Antarctic Meteorite Newsletter
Volume 39, Number 2 September 2016

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

Curator's Comments

Kevin Righter, NASA-JSC

This newsletter reports 219 new meteorites from the 2012, 2013, 2014 and 2015 ANSMET seasons from Larkman Nunatak (LAR12), Miller Range (MIL13 and MIL15), and Dominion Range (DOM14) areas. Meteorites include ten carbonaceous chondrites (CK, CM, CR, CV) and two EH3 chondrites, as well as 1 diogenite, four eucrites, 3 irons and a pallasite.

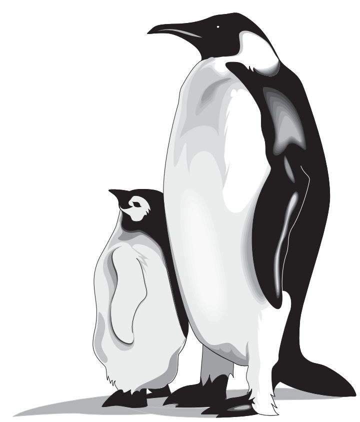
Reminder to acknowledge samples received from NASA-JSC

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.

Reclassification
LAR 12310 was reclassified as an L6 Chondrite.

Inside this Issue



Sample Request Deadline
September 21, 2016

MWG Meets
Oct. 6-7, 2016

ANSMET 2015-2016 Field Season

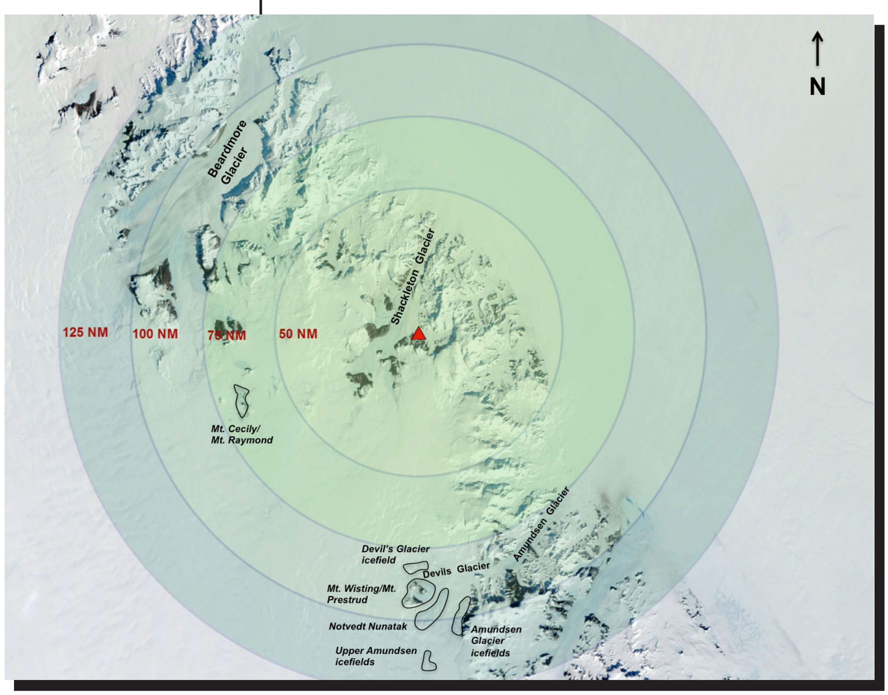
Jim Karner, Ralph Harvey and John Schutt
Case Western Reserve University

For the past several years ANSMET field plans have been modest in scope and cost, if you can say that at all about Antarctic fieldwork. This was intentional, given we were dealing with major changes in the formal support structure of our program and other issues (such as the lingering effects of the October 2013 governmental shutdown on the US Antarctic Program). In an effort to keep things inexpensive and easy to support, we avoided "risky" and logistically difficult visits to new or remote icefields where poor yields and/or logistical costs might occur. One look at this year's plans, however, should convince you that modesty has been cast aside for now.

Our field season begins with a two-person reconnaissance visit to the Elephant Moraine icefields. We were very active in the region up through the mid-90's; but increasing local snow cover (associated with the giant iceberg B-15 blocking the escape of sea ice from the Ross Sea) led us to move on to more southerly targets rather than try to force recoveries. B-15 is now officially gone, local climate appears to be resetting, and so it's a good time to re-evaluate dedicated searching at the site.

Following that trip, we'll take two teams of four out to a new camp in the Shackleton Glacier region. This camp has been in planning for several years, became operational last year, and will provide logistical support for science throughout more southerly parts of the Transantarctic Mountains. We'll use this camp as a flight hub and staging ground for our two field parties, each of which will operate independently. "Team A", led by Jim Karner, will conduct season-long systematic recoveries at the icefields around Mts. Cecily, Raymond and Emily. This is a beautiful site that was first explored in 1985, revisited about a decade later, and in spite of a few tries hasn't been successfully visited since (it was a planned second target during seasons at nearby Larkman Nunatak). Team A will stay at these icefields for the entire season, and if weather allows may even finish our recovery efforts at this site (one of the homes of the GRO meteorites).

"Team B", led by Ralph Harvey and John Schutt, will be dedicated to reconnaissance. The team's targets are several interesting icefields in the headwaters region of the Amundsen Glacier, only one of which has been previously visited (Mts Wisting and Prestrud, where 26 meteorites were recovered in a few days in 1995). Team B will use a pre-deployment overflight to prioritize targets and establish landing sites, and then visit three of them over the course of about 5 weeks. The main goal for Team B is to get boots on the ground and fully evaluate the meteorite recovery potential of each site. Given that the Shackleton camp is likely to be active for several following seasons, our hope is that one or more of these sites will be found worthy of larger scale recovery efforts later on.



Target icefields to be visited during the 2016-17 field season. The red triangle shows the approximate location of the Shackleton camp. ANSMET team A will systematically search at the icefields around Mts. Cecily and Raymond (center left), while team B will conduct reconnaissance further south, among the icefields in the headwaters region of the Amundsen Glacier (center bottom). The region is roughly 500 statute miles from McMurdo Station.

Report from the Smithsonian – Fall 2016

Cari Corrigan

Things are going well in the Division of Meteorites at the Smithsonian. We are anxiously awaiting our new JEOL FEG electron microprobe, which should be delivered at the beginning of November. This new instrument will be used to classify the Antarctic Meteorites.

One nice bit of news – the recent book on the U.S. Antarctic Meteorites (Righter, Corrigan, McCoy and Harvey, 2015 35 Seasons of U.S. Antarctic Meteorites: A pictorial guide to the collection; AGU Press) has been selected for a Smithsonian National Museum of Natural History Science Achievement Award. Thanks to all of those who contributed!

As a reminder, classification of all ordinary chondrites is now 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.

Chris Anders, our intern over the past 14 months has moved on, and we thank him for all of his hard work in helping to develop the system we are using for the ordinary chondrite SEM analyses, as well as innumerable other improvements he made around the analytical labs in our department. He will be sorely missed and we wish him well!

Photo of MIL 13013, Iron IAB

New Meteorites

2010-2015 Collection

Pages 5-17 contain preliminary descriptions and classifications of meteorites that were completed since publication of issue 39(1), March. 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
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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

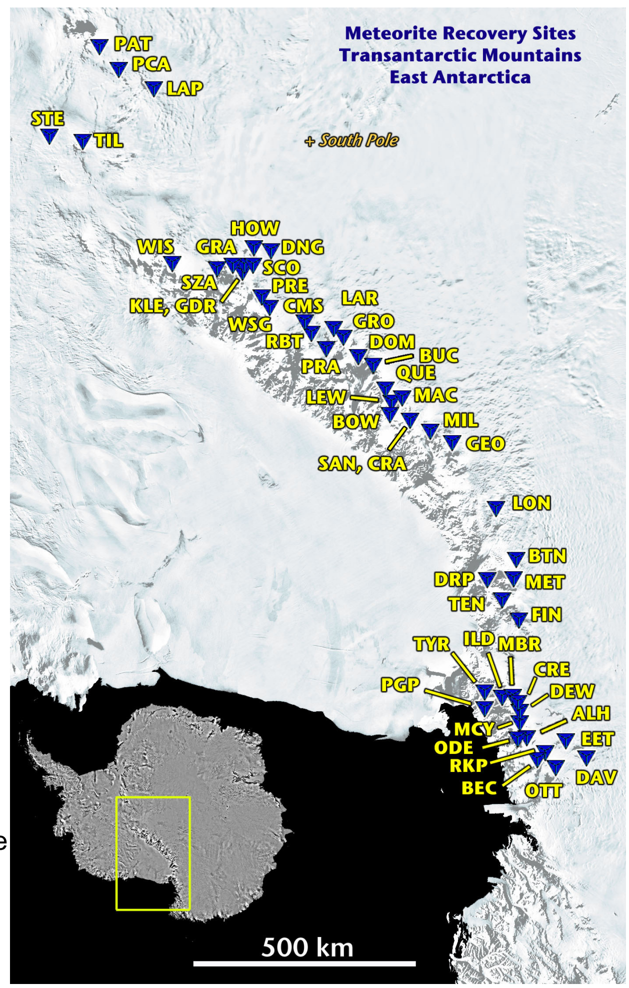

Table 1
Newly Classified Antarctic Meteorites

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
LAR 12012	1132.2	H6 CHONDRITE	B/C	A		
LAR 12029	2889.0	H6 CHONDRITE	B	B		
LAR 12044	296.2	H5 CHONDRITE	A/B	B		
LAR 12045	457.7	H5 CHONDRITE	B/C	B		
LAR 12046	254.3	H5 CHONDRITE	B/C	B		
LAR 12047	355.4	L5 CHONDRITE	A/B	A/B		
LAR 12048	363.0	H5 CHONDRITE	B	A		
LAR 12105	35.5	L6 CHONDRITE	A/B	A		
LAR 12107	12.4	H6 CHONDRITE	B	A		
LAR 12108	10.1	H6 CHONDRITE	A/B	A		
LAR 12109	11.7	H5 CHONDRITE	Be	A		
LAR 12127	303.7	H5 CHONDRITE	B/C	B	18	16
LAR 12130	182.6	H5 CHONDRITE	Be	A		
LAR 12131	260.2	H6 CHONDRITE	Be	A		
LAR 12132	282.3	L6 CHONDRITE	Be	A/B		
LAR 12133	201.5	L6 CHONDRITE	A/Be	A		
LAR 12134	156.4	H5 CHONDRITE	A/B	A/B		
LAR 12135	182.3	L6 CHONDRITE	A/B	A		
LAR 12136	282.1	LL6 CHONDRITE	A	A/B		
LAR 12137	104.3	H5 CHONDRITE	B	A/B		
LAR 12140	40.3	H4 CHONDRITE	A	A	19	16
LAR 12150	113.8	H5 CHONDRITE	B	A		
LAR 12151	41.5	H6 CHONDRITE	A/B	A		
LAR 12152	52.0	L6 CHONDRITE	A/B	A		
LAR 12153	51.6	H5 CHONDRITE	B/C	A		
LAR 12154	47.2	CV3 CHONDRITE	A/B	B	0-5	3
LAR 12155	51.1	H6 CHONDRITE	B/C	A		
LAR 12157	34.3	L6 CHONDRITE	A/B	A		
LAR 12158	23.1	H6 CHONDRITE	B	A		
LAR 12159	47.3	L6 CHONDRITE	B	A		
LAR 12190	78.0	H5 CHONDRITE	B	A		
LAR 12191	37.6	H6 CHONDRITE	B	A		
LAR 12192	36.6	H5 CHONDRITE	B	A/B		
LAR 12193	29.0	H6 CHONDRITE	B	A		
LAR 12194	19.0	H6 CHONDRITE	A/B	A		
LAR 12197	23.0	L6 CHONDRITE	A/B	A		
LAR 12198	20.4	H6 CHONDRITE	A/Be	B		
LAR 12199	19.3	H6 CHONDRITE	B	A		
LAR 12205	7.9	H6 CHONDRITE	B/C	A/B	19	17
LAR 12221	283.8	L5 CHONDRITE	A/B	A		
LAR 12222	372.9	L5 CHONDRITE	A/Be	A	24	21
LAR 12223	378.3	H6 CHONDRITE	A/Be	A		
LAR 12224	179.7	L5 CHONDRITE	Be	B		
LAR 12226	118.7	LL5 CHONDRITE	A/Be	B		
LAR 12227	67.6	LL5 CHONDRITE	Ae	A		
LAR 12228	61.1	L6 CHONDRITE	A/Be	A		
LAR 12229	63.7	H6 CHONDRITE	Be	A		
LAR 12238	25.7	H5 CHONDRITE	B	A		
LAR 12242	171.7	H6 CHONDRITE	B	B/C		
LAR 12243	175.3	L5 CHONDRITE	B	A		
LAR 12245	187.9	H6 CHONDRITE	B/C	A		
LAR 12247	137.4	CR2 CHONDRITE	A/B	A	0-30	11-17

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
LAR 12250	104.6	H6 CHONDRITE	A/B	A/B		
LAR 12251	156.6	H6 CHONDRITE	A/B	B		
LAR 12252	147.5	EH3 CHONDRITE	A	A/B		0-4
LAR 12253	245.0	H6 CHONDRITE	A/B	A/B		
LAR 12254	249.9	H6 CHONDRITE	B	A		
LAR 12270	95.1	H6 CHONDRITE	C	C		
LAR 12271	96.7	H5 CHONDRITE	A/B	A/B		
LAR 12272	63.4	L5 CHONDRITE	A	A		
LAR 12273	63.5	H6 CHONDRITE	B/C	A		
LAR 12274	57.0	LL5 CHONDRITE	B	A		
LAR 12275	42.2	H6 CHONDRITE	C	A		
LAR 12276	39.8	L6 CHONDRITE	C	B/C		
LAR 12277	67.8	H5 CHONDRITE	A/B	A/B		
LAR 12278	32.0	L5 CHONDRITE	B	A/B		
LAR 12280	29.6	H5 CHONDRITE	B/C	A		
LAR 12281	21.8	L6 CHONDRITE	A/B	A/B		
LAR 12282	33.4	L6 CHONDRITE	B/C	A/B		
LAR 12284	9.6	H6 CHONDRITE	B/C	A/B	19	17
LAR 12285	16.2	H6 CHONDRITE	B/C	A		
LAR 12286	43.4	L5 CHONDRITE	B/C	A/B		
LAR 12287	17.1	H5 CHONDRITE	B/C	A/B		
LAR 12290	21.9	H6 CHONDRITE	B/C	A		
LAR 12291	15.0	H5 CHONDRITE	B/C	A/B		
LAR 12292	12.0	H6 CHONDRITE	B/C	A		
LAR 12293	11.1	H5 CHONDRITE	A/B	A		
LAR 12294	6.3	L6 CHONDRITE	B/C	A		
LAR 12295	4.4	H6 CHONDRITE	B/C	A		
LAR 12296	2.2	L5 CHONDRITE	B/C	A		
LAR 12297	5.7	L6 CHONDRITE	B/C	A/B		
LAR 12298	8.2	L6 CHONDRITE	B/C	A/B		
LAR 12299	4.9	L6 CHONDRITE	B/C	A		
LAR 12311	9.2	H6 CHONDRITE	B/C	B		
LAR 12312	14.5	L5 CHONDRITE	B/C	A		
LAR 12313	10.5	L6 CHONDRITE	A/B	A		
LAR 12314	4.1	L6 CHONDRITE	B/C	A		
LAR 12315	12.9	L5 CHONDRITE	B/C	A		
LAR 12316	0.5	H5 CHONDRITE	B	A		
LAR 12317	2.3	H6 CHONDRITE	B/C	A		
LAR 12318	8.9	H6 CHONDRITE	B	A/B		
LAR 12319	12.3	L6 CHONDRITE	B	A/B		
LAR 12322	48.2	L5 CHONDRITE	A/B	A/B		
LAR 12323	41.7	L5 CHONDRITE	A/B	A/B		
MIL 13009	707.2	L5 CHONDRITE	B	A/B		
MIL 13010	1375.4	H6 CHONDRITE	B	B	19	17
MIL 13012	1167.7	L6 CHONDRITE	B	A		
MIL 13013	2893.9	IRON-IAB	B	A		
MIL 13014	1311.9	LL5 CHONDRITE	C	A	29	24
MIL 13015	778.4	L5 CHONDRITE	B	A		
MIL 13016	137.4	H5 CHONDRITE	A	A		
MIL 13017	232.5	L6 CHONDRITE	A/Be	A		
MIL 13018	112.0	LL6 CHONDRITE	A	C	30	24
MIL 13020	1.8	LL6 CHONDRITE	B/C	A		
MIL 13021	6.4	H6 CHONDRITE	Ce	A/B		

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13022	6.9	H5 CHONDRITE	A	A/B		
MIL 13023	3.5	LL5 CHONDRITE	A/B	B	28	22
MIL 13024	11.5	LL5 CHONDRITE	A/B	B	28	22
MIL 13025	5.3	L6 CHONDRITE	A	A/B		
MIL 13026	1.1	L6 CHONDRITE	C	B		
MIL 13027	0.8	H6 CHONDRITE	B	A		
MIL 13028	2.9	L6 CHONDRITE	B/C	B		
MIL 13029	1.9	H6 CHONDRITE	C	A/B		
MIL 13030	5.6	H6 CHONDRITE	B/C	A/B		
MIL 13031	1.9	H6 CHONDRITE	B/C	A		
MIL 13033	1.6	L5 CHONDRITE	B/C	A		
MIL 13035	1.9	H6 CHONDRITE	B/C	A		
MIL 13036	6.7	H5 CHONDRITE	B/C	A		
MIL 13038	5.5	H6 CHONDRITE	B/C	A		
MIL 13040	0.4	LL6 CHONDRITE	B	A		
MIL 13041	6.3	L6 CHONDRITE	B/C	A/B		
MIL 13042	1.3	H5 CHONDRITE	B/C	A		
MIL 13043	1.0	CM2 CHONDRITE	B	A	0-31	
MIL 13044	6.6	H5 CHONDRITE	B/C	A		
MIL 13045	2.5	LL5 CHONDRITE	B/C	A		
MIL 13046	1.8	L6 CHONDRITE	B/C	A		
MIL 13047	5.3	H5 CHONDRITE	B/C	A/B		
MIL 13048	3.8	L5 CHONDRITE	A/B	A/B		
MIL 13049	9.0	L5 CHONDRITE	B	A		
MIL 13056	0.5	EH3 CHONDRITE	B	A		0-1
MIL 13060	5.8	LL5 CHONDRITE	A/B	A	28	22
MIL 13061	8.2	H6 CHONDRITE	B/C	B/C		
MIL 13064	1.5	L6 CHONDRITE	B	A		
MIL 13066	1.0	L6 CHONDRITE	B	A/B		
MIL 13067	2.5	CV3 CHONDRITE	B	A/B	0-8	1-7
MIL 13068	12.3	H6 CHONDRITE	A/B	A/B		
MIL 13069	6.3	L6 CHONDRITE	B/C	A		
MIL 13070	5.8	H6 CHONDRITE	Ce	B		
MIL 13071	12.3	H6 CHONDRITE	C	A		
MIL 13072	16.6	H5 CHONDRITE	C	B/C		
MIL 13073	46.2	H6 CHONDRITE	B/C	A/B		
MIL 13074	30.2	L6 CHONDRITE	Be	B		
MIL 13075	96.2	L5 CHONDRITE	Be	B/C		
MIL 13076	41.1	H6 CHONDRITE	Ce	A/B		
MIL 13077	0.4	CK5 CHONDRITE	Be	A/B	30	23
MIL 13078	5.4	CM2 CHONDRITE	Be	A/B	0-44	
MIL 13080	527.5	LL5 CHONDRITE	A/Be	B/C	30	24
MIL 13081	116.5	H5 CHONDRITE	C	A/B		
MIL 13082	215.7	H5 CHONDRITE	B/C	A/B		
MIL 13083	411.5	H6 CHONDRITE	Be	B		
MIL 13084	211.8	L6 CHONDRITE	B/C	A		
MIL 13085	223.7	L6 CHONDRITE	Be	A/B		
MIL 13086	225.4	LL5 CHONDRITE	A/B	A		
MIL 13087	258.0	H6 CHONDRITE	A/Be	B		
MIL 13088	144.5	L5 CHONDRITE	A/B	B/C		
MIL 13089	128.3	L6 CHONDRITE	B/Ce	A		
MIL 13090	93.9	L6 CHONDRITE	B/C	A/B		
MIL 13091	75.8	H5 CHONDRITE	B	A		
MIL 13092	86.4	L6 CHONDRITE	C	A		

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13093	96.1	L5 CHONDRITE	A	A		
MIL 13094	156.6	L6 CHONDRITE	B	A/B		
MIL 13095	60.2	L6 CHONDRITE	Ce	A		
MIL 13096	139.8	L6 CHONDRITE	A	B		
MIL 13097	76.1	H5 CHONDRITE	A	A		
MIL 13098	70.7	L5 CHONDRITE	B	B		
MIL 13099	115.8	L6 CHONDRITE	A/B	A		
MIL 13110	32.3	H5 CHONDRITE	Ce	A/B		
MIL 13111	75.7	H5 CHONDRITE	C	A		
MIL 13113	139.9	L6 CHONDRITE	Be	A		
MIL 13114	14.4	L6 CHONDRITE	A/B	B		
MIL 13115	45.0	L5 CHONDRITE	A/Be	A/B		
MIL 13117	0.8	CV3 CHONDRITE	Be	A/B	0-19	1
MIL 13118	0.7	CV3 CHONDRITE	Be	A/B	0-30	3-14
MIL 13120	2.3	LL5 CHONDRITE	A/B	A	28	22
MIL 13121	4.1	H5 CHONDRITE	A/B	A		
MIL 13122	0.9	L6 CHONDRITE	B	A		
MIL 13123	4.5	H6 CHONDRITE	B/C	A/B		
MIL 13124	1.7	EUCRITE (BRECCIATED)	A	A/B		26-62
MIL 13125	12.3	H5 CHONDRITE	B/C	A		
MIL 13126	1.6	L4 CHONDRITE	B	A	24	19
MIL 13127	1.9	H6 CHONDRITE	B/C	A		
MIL 13128	0.4	L6 CHONDRITE	B	A		
MIL 13129	1.6	LL5 CHONDRITE	B	A		
MIL 13200	4.7	LL5 CHONDRITE	A/B	A/B		
MIL 13201	6.1	H6 CHONDRITE	Ce	A		
MIL 13203	3.4	LL6 CHONDRITE	B	A/B		
MIL 13205	6.9	L6 CHONDRITE	C	A		
MIL 13206	15.5	H6 CHONDRITE	B/C	A		
MIL 13207	14.5	L6 CHONDRITE	B	A/B		
MIL 13208	8.4	L6 CHONDRITE	Be	A		
MIL 13209	13.2	H6 CHONDRITE	C	A		
MIL 13290	3.1	H6 CHONDRITE	C	A/B		
MIL 13291	3.2	L5 CHONDRITE	C	B/C		
MIL 13292	3.4	H6 CHONDRITE	Ce	A/B		
MIL 13293	2.6	H6 CHONDRITE	C	B		
MIL 13294	4.6	H6 CHONDRITE	Ce	A/B		
MIL 13295	8.0	LL4 CHONDRITE	B	A	28	22
MIL 13296	3.4	LL5 CHONDRITE	B	C	29	24
MIL 13297	2.1	LL6 CHONDRITE	C	B/C		
MIL 13298	2.8	H5 CHONDRITE	Ce	B		
MIL 13299	6.6	H6 CHONDRITE	C	B/C		
MIL 13300	6.0	H6 CHONDRITE	B/C	A		
MIL 13301	4.7	L5 CHONDRITE	B/C	A		
MIL 13303	2.1	LL5 CHONDRITE	B	A		
MIL 13304	1.5	LL5 CHONDRITE	B/C	A		
MIL 13305	1.2	LL5 CHONDRITE	B/C	A		
MIL 13306	0.7	L6 CHONDRITE	B	A		
MIL 13307	8.2	H6 CHONDRITE	B/C	A		
MIL 13308	18.3	L6 CHONDRITE	B/C	A		
MIL 13309	23.3	LL6 CHONDRITE	B/C	A		
DOM 14170	224.6	IRON-UNGROUPED	A/B	A		

Sample Number	Weight (g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 15052	865.4	IRON-IIIAB	B	A		
MIL 15080	38.9	EUCRITE (BRECCIATED)	A	A/B		48-58
MIL 15099	39.3	EUCRITE (BRECCIATED)	A	A/B		26-59
MIL 15114	55.1	PALLASITE	B	A	12-13	
MIL 15230	30.1	CV3 CHONDRITE	B	A	0-27	2-5
MIL 15309	48.0	DIOGENITE	A/B	B	31	25
MIL 15380	374.2	EUCRITE (BRECCIATED)	Ae	B		25-60
MIL 15381	181.0	CV3 CHONDRITE	B/Ce	B/C	0-5	1-2

Table 2
Newly Classified Meteorites Listed by Type

Achondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 15309	48.0	DIOGENITE	A/B	B	31	25
MIL 13124	1.7	EUCRITE (BRECCIATED)	A	A/B		26-62
MIL 15080	38.9	EUCRITE (BRECCIATED)	A	A/B		48-58
MIL 15099	39.3	EUCRITE (BRECCIATED)	A	A/B		26-59
MIL 15380	374.2	EUCRITE (BRECCIATED)	Ae	B		25-60

Carbonaceous Chondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13077	0.4	CK5 CHONDRITE	Be	A/B	30	23
MIL 13043	1.0	CM2 CHONDRITE	B	A	0-31	
MIL 13078	5.4	CM2 CHONDRITE	Be	A/B	0-44	
LAR 12247	137.4	CR2 CHONDRITE	A/B	A	0-30	11-17
LAR 12154	47.2	CV3 CHONDRITE	A/B	B	0-5	3
MIL 13067	2.5	CV3 CHONDRITE	B	A/B	0-8	1-7
MIL 13117	0.8	CV3 CHONDRITE	Be	A/B	0-19	1
MIL 13118	0.7	CV3 CHONDRITE	Be	A/B	0-30	3-14
MIL 15230	30.1	CV3 CHONDRITE	B	A	0-27	2-5
MIL 15381	181.0	CV3 CHONDRITE	B/Ce	B/C	0-5	1-2

E Chondrites

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
LAR 12252	147.5	EH3 CHONDRITE	A	A/B		0-4
MIL 13056	0.5	EH3 CHONDRITE	B	A		0-1

Irons

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 13013	2893.9	IRON-IAB	B	A		
MIL 15052	865.4	IRON-IIIAB	B	A		
DOM 14170	224.6	IRON-UNGROUPED	A/B	A		

Stony Iron

Sample Number	Weight(g)	Classification	Weathering	Fracturing	%Fa	%Fs
MIL 15114	55.1	PALLASITE	B	A	12-13	

**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 12154	**Larkman Nunatak**	**23195**	**3.0 x 4.5 x 2.5**	**47.2**	**CV3 Chondrite**

Macroscopic Description: Rachel Funk
Black/brown fusion crust covers the exterior of this carbonaceous chondrite. The fusion crust has a vesicular and fractured appearance. Minor orange rust is present. The interior is a black matrix with 1-2 mm sized chondrules. Minor rust is visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This section exhibits large chondrules (up to 2.5 mm) and CAIs in a dark matrix. Olivines range from Fa_{0-5} and pyroxenes from Fs_3. The meteorite is an unequilibrated carbonaceous chondrite, probably a CV3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
LAR 12247	**Larkman Nunatak**	**23961**	**7.0 x 6.0 x 2.0**	**137.4**	**CR2 Chondrite**

Macroscopic Description: Rachel Funk
The exterior has brown fusion crust over 95% of its surface. Minor orange rust and evaporites are present. Dark brown/black groundmass with 1-2 mm sized gray chondrules. Orange rust is present and shiny metal is visible throughout.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The extensively weathered thin section exhibits well-defined, metal-rich chondrules and CAI's in a dark matrix of FeO-rich phyllosilicate. Polysynthetically twinned pyroxene is abundant. Silicates are unequilibrated; olivines range from Fa_{0-30} and pyroxenes from $Fs_{11-17}Wo_{0-3}$. The meteorite is probably a CR2 chondrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
LAR 12252	**Larkman Nunatak**	**23702**	**5.5 x 4.0 x 4.0**	**147.5**	**EH3 Chondrite**

Macroscopic Description: Rachel Funk
Black/brown glossy fusion crust covers the exterior, with several small fractures and red and orange rust haloes up to 3 mm in size. The matrix is black/brown with shiny metal, 2 mm sized white inclusions and minor amounts of rust.

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 moderate to small abundances of olivine. Weathering is modest, with staining of some enstatite grains and minor alteration of metal and sulfides. Metal contains 2.2 wt. % SI. Microprobe analyses show the pyroxenes are Fs_{0-4}. The meteorite is a type 3 enstatite chondrite, probably EH3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13013	**Miller Range**	**23788**	**18.5 x 9.0 x 6.5**	**2893.9**	**Iron-IAB**

Macroscopic Description: Tim McCoy
This highly irregular mass is heavily pitted, although relatively smooth areas possibly suggestive of fusion crust occupy only about 20% of the mass. Most of the fusion crust appears to have been weathered or removed, although the irregular surface was probably sculpted largely by atmospheric entry and weathering is relatively minor (a few mm). A few deeper indentations are typical of iron meteorites where less-resistant phases (e.g., schreibersite, troilite) are preferentially ablated during atmospheric entry. Minor mm-sized rust halos are present across the specimen.

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

A complete longitudinal section was studied from one end of the meteorite. To the unaided eye, the meteorite is a coarse octahedrite with kamacite lamellae of 1.5-2 mm. No fusion crust or α_2 region was observed. On closer inspection in the microscope, both kamacite and taenite have been transformed, likely by shock, to numerous α subgrains with interstitial γ. In the kamacite lamellae, the subgrains are typically 50-100 μm in size with α far more abundant than γ. In the taenite interstitial areas, subgrains are typically ≤25 μm with γ dominating. Graphite rosettes are present, with sizes of ~100 μm. No silicates were observed. A microprobe traverse across the section yielded an approximate average composition of 8.9 wt.% Ni and 0.38 wt.% P. Compositionally and structurally, this meteorite resembles the IIIAB Juromenha (Buchwald, 1975). The presence of graphite suggests that this meteorite may be a IAB iron, but further studies are warranted.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13043	**Miller Range**	**22663**	**1.0 x 1.0 x 0.7**	**0.952**	**CM2 Chondrite**

Macroscopic Description: Cecilia Satterwhite

60% of the exterior is covered with black fusion crust. Frothy on one surface, areas without are dark gray to black. Interior is gray to black matrix with some 1-2 mm sized lighter grains visible; some oxidation.

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

The section consists of a few small chondrules (up to 1 mm), mineral grains and CAIs set in a black matrix; rare metal and sulfide grains are present. Olivine compositions are Fa_{0-31} but most are under Fa_2. 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 13056	**Miller Range**	**22672**	**1.0 x 0.8 x 0.2**	**0.49**	**EH3 Chondrite**

Macroscopic Description: Cecilia Satterwhite

The exterior has brown fusion crust with oxidation and visible inclusions/chondrules.

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 rare olivine. Weathering is modest, with moderate staining of some enstatite grains and minor alteration of metal and sulfides. Metal contains 2.2 wt. % SI. Microprobe analyses show the pyroxene is Fs_{0-1}. The meteorite is a type 3 enstatite chondrite, probably EH3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13067	**Miller Range**	**21128**	**1.6 x 1.3 x 0.7**	**2.462**	**CV3 Chondrite**

Macroscopic Description: Cecilia Satterwhite

The exterior has brown/black patches of fusion crust with some visible inclusions/chondrules on the exposed gray interior. The interior is a dark gray to black matrix with some oxidation. Abundant inclusions and chondrules of various sizes and colors are visible.

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

The section exhibits large chondrules (up to 2 mm) and CAIs in a dark matrix. Olivines range from Fa_{0-8} and pyroxenes from Fs_{1-7}. The meteorite is an unequilibrated carbonaceous chondrite, probably a CV3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13077	**Miller Range**	**21119**	**0.9 x 0.9 x 0.4**	**0.377**	**CK5 Chondrite**

Macroscopic Description: Cecilia Satterwhite

The exterior has black fusion crust with oxidation. The interior is a gray matrix.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This very small section consists of large (up to 2 mm), well-defined chondrules in a matrix of finer-grained silicates, sulfides and magnetite. The meteorite is little weathered, but extensively shock blackened. Silicates are homogeneous. Olivine is Fa_{30} and orthopyroxene is Fs_{23}. The meteorite appears to be a CK5 chondrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13078	**Miller Range**	**21144**	**2.0 x 1.5 x 1.3**	**5.404**	**CM2 Chondrite**

Macroscopic Description: Cecilia Satterwhite
40% of the exterior has black fractured fusion crust. Areas without fusion crust are dark gray to black with abundant inclusions/chondrules. The fine grained black matrix is filled with tiny inclusions/chondrules lighter than the matrix. Minor oxidation is visible throughout.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
The section consists of a few small chondrules (up to 1 mm), mineral grains and CAIs set in a black matrix; rare sulfide grains are present. Olivine compositions are Fa_{0-44}. 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 13117	**Miller Range**	**23713**	**1.0 x 1.0 x.0.5**	**0.78**	**CV3 Chondrite**

Macroscopic Description: Cecilia Satterwhite
Black patches of fusion crust cover 40% of the meteorite's exterior. The rest of the exterior is dark gray to black with evaporites. One large white inclusion is visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This very small section exhibits large chondrules (up to 2 mm) and CAIs in a dark matrix. Olivines range from Fa_{0-19} with most less than Fa_2 and pyroxenes are Fs_1. The meteorite is an unequilibrated carbonaceous chondrite, probably a CV3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13118	**Miller Range**	**23740**	**1.0 x 1.0 x 0.5**	**0.709**	**CV3 Chondrite**

Macroscopic Description: Cecilia Satterwhite
85% of the exterior is covered with black fusion crust, which is frothy on some surfaces. Areas without fusion crust are brown and evaporites are visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This small section exhibits large chondrules (up to 2 mm) and CAIs in a dark matrix. Olivine compositions range from Fa_{0-30} and pyroxenes from Fs_{3-14}. The meteorite is an unequilibrated carbonaceous chondrite, probably a CV3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 13124	**Miller Range**	**21718**	**1.5 x 1.0 x 1.0**	**1.741**	**Eucrite (Brecciated)**

Macroscopic Description: Cecilia Satterwhite
Black shiny fusion crust covers 85% of the exterior surface. The interior is a light gray and white matrix with dark and light inclusions visible.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This meteorite is dominated by course-grained (up to 2 mm average grain size) pyroxene and plagioclase in a brecciated matrix with occasional polymineralic clasts (up to 2.5 mm in maximum dimension). Pyroxenes are exsolved ($Fs_{62}Wo_1$ and $Fs_{26}Wo_{44}$). The Fe/Mn ratio of the pyroxene is ~29-31. The meteorite is a brecciated eucrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
DOM 14170	**Dominion Range**	**22541**	**6.0 x 4.0 x 2.5**	**224.6**	**Iron-Ungrouped**

Macroscopic Description: Tim McCoy
This ovoid specimen measures ~6 by 4 by 2.5 cm. One half of the specimen is convex and relatively smooth, with numerous indentations of 1-2 mm in diameter. A distinct rim separates the upper and lower surfaces of the meteorite, likely a reflection of oriented flight with melted material streaming to the midpoint. The center ridge is 1-1.5 cm in width and contains regularly-spaced indentations ~7 mm in diameter. We have not observed similar indentations on other iron meteorites. The lower surface resembles the upper surface, but is overlain by the rim material around its edges.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
A complete longitudinal section was studied. The section consists of spare, thin (50-150 micron) kamacite lamellae in a matrix of abundant plessite. Schreibersites occur within the kamacite lamellae. No fusion crust or α_2 region was observed. A microprobe traverse across the section yielded an approximate composition of 10.2 wt.% Ni and 0.40 wt.% P. In the absence of additional studies, the relatively high-Ni combined with high-P suggests that this iron may be ungrouped.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15052	**Miller Range**	**24134**	**10.0 x 9.0 x 4.0**	**865.42**	**Iron-IIIAB**

Macroscopic Description: Tim McCoy
This triangular shaped specimen measures ~10 x 9 x 4 cm with one apex of the triangle rounded, tapering to a thin edge at the opposite side. The upper convex surface exhibits a partial fusion crust, with ragged edges around the center where the fusion crust appears to have spalled off during flight (for comparison, see San Francisco Mts.) Pitting is minor with a few rust halos. The opposite surface is concave towards the tapered end and exhibits the Widmanstätten pattern on the surface, a feature observed in a few other desert meteorites. One apex of the triangle along the thin edge is fractured, suggestive of minor, late-stage breakup of the meteorite during flight.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
A complete longitudinal section was studied. The meteorite is a medium octahedrite with kamacite bandwidths of 0.8-1.0 mm with taenite regions exhibiting a variety of plessitic structures, including comb plessite. Kamacite lamellae are often cored by schreibersite, which occurs as interspersed grains along the axis of the lamellae. One edge of the section retains an ~1 mm thick well-preserved fusion crust underlain by a thin α_2 region. A microprobe traverse across the section yielded an approximate average composition of 8.6 wt.% Ni and 0.40 wt.% P. The Ni and P concentrations (Yang and Goldstein, 2005) and kamacite bandwidth suggest a IIIAB iron.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15080	**Miller Range**	**24158**	**4.9 x 2.9 x 2.0**	**38.98**	**Eucrite (Brecciated)**

Macroscopic Description: Rachel Funk
Shiny black fusion crust covers ~75% of the exterior. The exposed surface is gray with black shiny white and yellow inclusions ~1 mm in size. The interior has a light gray matrix with white and black crystals throughout.

Thin Section (,2) Description: Cari Corrigan, Tim McCoy
This meteorite is dominated by course-grained (up to 2 mm average grain size) pyroxene and plagioclase in a brecciated matrix with occasional polymineralic clasts (up to 2.5 mm in maximum dimension). Pyroxenes are exsolved ($Fs_{48-58}Wo_{5-17}$) and plagioclase ($An_{88-89}Or_{0.5}$). The Fe/Mn ratio of the pyroxene is ~29. The meteorite is a brecciated eucrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15099	Miller Range	24174	4.3 x 3.8 x 1.5	39.25	Eucrite (Brecciated)

Macroscopic Description: Rachel Funk

90% of the exterior is covered with black fusion crust, shiny and fractured in areas. The exposed surface is gray with black and white inclusions. The gray matrix has white elongated grains and black minerals ~1.5 mm in length.

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

This meteorite is dominated by fine-grained (~1 mm average grain size) basaltic material, which occurs as both the host and clasts. Occasional coarser-grained clasts, with grain sizes up to 4 mm are observed. Pyroxene compositions are $Fs_{26-59}Wo_{2-42}$. Semi-quantitative analyses suggest plagioclase of ~An_{90} and Fe/Mn ratio of pyroxene of ~30. The meteorite is a brecciated eucrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15114	Miller Range	24176	4.3 x 3.2 x 2.5	55.06	Pallasite

Macroscopic Description: Tim McCoy

The irregular specimen is roughly equidimensional 3 cm on a side. While much of the surface is metal which has been stained by terrestrial iron oxides mixed with olivines, irregular indentations ranging from 0.5 – 1.5 cm are common.

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

The section consists of rounded olivine grains up to ~5 mm set in a matrix of metal with swathing kamacite and areas of zoned taenite with plessitic cores. Large schreibersites are present. The olivine is Fa_{12-13}. The meteorite is a pallasite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15230	Miller Range	23013	3.5 x 2.5 x 2.0	30.116	CV3 Chondrite

Macroscopic Description: Cecilia Satterwhite

Patches of weathered black fusion crust are visible on the exterior. Areas without fusion crust are dark gray to black with abundant light colored chondrules/inclusions, some are rusty and weathered. The dark gray to black matrix is filled with abundant light colored and weathered inclusions/chondrules. Some areas of the matrix are rusty/weathered.

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

This section exhibits large chondrules (up to 2 mm) and CAIs in a dark matrix. Olivines range from Fa_{0-27} and pyroxenes from Fs_{2-5}. The meteorite is an unequilibrated carbonaceous chondrite, probably a CV3.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15309	Miller Range	23043	4.2 x 2.9 x 2.9	48.0	Diogenite

Macroscopic Description: Rachel Funk

Black fusion crust covers ~15% of the exterior. Fractures penetrate the surface. The exposed interior appears green with dark shiny minerals. The interior is a greenish gray matrix with shiny greenish black inclusions. Minor orange rust is around some of the greenish minerals and white elongated crystals are present.

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

The section shows a groundmass of coarse (up to 2 mm) comminuted pyroxene, with minor olivine. A finer grained clast with only rare large orthopyroxenes occurs. The clast is ~2 mm in maximum dimension. Orthopyroxene has a composition of $Fs_{25}Wo_2$ and olivines are Fa_{31}. The Fe/Mn ratio of the pyroxene is ~29. The meteorite is a diogenite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15380	Miller Range	24072	9.5 x 6.0 x 5.5	374.17	Eucrite (Brecciated)

Macroscopic Description: Rachel Funk

65% of the exterior has black shiny fusion crust. Some white evaporites are visible on the exterior. Exposed areas are gray with black, gray, white and beige inclusions. Some fractures penetrate the surface. The gray matrix has black, white and beige inclusions with white and dark gray speckled clasts present.

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

This meteorite is dominated by fine-grained (~1 mm average grain size) basaltic material which occurs as both the host and clasts. Occasional coarser-grained clasts, with grain sizes up to 4 mm are observed. Pyroxene compositions are $Fs_{25-60}Wo_{3-38}$. Plagioclase compositions are ($An_{90}Or_{0.5}$) and Fe/Mn ratio of pyroxene of ~30. The meteorite is a brecciated eucrite.

Sample No.	Location	Field No.	Dimensions (cm)	Weight (g)	Classification
MIL 15381	Miller Range	24037	6.5 x 5.0 x 3.5	181.02	CV3 Chondrite

Macroscopic Description: Rachel Funk

The black fusion crust covers 35% of the exterior, evaporites are present. The meteorite is heavily fractured and the exposed surface is black/brown with minor orange rust and chondrules. The black matrix has orange rust throughout with 1-2 mm sized white and gray inclusions, some shiny metal is visible.

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

This section exhibits large chondrules (up to 2 mm) and CAIs in a dark matrix. Olivines range from Fa_{0-5} and pyroxenes from Fs_{1-2}. The meteorite is an unequilibrated carbonaceous chondrite, probably a CV3.

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, 2016 deadline** will be reviewed at the MWG meeting on **Oct. 6-7, 2016 in Washington, DC.** Requests that are received after the deadline may be delayed for review until MWG meets again in the Spring 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**

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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/