Sample Results Summary Sheet

Please return this form to the Curator for each allocated Sample

Sample ID: RA-QD02-0049

PI: Mitsuru Ebihara

Type and date of analysis performed: Elemental analysis by neutron activation analysis

neutron irradiation: Feb. 8 - 9, 2011; gamma-ray counting: Feb.9 – April 30, 2011

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

Na, Sc, Cr, Fe, Co, Ni, Zn, Ir

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

none

Sample handling:

exposed in atmosphere, irradiated with neutrons

State of sample pre-analysis:

transferring the sample into a sample holder of quartz in atmosphere; irradiating the sample with neutron in a irradiation tube of the Kyoto university research reactor for 19 hours; after irradiation, transferring the sample from the sample holder to a new (non-irradiated) holder of quartz by using ethanol

State of sample post-analysis:

During transferring the sample, it was disassembled into 5 small grains. The largest grain was named RA-QD02-0049-1 and the rest (4 grains) RA-QD02-0049-2. These samples got radioactive although radioactivity was too small to be regarded as the radioactive material by definition. The samples were in atmosphere during gamma-ray counting after neutron activation.

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

Analysis data are shown in the separate sheet.

Table 1 Analytical results of RA-QD02-0049-1[1)]

Measurement 1[2)]				Measurement 2[3)]	
Gamma-ray Peak Energy (keV)	Element	Contents (g)	Uncert[4)] (%)	Contents (g)	Uncert. (%)
103.6	**Sm**	2.64E-14	53.2		
316.4	Ir	2.20E-14	47.5	2.70E-14	22.2
320	**Cr**	4.61E-11	12.8	5.75E-11	6.8
411.7	**Au**	6.56E-15	57.7		
467.7	**Ir**	4.46E-14	56.2	3.50E-14	39.3
554	Br	2.05E-13	41.4		
618.6	Br	2.20E-13	65.9		
776.3	**Br**	2.03E-13	39.6		
810.5	**Ni**	6.70E-09	3.0	6.65E-09	2.4
889	**Sc**	3.92E-12	3.7	3.89E-12	2.6
1099	**Fe**	3.47E-07	2.2	3.47E-07	1.8
1115.3	**Zn**			1.04E-10	32.1
1120.3	Sc	4.09E-12	4.1	4.07E-12	2.6
1173	Co	2.95E-10	2.4	3.27E-10	2.2
1291.4	Fe	3.62E-07	2.5	3.60E-07	1.7
1332.3	**Co**	2.92E-10	1.9	3.30E-10	1.6
1368.5	**Na**	2.14E-09	3.5		
1596.4	**La**	1.49E-13	57.4		
2754.7	Na	2.34E-09	4.8		

1) Estimated mass=1.66μg.

2) Cooling time: 4.2 d; counting time: 46 h.

3) Cooling time 12.0 d; counting time: 144 h.

4) Uncertainty due to countitng statistics only (1σ).