

Sample Results Summary Sheet

Please return this form to the Curator for each allocated Sample

Sample ID: RA-QD02-0024

PI: Tomoki Nakamura

Type and date of analysis performed:

XRD	Jan/28/2011~ Feb/3/2011
FE-SEM, FE-EPMA	Feb/19/2011~ Feb/28/2011

Elements or phases identified: (Mg, Si, olivine, pyroxene, aromatic carbon, etc.)

XRD : OI, PI, LPx, HPx
FE-SEM : OI, PI, LPx, HPx
FE-EPMA : Si, Ti, Al, Fe, Mn, Mg, Ca, Na, K, Cr, P, S

Contaminant phases identified: (Al, SUS, carbon particles, etc.)

N/A

Sample handling:

XRD
Attached to carbon fiber with resin.

FE-SEM, FE-EPMA
Exposed in atmosphere.
Polished by M cross
C-coated (20 nm)

State of sample pre-analysis:

Attached to carbon fiber with resin. (XRD)
Polished section with resin embedded (FE-SEM, FE-EPMA)

State of sample post-analysis:

Attached to carbon fiber with resin. (XRD)
Polished section with resin embedded, C-coated (FE-SEM, FE-EPMA)
N₂ hold in sample holder.

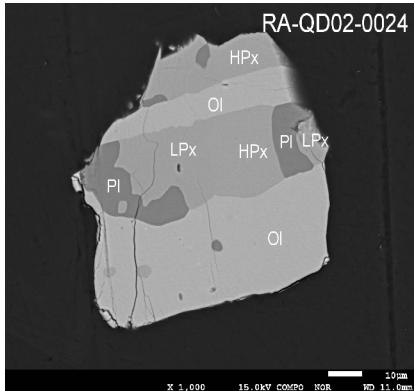
Analysis data Notes: (summary of the attached analysis data and/or images)

See attached sheets.

RA-QD02-0024

Analysis S-XRD (polish) FE-SEM FE-EPMA
Present status Putted butt with a large hole by FIB sampling

FE-SEM/BSE



S-XRD

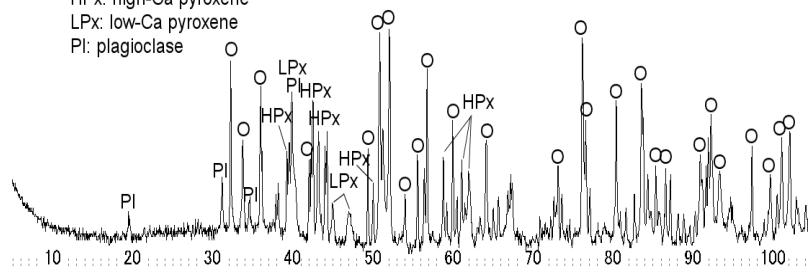
Itokawa RA-QD02-0024

O: olivine

HPx: high-Ca pyroxene

LPx: low-Ca pyroxene

PI: plagioclase



FE-EPMA

wt%	Olivine n=2	Ol 1 sigma	LPx n=5	Px 1 sigma	HPx n=13	Px 1 sigma	Plagio n=1	Pl 1 sigma
SiO ₂	38.54	0.62	55.96	0.33	54.35	0.33	63.58	0.72
TiO ₂	0.01	0.02	0.16	0.02	0.38	0.06	0.05	0.05
Al ₂ O ₃	0.04	0.16	0.17	0.05	0.43	0.04	19.56	0.35
FeO	26.67	0.50	16.03	0.27	6.13	0.18	0.35	0.09
MnO	0.45	0.03	0.49	0.05	0.23	0.05	0.01	0.02
MgO	35.39	0.50	27.71	0.58	16.25	0.09	0.05	0.05
CaO	0.07	0.10	0.57	0.08	21.04	0.18	2.27	0.07
Na ₂ O	0.03	0.11	0.02	0.02	0.57	0.04	10.02	0.35
K ₂ O	0.01	0.01	0.01	0.01	0.02	0.02	0.91	0.37
Cr ₂ O ₃	0.02	0.02	0.07	0.02	0.74	0.05	0.04	0.05
NiO	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01
P ₂ O ₅	0.03	0.05	0.01	0.02	0.03	0.03	0.03	0.05
SO ₃	0.02	0.02	0.04	0.02	0.00	0.01	0.01	0.02
Total	101.29	0.51	101.26	0.97	100.18	0.47	96.89	0.87
SUM								

Comment

Olivine (Fa#)	29.71	0.51	
LPx(Fs#)		24.23	0.27
LPx(Wo#)		1.11	0.14
LPx(En#)		74.66	0.26
HPx(Fs#)		9.88	0.26
HPx(Wo#)		43.44	0.35
HPx(En#)		46.68	0.19
Pl(Or#)		5.08	2.09
Pl(An#)		10.55	0.36
Pl(Ab#)		84.38	2.12