APOLLO 15 ROCK SAMPLES: BASIC INVENTORY

The following pages are an inventory of all numbered Apollo 15 rock samples, updated from the Apollo 15 Sample Information Catalog (1971); regolith and core samples are not included. Rock sample columns comprise the type of sample, its mass, a brief descriptive name, and the container(s) in which it was brought to earth.

Under SAMPLE TYPE, a blank indicates that the sample was an individually collected hand sample, in some cases chipped from boulders. An "R" indicates that the sample was collected with many others by raking the regolith. A "P" indicates that the sample was picked from a regolith sample during laboratory processing in Houston. Details on sample collection can be found in the Interagency Report: Astrogeology 47 (1972), the Apollo 15 Preliminary science Report NASA SP-289 (1972), and Bailey and Ulrich "Apollo 15 Voice Transcript" (1975).

The DESCRIPTION is not meant to be a formal classification nor to replace any existing classifications. For samples for which thin sections have not been made the nature and genesis of a rock is far less well-known than for those for which thin sections do exist. Thus some of the rocks are less specifically characterized than others, and this is partly reflected in the descriptive name by the use of a question mark.

The descriptive names used in this inventory are:

Olivine-normative mare basalt (modifiers: fine-grained, medium-grained, coarse-grained): Mare volcanic rock containing about 10% olivine with textures generally ranging from porphyritic-subophitic or ophitic to gabbroic. Fine-grained refers to maximum grain sizes of less than about 0.5 mm; medium-grained refers to groundmass grain sizes less than about 1 mm and phenocrysts less than about 2 mm; coarse-grained refers to any coarser varieties. A few are brecciated or melted or both.

Quartz-normative mare basalt (modifiers: porphyritic, vitrophyric, spherulitic, variolitic, radiate, subophitic): Mare volcanic rock in which pigeonite phenocrysts are embedded in a finer-grained groundmass. In general, the coarser the phenocrysts, the coarser the groundmass. Mg-olivine is rare. Vitrophyric have small phenocrysts in a glassy groundmass; spherulitic and variolitic have coarser phenocrysts in a groundmass with fine radiating pyroxene/plagioclase/glass intergrowths; radiate have coarser phenocrysts in a coarsely radially-grown groundmass; subophitic have the coarsest phenocrysts and a subophitic to intergranular groundmass.

Feldspathic peridotite (mare basalt): Olivine-rich mare basalts which are probably cumulates.

Feldspathic microgabbro (mare basalt): Feldspathic mare basalt which is probably a cumulate.

KREEP basalt: Non-porphyritic feldspar/pyroxene volcanic basalt with textures ranging from vitric to variolitic to intersertal to subophitic. They are considerably enriched in incompatible elements (K, REE, P, etc.) compared with mare basalts.

Anorthosite _modifiers: ferroan, cataclastic): Very feldspathic rock of highland's origin, mainly brecciated but originally coarse-grained. Ferroan indicates shown to be a member of the ferroan anorthosite suite. Cataclastic implies in situ crushing rather than pervasive brecciation and mixing.

Regolith breccia, Regolith Clods: A brecciated, mixed assemblage containing glass, agglutinates, and other regolith components, and with at least some coherency. Clods are extremely friable and have largely disintegrated.

Green Glass Clods: Extremely friable regolith-like clods with a very high proportion of emerald green glass debris, in some cases close to 100%, at least in part. Only one is indurated.

Shocked/melted breccia: Breccia with obvious and pervasive melting produced by shock and with intensely shocked clasts.

Impact melt modifiers: glassy, fine-grained: Breccia with a melt matrix, and clasts without intense shock features. Most are highlands samples with low-K KREEP composition.

Glass, glass bombs, agglutinates: Varied glassy objects are present. Glassy refers to more homogeneous glassy objects, agglutinates to more heterogeneous objects in which a relationship between glass and clasts is more obvious. Several rocks have conspicuous complete or partial glass coats, and are so designated.

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15015		4770	Regolith breccia	SCB4/
15016		923.7	M.G. ol-norm mare basalt	SCB4/
15017		9.8	Glass shell	SCB5/162
15018		5.7	Vesicular glass	SCB5/162
15019		1.2	Agglutinitic breccia	SCB5/162
15025		77.3	Regolith breccia	CSB
15026		1.1	Regolith breccia, glass-coated	CSB
15027		51	Regolith breccia/vesicular glass	SCB5/162
15028		59.4	Regolith breccia, glass-coated	SCB5/162
15058		2672	Porphyritic subophitic qz-norm mare basalt	SCB6/
15059		1149	Regolith breccia, glass-coated	SCB6/
15065		1475	Porphyritic subophitic qz-norm mare basalt	SCBI/156
15075		809.3	Porphyritic subophitic qz-norm mare basalt	SCBI/157
15076		400.5	Porphyritic subophitic qz-norm mare basalt	SCBI/157
15085		471.3	Porphyritic subophitic qz-norm mare basalt	SCBI/158
15086		216.5	Regolith breccia	SCBI/158
15087		5.7	Porphyritic subophitic qz-norm (?) mare basalt	SCBI/158
15088		1.8	Regolith breccia	SCBI/158
15095		25.5	Polymict breccia, glass-coated	SCBI/159
15105	P	5.6	F.G. ol-norm mare basalt	SCBI/187
15115	R	4	Porphyritic subophitic qz-norm mare basalt	SCBI/186
15116	R	7.2	Porphyritic subophitic qz-norm mare basalt	SCBI/186
15117	R	23.3	Porphyritic subophitic qz-norm mare basalt	SCBI/186
15118	R	27.6	Porphyritic radiate qz-norm mare basalt	SCBI/186
15119	R	14.1	F.G. ol-norm mare basalt and regolith breccia	SCBI/186
15125	R	6.5	Porphyritic spherulitic qz-norm mare basalt	SCBI/186
15135	R	1.6	Agglutinate	SCBI/186
15145	R	15.1	Ol-norm (?) mare basalt breccia	SCBI/186
15146	R	1	Mare basalt (monomict?) breccia	SCBI/186

15147	R	3.7	Regolith breccia	SCBI/186
15148	R	3	Regolith breccia	SCBI/186
15205		337.3	Regolith breccia, glass-coated	SCBI/161
15206		92	Melted regolith breccia	SCBI/160
15245		115.5	Fragments of regolith breccia & glass	SCB3/163
15255		240.4	Regolith breccia, glass-coated	SCB5/190

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15256		201	Shock-melted ol-norm mare basalt (breccia?)	SCB5/190
15257		22.5	Regolith breccia, glass-coated	SCB5/190
15259		0.7	Regolith breccia	SCB5/192
15265		314.1	Regolith breccia	SCB5/193
15266		271.4	Regolith breccia	SCB5/193
15267		1.8	Regolith breccia	SCB5/193
15268		11	Regolith breccia	SCB5/192
15269		6	Regolith breccia, glass-coated	SCB5/192
15285		264.2	Regolith breccia, glass-coated	SCB5/192
15286		34.6	Glass and regolith breccia	SCB5/192
15287		44.9	Regolith breccia	SCB5/192
15288		70.5	Regolith breccia, glass-coated	SCB5/192
15289		24.1	Regolith breccia	SCB5/192
15295		947.3	Regolith breccia	SCB3/188
15297		34.9	Regolith breccia fragments	SCB3/
15298		1731	Regolith breccia, glass-coated	SCB3/
15299		1692	Regolith breccia	SCB3/
15306	P	134.2	Regolith breccia	SCB3/173
15307	P	1.3	Hollow glass sphere	SCB3/173
15308	P	1.7	Glassy impact melt (?)	SCB3/173
15315	R	35.6	Regolith breccia	SCB3/172
15316	R	6.1	Regolith breccia	SCB3/172
15317	R	0.6	Regolith breccia	SCB3/172
15318	R	5.4	Regolith breccia	SCB3/172
15319	R	8	Regolith breccia	SCB3/172
15320	R	4.7	Regolith breccia	SCB3/172
15321	R	0.3	Regolith breccia	SCB3/172
15322	R	8.4	Regolith breccia	SCB3/172
15323	R	4.4	Regolith breccia	SCB3/172
15324	R	32.3	Regolith breccia	SCB3/172
15325	R	57.8	Regolith breccia, glass-coated	SCB3/172
15326	R	2.5	Regolith breccia	SCB3/172
15327	R	12.4	Clast-rich glassy melt breccia	SCB3/172
15328	R	0.3	Regolith breccia	SCB3/172
15329	R	2.2	Regolith breccia, glass-coated	SCB3/172
15330	R	57.8	Regolith breccia	SCB3/172
15331	R	2.6	Regolith breccia	SCB3/172
15332	R	2.3	Agglutinate	SCB3/172

15333	R	0.3	Regolith breccia (?)	SCB3/172
15334	R	7.5	Regolith breccia	SCB3/172
15335	R	6	Regolith breccia	SCB3/172
15336	R	0.2	Regolith breccia (?), glass-coated	SCB3/172
15337	R	4.3	Regolith breccia	SCB3/172
15338	R	11.1	Regolith breccia	SCB3/172
15339	R	0.4	Regolith breccia (?)	SCB3/172
15340	R	0.9	Glass/regolith breccia (?)	SCB3/172
15341	R	1.6	Regolith breccia	SCB3/172
15342	R	7.5	Regolith breccia	SCB3/172

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15343	R	6.9	Regolith breccia	SCB3/172
15344	R	7.9	Regolith breccia, glass-coated	SCB3/172
15345	R	12.3	Vesicular glass/breccia clast	SCB3/172
15346	R	3.1	Regolith breccia	SCB3/172
15347	R	3.2	Regolith breccia	SCB3/172
15348	R	0.3	Regolith breccia (?)	SCB3/172
15349	R	2.3	Regolith breccia	SCB3/172
15350		2.9	Regolith breccia	SCB3/172
15351	R	4.2	Regolith breccia	SCB3/172
15352	R	2.9	Regolith breccia, glass-coated	SCB3/172
15353	R	10.6	Regolith breccia	SCB3/172
15354	R	0.3	Regolith breccia (?)	SCB3/172
15355	R	5.2	Regolith breccia	SCB3/172
15356	R	2	F.G. impact melt	SCB3/172
15357	R	11.8	F.G. impact melt	SCB3/172
15358	R	14.6	Glassy breccia with KREEP basalt clasts	SCB3/172
15359	R	4.2	F.G. impact melt	SCB3/172
15360	R	9.3	Regolith breccia	SCB3/172
15361	R	0.9	Anorthosite	SCB3/172
15362	R	4.2	Cataclastic anorthosite	SCB3/172
15363	R	0.5	Anorthosite	SCB3/172
15364	R	1.5	Anorthositic (monomict?) breccia	SCB3/172
15365	R	2.9	Indurated green glass clod	SCB3/172
15366	R	3.3	Green glass clod	SCB3/172
15367	R	1.1	Green glass clod	SCB3/172
15368	R	0.4	Green glass clod	SCB3/172
15369	R	2.5	Green glass clod	SCB3/172
15370	R	2.9	Green glass clod	SCB3/172
15371	R	0.5	Green glass clod	SCB3/172
15372	R	0.8	Green glass clod	SCB3/172
15373	R	0.6	Green glass clod	SCB3/172
15374	R	1	Green glass clod	SCB3/172
15375	R	0.4	Green glass clod	SCB3/172
15376	R	1	Green glass clod	SCB3/172
15377	R	0.5	Green glass clod	SCB3/172
15378	R	3.3	Regolith breccia	SCB3/172
15379	R	64.3	F.G. ol-norm mare basalt	SCB3/172
15380	R	5.2	F.G. ol-norm mare basalt	SCB3/172
15381	R	0.3	F.G. (ol-norm mare?) basalt	SCB3/172
15382	R	3.2	KREEP basalt	SCB3/172

15383	R	1.4	Glass with monomict (basalt) clast assemblage	SCB3/172
15384	R	1.4	M.G. ol-norm mare basalt	SCB3/172
15385	R	8.7	Feldspathic peridotite (mare basalt)	SCB3/172
15386	R	7.5	KREEP basalt	SCB3/172
15387	R	2	Feldspathic peridotite (mare basalt)	SCB3/172

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15388	R	9	Feldspathic microgabbro (mare basalt)	SCB3/172
15389	R	2.8	Agglutinate	SCB3/172
15390	R	3.5	Vesicular glass and breccia	SCB3/172
15391	R	0.3	Glass (with breccia clasts?)	SCB3/172
15392	R	0.4	Glass	SCB3/172
15405		513.1	F.G. impact melt (KREEP)	SCB6/168
15415		269.4	Ferroan anorthosite	SCB3/196
15417		1.3	Regolith breccia	SCB3/194
15418		1141	Shocked/melted breccia("anorthositic gabbro")	SCB3/194
15419		17.7	Regolith breccia, glass-coated	SCB3/194
15425		136.3	Green glass clods	SCB3/195
15426		223.6	Green glass clods	SCB3/195
15427		115.9	Green glass clods	SCB3/195
15435		206.8	Regolith clod	SCB5/170
15436		3.5	F.G. impact melt	SCB5/170
15437		1	Ferroan anorthosite	SCB5/170
15445		287.2	F.G. impact melt with pristine clasts	SCB6/171
15455		937.2	F.G. impact melt with pristine clasts	SCB5/198
15459		5854	Regolith breccia	SCB6/
15465		376	Glass with regolith breccia clasts	SCB5/199
15466		119.2	Glass with regolith breccia clasts	SCB5/199
15467		1.1	Regolith breccia/glass	SCB5/199
15468		1.3	Glassy breccia	SCB5/199
15475		406.8	Porphyritic subophitic qz-norm mare basalt	SCB5/203
15476		266.3	Porphyritic radiate qz-norm mare basalt	SCB5/203
15485		104.9	Vitrophyric qz-norm mare basalt	SCBS/204
15486		46.8	Vitrophyric qz-norm mare basalt	SCB5/204
15495		908.9	Porphyritic radiate qz-norm mare basalt	SCB5/174
15498		2340	Regolith breccia, glass-coated	SCB6/
15499		2024	Vitrophyric qz-norm mare basalt	SCB5/
15505		1147	Regolith breccia, glass-coated	SCB7/255
15506		22.9	Regolith breccia, glass-coated	SCB7/255
15507		3.9	Glass, vesicular ellipsoid	SCB7/255
15508		1.4	Regolith breccia, glass-coated	SCB7/255
15515		144.7	Regolith clods	SCB7/273
15528		4.7	Regolith breccia	SCB2/274
15529		1531	M.G. ol-norm (?) mare basalt	SCB2/274
15535		404.4	F.G. ol-norm mare basalt	SCB7/275
15536		317.2	M.G. ol-norm mare basalt	SCB7/275
15537		1.9	M.G. ol-norm mare basalt	SCB7/275

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15538		2.6	M.G. ol-norm mare basalt	SCB7/275
15545		746.6	F.G. ol-norm mare basalt	SCB7/278
15546		27.8	C.G. ol-norm mare basalt	SCB7/278
15547		20.1	C.G. ol-norm mare basalt	SCB7/278
15548		3.3	F.G. ol-norm mare basalt	SCB7/278
15555		9614	M.G. ol-norm mare basalt	BSLSS
15556		1542	F.G. ol-norm mare basalt	SCB2/
15557		2518	F.G. ol-norm mare basalt	SCB2/
15558		1333	Regolith breccia, glass-coated	SCB2/
15565		822.6	Regolith breccia fragments	SCB2/
15595		237.6	Porphyritic spherulitic qz-norm mare basalt	SCB7/281
15596		224.8	Porphyritic spherulitic qz-norm mare basalt	SCB7/281
15597		145.7	Vitrophyric qz-norm mare basalt	SCB7/281
15598		135.7	F.G. ol-norm mare basalt	SCB7/281
15605	R	6.1	C.G. ol-norm mare basalt	SCB7/283
15606	R	10.1	M.G. ol-norm mare basalt	SCB7/283
15607	R	14.8	F.G. ol-norm mare basalt	SCB7/283
15608	R	1.2	Porphyritic spherulitic qz-norm mare basalt	SCB7/283
15609	R	1.1	F.G. ol-norm mare basalt	SCB7/283
15610	R	1.5	C.G. ol-norm mare basalt	SCB7/283
15612	R	5.9	M.G. ol-norm mare basalt	SCB7/282
15613	R	1	M.G. ol-norm mare basalt	SCB7/282
15614	R	9.7	C.G. ol-norm mare basalt	SCB7/282
15615	R	1.7	M.G. ol-norm mare basalt	SCB7/282
15616	R	8	M.G. ol-norm mare basalt	SCB7/282
15617	R	3.1	M.G. ol-norm mare basalt (?)	SCB7/282
15618	R	0.8	M.G. ol-norm mare basalt (?)	SCB7/282
15619	R	0.6	M.G. ol-norm mare basalt (?)	SCB7/282
15620	R	6.6	M.G. ol-norm mare basalt	SCB7/282
15621	R	1.6	M.G. ol-norm mare basalt	SCB7/282
15622	R	29.5	M.G. ol-norm mare basalt	SCB7/282
15623	R	3	M.G. ol-norm mare basalt	SCB7/282
15624	R	0.2	M.G. ol-norm mare basalt	SCB7/282
15625	R	0.5	M.G. ol-norm mare basalt (?)	SCB7/282
15626	R	0.6	M.G. ol-norm mare basalt	SCB7/282
15627	R	0.4	M.G. ol-norm mare basalt (?)	SCB7/282
15628	R	0.4	M.G. ol-norm mare basalt (?)	SCB7/282
15629	R	0.4	M.G. ol-norm mare basalt (?)	SCB7/282
15630	R	23.2	M.G. ol-norm mare basalt	SCB7/282

15632	R	2.3	M.G. ol-norm mare basalt	SCB7/282
15633	R	7.4	C.G. ol-norm mare basalt	SCB7/282
15634	R	5.2	C.G. ol-norm mare basalt	SCB7/282
15635	R	0.5	M.G. ol-norm mare basalt (?)	SCB7/282
15636	R	336.7	C.G. ol-norm mare basalt	SCB7/282
15637	R	0.9	M.G. ol-norm mare basalt (?)	SCB7/282
15638	R	3.6	M.G. ol-norm mare basalt	SCB7/282

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15639	R	7	C.G. ol-norm mare basalt	SCB7/282
15640	R	0.5	M.G. ol-norm mare basalt (?)	SCB7/282
15641	R	6.9	M.G. ol-norm mare basalt	SCB7/282
15642	R	1.9	M.G. ol-norm mare basalt (?)	SCB7/282
15643	R	17.9	M.G. ol-norm mare basalt	SCB7/282
15644	R	0.4	M.G. ol-norm mare basalt (?)	SCB7/282
15645	R	0.5	M.G. ol-norm mare basalt (?)	SCB7/282
15647	R	58.2	M.G. ol-norm mare basalt	SCB7/282
15648	R	9.1	Brecciated/melted M.G. ol-norm mare basalt	SCB7/282
15649	R	6.2	F.G. ol-norm mare basalt	SCB7/282
15650	R	3.4	F.G. ol-norm mare basalt (?)	SCB7/282
15651	R	1.6	F.G. ol-norm mare basalt	SCB7/282
15652	R	0.7	F.G. ol-norm mare basalt (?)	SCB7/282
15653	R	0.4	F.G. ol-norm mare basalt (?)	SCB7/282
15654	R	0.2	F.G. ol-norm mare basalt (?)	SCB7/282
15655	R	0.4	F.G. ol-norm mare basalt (?)	SCB7/282
15656	R	0.2	F.G. ol-norm mare basalt (?)	SCB7/282
15658	R	11.6	M.G. ol-norm mare basalt	SCB7/282
15659	R	12.6	M.G. ol-norm mare basalt	SCB7/282
15660	R	8.9	M.G. ol-norm mare basalt (?)	SCB7/282
15661	R	5.9	F.G. ol-norm mare basalt	SCB7/282
15662	R	4.9	M.G. ol-norm mare basalt	SCB7/282
15663	R	10.3	M.G. ol-norm mare basalt	SCB7/282
15664	R	7.4	M.G. ol-norm mare basalt	SCB7/282
15665	R	10.2	F.G. ol-norm mare basalt	SCB7/282
15666	R	3.9	Porphyritic variolitic qz-norm mare basalt	SCB7/282
15667	R	1.1	Porphyritic variolitic qz-norm mare basalt	SCB7/282
15668	R	15.1	F.G. ol-norm mare basalt	SCB7/282
15669	R	4.4	F.G. ol-norm mare basalt	SCB7/282
15670	R	2	M.G. ol-norm mare basalt	SCB7/282
15671	R	6.1	M.G. ol-norm mare basalt	SCB7/282
15672	R	21.4	M.G. ol-norm mare basalt	SCB7/282
15673	R	5.9	M.G. ol-norm mare basalt	SCB7/282
15674	R	35.7	F.G. ol-norm mare basalt	SCB7/282
15675	R	34.5	F.G. ol-norm mare basalt	SCB7/282
15676	R	25.3	F.G. ol-norm mare basalt	SCB7/282
15677	R	6.4	F.G. ol-norm basalt	SCB7/282
15678	R	7.5	F.G. ol-norm mare basalt	SCB7/282
15679	R	0.7	F.G. ol-norm mare basalt (?)	SCB7/282

15680	R	0.3	F.G. ol-norm mare basalt (?)	SCB7/282
15681	R	0.3	F.G. ol-norm mare basalt (?)	SCB7/282
15682	R	50.6	Porphyritic spherulitic qz-norm mare basalt	SCB7/282
15683	R	22	F.G. ol-norm mare basalt	SCB7/282
15684	R	1.4	Glass containing mare basalt clasts	SCB7/282

APOLLO 15 ROCK INVENTORY

KEY: F.G.=fine-grained, M.G.=medium-grained, C.G.=coarse-grained

SAMPLE NUMBER	SAMPLE TYPE	MASS g	DESCRIPTION	SCB/DB
15685	R	0.8	Regolith breccia/glass	SCB7/282
15686	R	0.9	Regolith breccia/glass	SCB7/282
15687	R	1.4	Agglutinitic glass	SCB7/282
15688	R	5.3	Agglutinitic glass	SCB7/282
15689	R	2.8	Regolith breccia	SCB7/282
15695	P	10.7	M.G. ol-norm (?) mare basalt	SCB7/283
15696	P	12.8	M.G. ol-norm (?) mare basalt	SCB7/283
15697	P	4.1	F.G. ol-norm (?) mare basalt	SCB7/283
15698	P	3.9	Glass bomb	SCB7/283