

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

Report Date: December 23, 2015
 Work Request #: 15-316
 Submitted by: M. Francis on 11/12/2015
 Workbook: HPGe #2-11, page 24

LArTF Sieves from Sigma Aldrich plastic bottles with Red Caps and copper reactant from MicroBooNE

The ESH&Q Section/RP Group submitted 2 molecular sieve samples and 1 copper bead sample on Work Request# 15-316 for analysis of naturally produced radionuclides. The samples were counted on detector HPGe#2 for 24 hours on the dates listed below. Averaged results for blank sample 151112MF03 were subtracted from the averaged sample results to obtain the activities quoted.

Sample ID#	Sample Time	Location	Container	Count Info	Mass	Count Dates	Radionuclide	Activity (pCi/g)	Activity (Bq/kg)
151112MF01	13:20	4Å Molecular Sieves 1.6mm diam.	250 mL Bottle	86,400 sec @ 4cm	164.483 g	11/17/15 @ 15:16 11/23/15 @ 13:23	Thorium Series		
							Ac-228	0.23 ± 0.05	9 ± 2
						Pb-212	0.20 ± 0.03	7 ± 1	
						Tl-208	0.08 ± 0.02	2.8 ± 0.6	
						Uranium Series			
						Ra-226	0.2 ± 0.2	8 ± 7	
						Pb-214	0.23 ± 0.04	9 ± 2	
						Bi-214	0.25 ± 0.05	9 ± 2	
						K-40	1.8 ± 0.7	60 ± 30	
						151112MF02	13:20	Copper Beads	250 mL Bottle
Ac-228	< 0.07	< 3							
Pb-212	< 0.03	< 1							
Tl-208	< 0.02	< 0.6							
Uranium Series									
Ra-226	< 0.3	< 0.07							
Pb-214	< 0.1	< 0.8							
Bi-214	< 0.1	< 2							
K-40	0.2 ± 0.5	8 ± 20							
151112MF04	13:20	4Å Molecular Sieves 3.2mm diam.	250 mL Bottle	86,400 sec @ 4cm	154.557 g				
						Ac-228	0.22 ± 0.05	8 ± 2	
						Pb-212	0.18 ± 0.03	7 ± 1	
						Tl-208	0.09 ± 0.02	3.2 ± 0.7	
						Uranium Series			
						Ra-226	0.3 ± 0.2	10 ± 8	
						Pb-214	0.14 ± 0.03	5 ± 1	
						Bi-214	0.22 ± 0.05	8 ± 2	
						K-40	4 ± 1	150 ± 4.0	

D. Cossairt B. Baller S. Pordes
 c/M. Francis, M.Quinn, RAF Folder