80% black fractured patchy fusion; areas without fusion crust are black with some evaporites; some gray and weathered inclusions/chondrules are visible. The interior is a black matrix with small light colored inclusions/chondrules, some are weathered. A very large evaporite deposit is present especially along the fracture where sample was broken.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small (up to 0.5 mm) chondrules, mineral grains and CAIs set in a black matrix. Rare metal and sulfide grains are present. Olivine compositions are Fa_{1-51}. 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 15328	**Miller Range**	**23047**	**7.0 x 5.5 x 5.5**	**320.6**	**CR2 chondrite**

Macroscopic Description: Cecilia Satterwhite
90% black fractured fusion crust covers the exterior surface; abundant fractures penetrate the surface; light colored and weathered inclusions/chondrules are visible on the exterior surface.
The interior is a dark gray to black matrix with abundant inclusions/chondrules of various sizes and colors, some are weathered; the meteorite is heavily weathered in areas along the fractures, has a crumbly texture and some rusty areas.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy, Nicole Lunning
The section exhibits a range of chondrule sizes (500 micron to 2 mm), that are well-defined and metal-rich along with CAIs in a dark matrix of FeO-rich phyllosilicate. Polysynthetically twinned pyroxene is abundant in chondrules. Silicates are unequilibrated; olivines range from $Fa_{1-33,}$ with most Fa_{0-2}, and pyroxenes from $Fs_{2-4}Wo_1$. The meteorite is probably a CR2 chondrite.

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 **March 10, 2017 deadline** will be reviewed at the MWG meeting on **March 25-26 in Houston, TX** Requests that are received after the deadline may be delayed for review until MWG meets again in the Fall of 2017. 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**

Kevin Righter
Curator
Mail code X12
NASA Johnson Space Center
Houston, Texas 77058
(281) 483-5125
kevin.righter-1@nasa.gov

Cecilia Satterwhite
Lab Manager/MWG Secretary
Mail code X12
NASA Johnson Space Center
Houston, Texas 77058
(281) 483-6776
cecilia.e.satterwhite@nasa.gov

FAX: 281-483-5347

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/