

## 10002

10002 was the number assigned to the rocks and soils in the Bulk Sample (ALSRC #1003, 14897.4 gm). The rocks were removed from the container and given new generic numbers (see Table 2). A portion of the soils was sieved during PET and the sieve fractions were assigned new generic numbers. (Table 2).

At the onset of Re-examination, there were still some “soils” left in 10002. One of these (10002,26 – 75 gm) was sieved for material >4 mm. These coarse fines were described using a binocular microscope, for individual inclusion in the catalogue.

SIEVE ANALYSIS of Sample 10002,26 – Weight Sieved: 476.0 gm

<u>Sieve</u>	<u>Wt. (gm)</u>
>10 mm	18.48
4-10 mm	7.63
2-4 mm	10.96
1-2 mm	14.65
<1 mm	424.5

### HISTORY AND PRESENT STATUS OF SAMPLE – 10/13/76

10002 was originally processed in the Bio Prep Lab, and remaining pristine samples were re-examined in SSPL. Two rocks were split from 10002 during re-examination and were given the new generic numbers 10092 and 10093. There is no documented evidence that any pristine sample presently in 10002 was processed in any other laboratory.

### PRISTINE SAMPLES:

7	844.3 gm	<1mm Fines
16	161.44 gm	<1mm Fines
21	39.73 gm	1-3mm Fines
24	76.96 gm	<1mm Fines
25	25.65 gm	<1mm Fines
28	0.27 gm	<1mm Fines
29	4.47 gm	<1-3mm Fines
30	7.80 gm	1-3mm Fines
31	15.04 gm	1-3mm Fines
33	19.35 gm	<1mm Fines
34	2.95 gm	<1mm Fines
37	88.43 gm	<1mm Fines
39	25.40 gm	<1mm Fines

40	19.42 gm	<1mm Fines
41	4.35 gm	<1mm Fines
42	0.25 gm	<1mm Fines
45	0.50 gm	<1mm Fines
46	0.89 gm	1-3mm Fines
54	15.58 gm	1-3mm Fines
86	248.71 gm	Unsieved Fines
88	0.78 gm	Glassy piece. Few pits present
89	10.96 gm	2-4mm Fines sieved from 10002,26
90	14.65 gm	1-2mm Fines sieved from 10002,26
91	240.5 gm	<1mm Fines. From 10002,26
92	184.0 gm	<1mm Fines.
93	0.15 gm	Glass chip. Patina on all surfaces. Some pits present.
94	0.12 gm	Breccia chip. Large white clast present.
95	0.35 gm	Fractured breccia chip. Glassy with few pits.
96	0.75 gm	Two basalt chips. Few pits present on both chips.
97	0.32 gm	Breccia fragment with very glassy matrix. No pits observed.
98	0.84 gm	Four fine-grained basalt chips. Pitting is present on all pieces.
99	4.28 gm	14 Breccia chips. Pitting is present on the larger chips.
103	2.21 gm	Basalt chip. No pits observed.
104	1.83 gm	Basalt chip. No pits observed.
105	2.20 gm	Breccia chip. Many large pits present.
106	1.97 gm	Breccia chip. Pits present on one surface. Low clast population.
107	0.65 gm	Breccia chip. No pits observed. Low clast population.
108	1.53 gm	Breccia chip. No pits.
109	1.66 gm	Breccia chip. A few pits present on one surface. Low clast population.
110	1.54 gm	Fine-grained basalt chip. Few chips present on two surfaces. Vesicles comprise 5% of surface.
111	4.71 gm	Breccia chip. Patina present on all surfaces. Pitting present on one. Large clast population.

126	0.01 gm	>1mm Fines.
127	0.41 gm	>1mm Fines.
1000	25.73 gm	>1mm Fines.
1001	5.45 gm	>1mm Fines.
1002	101.19 gm	>1mm Fines.

NO RETURNED SAMPLES (>75gm)

**10002**

ALL THE FOLLOWING DESCRIPTIONS ARE OF COARSE FINES

SAMPLE: 10002,88      NUMBER OF PARTICLES: 1      WT.(gm): .78

COHERENCE: Tough

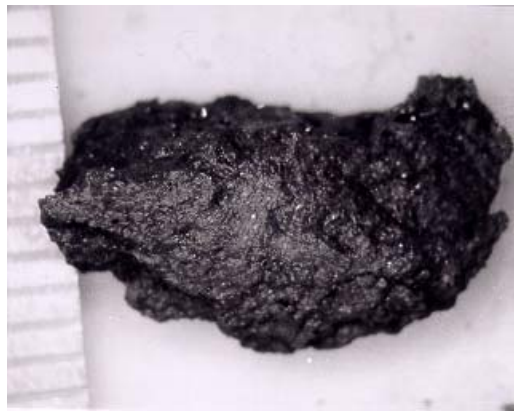
SHAPE: Angular to subangular

SURFACE: 1 fracture. Small number of pits.

COLOR: Dark gray

MINERALOGY: Black opaque glass enclosing small white clasts.

REMARKS: Aphanitic texture, equigranular, isometric.



SAMPLE: 10002,93      NUMBER OF PARTICLES: 1      WT.(gm): .15

COHERENCE: Tough

SHAPE: Subangular to subrounded

SURFACE: Aphanitic texture. Some patina on all surfaces. Small number of pits.

COLOR: Dark gray

MINERALOGY: Black opaque glass enclosing small white clasts.

REMARKS:



SAMPLE: 10002,94      NUMBER OF PARTICLES: 1      WT.(gm): .12

COHERENCE: Moderately friable

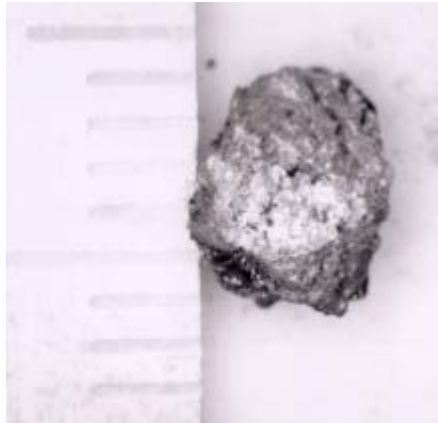
SHAPE: Subangular to subrounded

SURFACE: No pits on any surface. Glass coating on 2 surfaces. <.5mm thick.

COLOR: Light gray to white

MINERALOGY: Fine breccia: 60% crushed plagioclase, 25% matrix, (aphanitic), 15% dark mineral (pyroxene, ilmenite, black glass)

REMARKS: Sample has high clast population. Resembles 10056. Mostly plagioclase clasts with matrix.



SAMPLE: 10002,95      NUMBER OF PARTICLES: 2      WT.(gm): .35

COHERENCE: Fractured

SHAPE: Angular

SURFACE: Fracturing lined with vitreous glass. Some pits on a few faces.

COLOR: Medium light to dark gray

MINERALOGY: Microbreccia: Clasts mostly crushed plagioclase. A few basalt clasts are present. High glass content.

REMARKS: Could be classified as an agglutinate. Basic mineralogy is the same as 10046 or 10059.



SAMPLE: 10002,96      NUMBER OF PARTICLES: 2      WT.(gm): .75

COHERENCE: Tough

SHAPE: Rounded to subrounded

SURFACE: Some small pits on several surfaces. No penetrative fractures.

COLOR: Medium light gray

MINERALOGY: Basalt: Anhedral pyroxene 65%, euhedral to subhedral plagioclase 25%, mesostasis 10%.



SAMPLE: 10002,97      NUMBER OF PARTICLES: 1      WT.(gm): .32

COHERENCE: Moderately coherent

SHAPE: Angular

SURFACE: Rough. No pits, but patinated on several surfaces. Surface has several large cavities.

COLOR: Medium dark gray

MINERALOGY: Microbreccia: Aphanitic glass matrix with one large basalt clast, and several areas of brown vitreous material.

REMARKS: Unlike any other Apollo 11 breccia. Matrix structure resembles 10002,88.



SAMPLE: 10002,98

NUMBER OF PARTICLES: 4

WT.(gm): .84

COHERENCE: Coherent

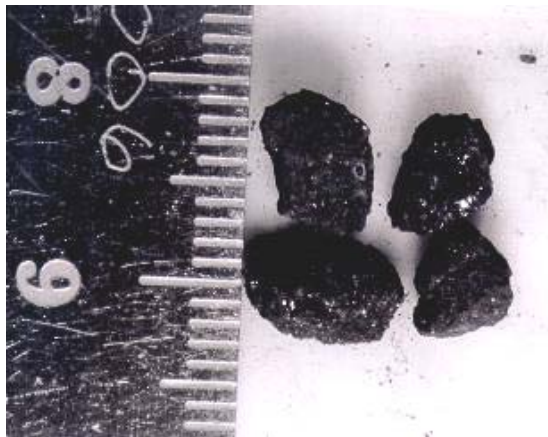
SHAPE: Subangular to subrounded

SURFACE: Surface on all pieces is pitted, with no patina. Some small <1mm vesicles. Texture is isometric, fine grained, equigranular.

COLOR: Medium dark gray

MINERALOGY: Basalt: 50% pyroxene, 25% plagioclase, 10% ilmenite, 15% mesostasis

REMARKS: Resembles 10057



SAMPLE: 10001,99

NUMBER OF PARTICLES: 14

WT.(gm): 4.28

COHERENCE: Coherent

SHAPE: Angular to subangular

SURFACE: Some small pits (<1mm) on larger pieces

COLOR: Medium to dark gray

MINERALOGY: Microbreccia: Typical matrix enclosing white and basalt clasts.

REMARKS: One chip has small amount of glass coating.



SAMPLE: 10002,103      NUMBER OF PARTICLES: 1      WT. (gm): 2.21

COHERENCE: Tough

SHAPE: Subrounded

SURFACE: Irregular. Some patina is present, but no pitting was observed. Some small (<1mm) vesicles are present.

COLOR: Medium light gray

MINERALOGY: Basalt: 50% brown pyroxene, 40% plagioclase, 10% opaques.



SAMPLE: 10002,104      NUMBER OF PARTICLES: 1      WT. (gm): 1.83

COHERENCE: Moderately friable

SHAPE: Subangular

SURFACE: Rough. Patina was observed on all surfaces. No pits.

COLOR: Medium light gray

MINERALOGY: Basalt: 60% brown pyroxene, 25% plagioclase and 15% opaques.





SAMPLE: 10002,105      NUMBER OF PARTICLES: 1      WT. (gm): 2.20

COHERENCE: Friable

SHAPE: Subangular

SURFACE: Irregular. Several large pits present. Some penetrative fractures.

COLOR: Medium dark gray

MINERALOGY: Microbreccia: Typical breccia matrix enclosing white and basalt clasts.

REMARKS: Large pits are a special feature.



SAMPLE: 10002,106

NUMBER OF PARTICLES: 1

WT. (gm): 1.97

COHERENCE: Moderately friable

SHAPE: Subangular

SURFACE: Smooth to irregular. Few pits present on one surface.

COLOR: Medium dark gray

MINERALOGY: Microbreccia: Typical breccia matrix enclosing white clasts.

REMARKS: Very small clast population.



SAMPLE: 10002,107      NUMBER OF PARTICLES: 1      WT. (gm): .65  
COHERENCE: Moderately friable  
SHAPE: Subangular  
SURFACE: Smooth to irregular with no pits or patina  
COLOR: Medium dark gray  
MINERALOGY: Microbreccia: Typical breccia matrix enclosing small white and Basalt clasts.  
REMARKS: Small clast population.



SAMPLE: 10002,108      NUMBER OF PARTICLES: 1      WT. (gm): 1.53  
COHERENCE: Moderately friable  
SHAPE: Angular to subangular  
SURFACE: Irregular to rough. Some patina is present but no pits.  
COLOR: Medium dark gray  
MINERALOGY: Microbreccia: Typical breccia matrix enclosing small white and basalt clasts.  
REMARKS: Small glass spherules present on surface inspection. Small clast population.



SAMPLE: 10002, 109      NUMBER OF PARTICLES: 1      WT. (gm): 1.66

COHERENCE: Moderately friable

SHAPE: Subangular

SURFACE: Smooth to irregular. A few pits are present on one surface.

COLOR: Medium dark gray

MINERALOGY: Microbreccia: Typical breccia matrix enclosing small white and basalt clasts.

REMARKS: Small clast population



SAMPLE: 10002,110      NUMBER OF PARTICLES: 1      WT. (gm): 1.54

COHERENCE: Tough

SHAPE: Angular

SURFACE: Irregular. Few pits present on two surfaces. 5% vesicles surface coverage.

COLOR: Medium to light gray

MINERALOGY: Basalt: Aphanitic pyroxene, plagioclase and ilmenite.



SAMPLE: 10002,111      NUMBER OF PARTICLES: 1      WT. (gm): 4.71

COHERENCE: Moderately friable

SHAPE: Subrounded

SURFACE: Irregular to rough. Patina present on all surfaces. Pitting is present on one.

COLOR: Medium dark gray

MINERALOGY: Microbreccia: Typical breccia matrix enclosing white, basalt and gray clasts.

REMARKS: Large clast population.



#### CHEMICAL ANALYSES

Element	Number of Analyses	Mean	Units	Range
TiO <sub>2</sub>	1	7.010	PCT	0
FeO	1	15.95	PCT	0
CaO	1	12.03	PCT	0
K <sub>2</sub> O	2	0.130	PCT	0.012
H	1	0.84	CC/G	0
Th	1	1.92	PPM	0
U	1	0.49	PPM	0
C	2	210.0	PPM	40.0
N	1	125.0	PPM	0
S	1	0.107	PCT	0

Analysts: Stoenner et al., (1970); O'Kelly et al., (1970); Stoenner et al.,(1970); Kaplan et al., (1970); Moore et al., (1970).

No Age References