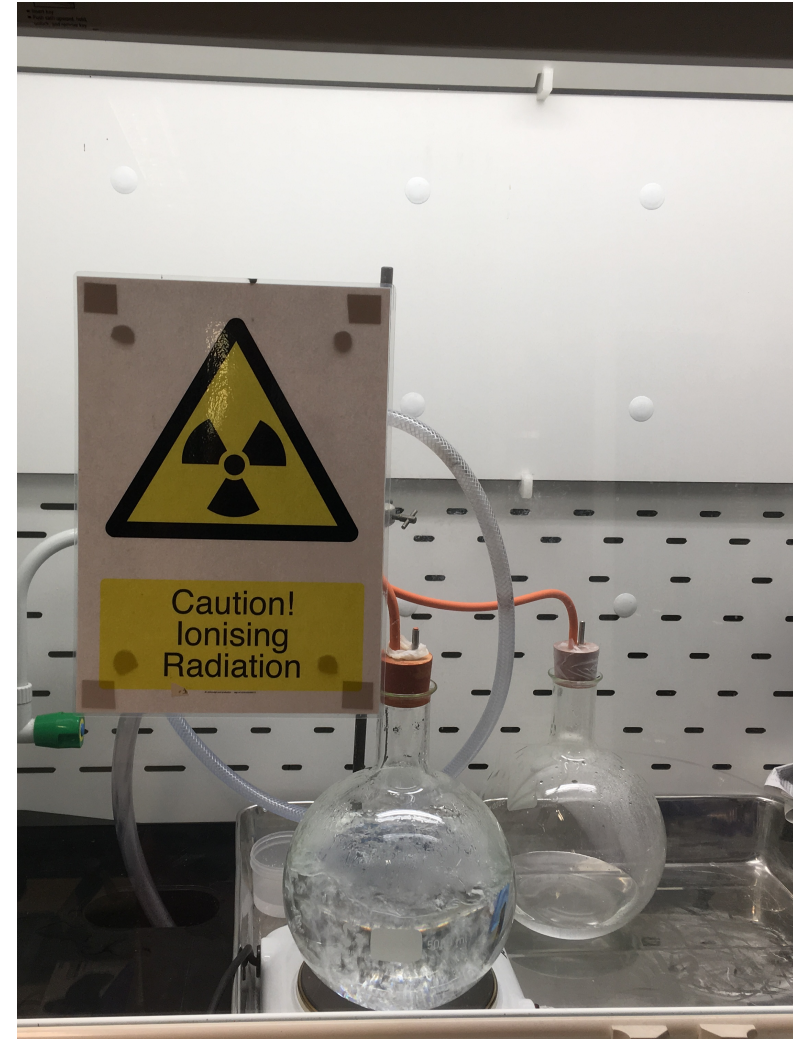


GCRF Update

Joseph Walding

Pb-210 Doped Water Sample Update

- Pb doped de-ionized water (UPW) sample created
 - 518 Bq Pb -210 source (5.121g)
 - 1.66g of source removed
 - Added to 4236g UPW
 - Therefore water activity = $518 * 1.66 / 5.121 = 168 \text{ Bq}$
- Boiling experiment begun
 - 5 samples created (see next slide)



Pb-210 Doped Water Sample Update

Sample Name	Description	Mass extracted from boiling or condensing flask	Mass in container to be counted
Sample I	UPW only	0	201
Sample II	UPW + source (no reduction)	200	200
Sample III	UPW + ~1:10 reduction	20	203
Sample IV	Condensate	200	200
Sample V	UPW + ~1:25 reduction	20	213

Where mass extracted and mass in container don't agree UPW has been added so each sample is approximately the same volume (for consistent counting efficiency calculation in MC)

- All 5 samples packaged up to ship to Boulby
- Currently working on 1:100 and 1:1000 reduction samples