

Radionuclide Analysis Facility
Gamma Analysis Report
 Issued by Meka E. Francis

Report Date: October 22, 2015
 Work Request #: 15-286
 Submitted by: Matt Quinn on 10/9/15
 Workbook: HPG#2-11, page(s) 19

LArTF

The ESH&Q Section/RP Group submitted 3 samples on Work Request# 15-286 for analysis of naturally produced radionuclides. Each sample was counted on detector HPG#2 for 24 hours on the dates listed below. Averaged results for a blank sample, 151009MQ03, were subtracted from the averaged results for samples 151009MQ01 and 151009MQ02 to obtain the activities quoted. No activity over background was observed for sample 151009MQ02, but the limit of detection for the peak energies seen in sample 151009MQ01 are given for comparison.

SampleID#	Sample Time	Description	Count Info	Mass	Count Dates	Radionuclide	Activity (pCi/g)	Activity (Bq/kg)
151009MQ01	10:40	Molecular Sieve Zeolite	86,400sec @ 4cm	218.416 g	10/9/15 @ 13:43 10/16/15 @ 14:14	Th-232		
						Ac-228	0.12 ± 0.03	4 ± 1
						Pb-212	0.15 ± 0.02	5.6 ± 0.9
						U-238		
						Ra-226*	0.40 ± 0.15	15 ± 6
						Pb-214	0.27 ± 0.04	10 ± 1
						Bi-214	0.27 ± 0.05	10 ± 2
					K-40	3.9 ± 0.8	140 ± 30	
151009MQ02	10:40	Copper Reactant	86,400sec @ 4cm	201.340 g	10/12/15 @ 11:40	Th-232		
						Ac-228	< 0.03	< 1
						Pb-212	< 0.01	< 0.4
						U-238		
						Ra-226*	< 0.1	< 5
						Pb-214	< 0.05	< 2
						Bi-214	< 0.2	< 4
					K-40	< 0.06	< 2	
151009MQ03	10:40	Blank	86,400sec @ 4cm	n/a	10/6/15 @ 9:41 10/13/15 @ 13:04	Th-232		
						Ac-228	< 0.05	< 2
						Pb-212	< 0.02	< 1
						U-238		
						Ra-226*	< 0.2	< 9
						Pb-214	< 0.08	< 3
						Bi-214	< 0.1	< 5
					K-40	< 0.08	< 3	

* Ra-226 calculation based on assumption 186.11 keV peak represented only Ra-226, not U-235

cc: D. Cossairt B. Baller S. Pordes
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