

## **Sample Results Summary Sheet**

**Please return this form to the Curator for each allocated Sample**

**Sample ID:** RA-QD02-0034

**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, LPx, Tr  
FE-SEM : OI, LPx  
FE-EPMA : Si, Ti, Al, Fe, Mn, Mg, Ca, Na, K, Cr, Ni, 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)  
N<sub>2</sub> hold in sample holder.

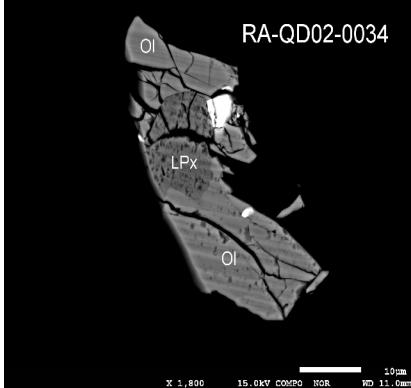
**Analysis data Notes:** (summary of the attached analysis data and/or images)

See attached sheets.

# RA-QD02-0034

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

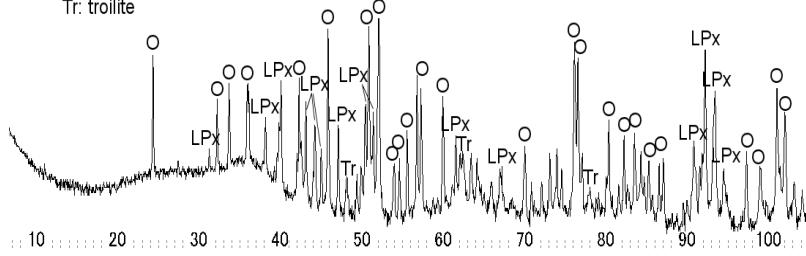
## FE-SEM/BSE



## S-XRD

### Itokawa RA-QD02-0034

O: olivine  
LPx: low-Ca pyroxene  
Tr: troilite



## FE-EPMA

wt%	Olivine n=5	Ol 1 sigma	LPx n=2	Px 1 sigma	HPx n=0	HPx 1 sigma	Plagio n=0	Pl 1 sigma
SiO <sub>2</sub>	36.99	0.25	53.97	0.51				
TiO <sub>2</sub>	0.02	0.02	0.17	0.03				
Al <sub>2</sub> O <sub>3</sub>	0.01	0.01	0.18	0.03				
FeO	25.64	0.25	15.35	0.21				
MnO	0.46	0.02	0.45	0.04				
MgO	36.10	1.44	27.12	0.03				
CaO	0.00	0.00	0.48	0.04				
Na <sub>2</sub> O	0.02	0.01	0.03	0.00				
K <sub>2</sub> O	0.01	0.02	0.00	0.00				
Cr <sub>2</sub> O <sub>3</sub>	0.00	0.01	0.05	0.02				
NiO	0.01	0.01	0.06	0.00				
P <sub>2</sub> O <sub>5</sub>	0.02	0.02	0.00	0.00				
SO <sub>3</sub>	0.03	0.02	0.04	0.05				
Total	99.31	1.57	97.89	0.66				
SUM								

## Comment

Olivine (Fa#)	28.51	0.70	
LPx(Fs#)		23.87	0.26
LPx(Wo#)		0.97	0.08
LPx(En#)		75.17	0.33
HPx(Fs#)			
HPx(Wo#)			
HPx(En#)			
Pl(Or#)			
Pl(An#)			
Pl(Ab#)			