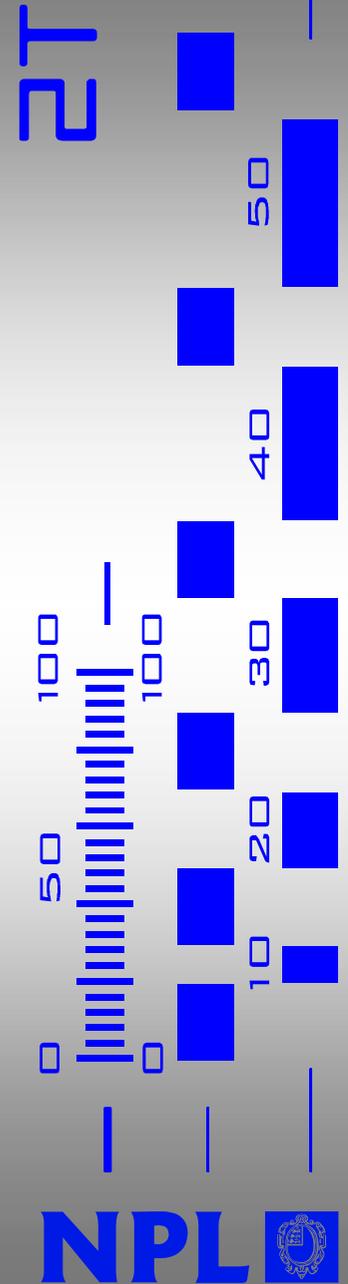


Environmental Radioactivity Comparison Exercise 2003 - Workshop

Source Preparation for the Environmental Radioactivity Comparison

Sean Collins

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General Information

1. Calibrated balances (ISO17025)

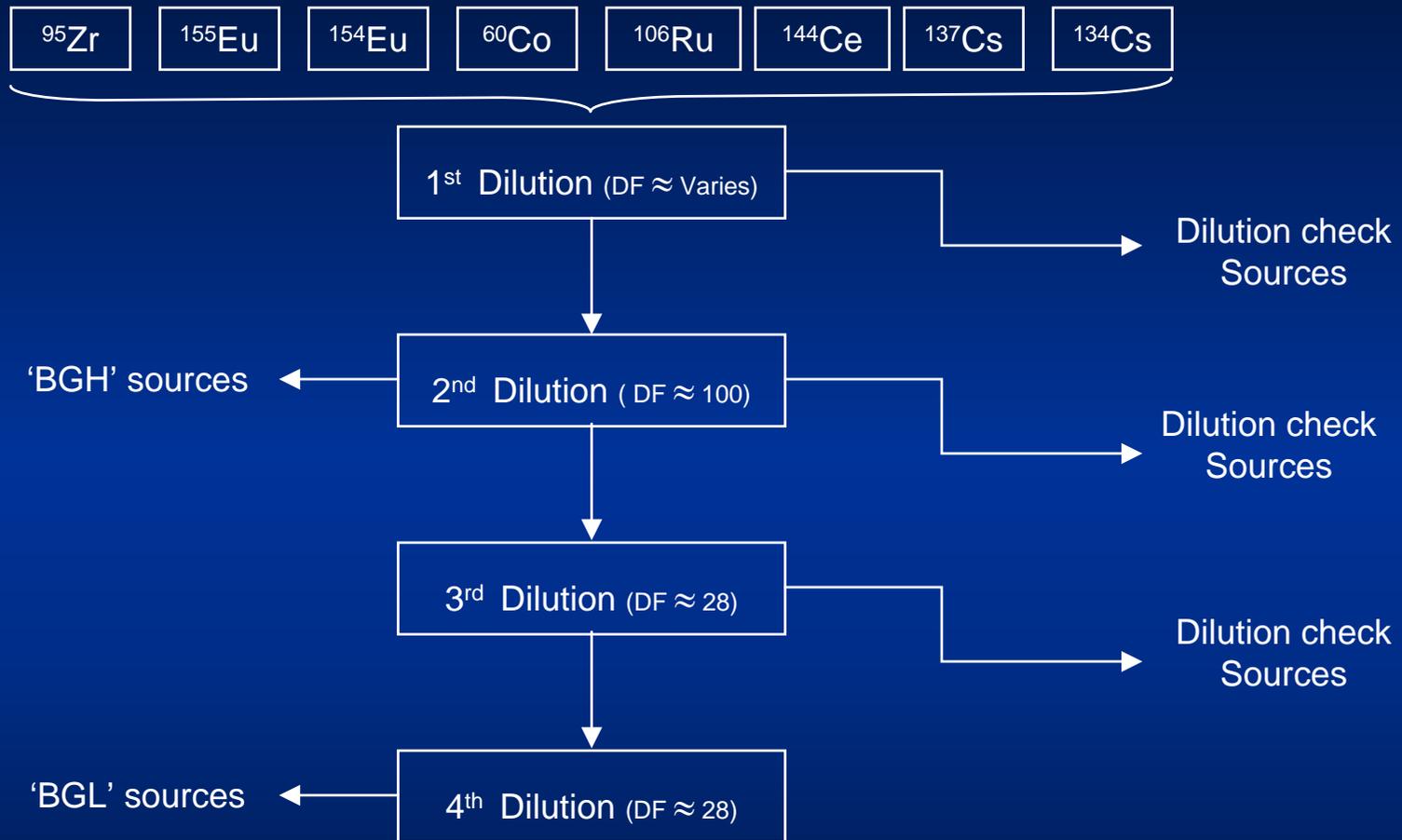
2. 5 solutions:

1. 2 x $\beta - \gamma$ solutions (High level and low level)
2. 2 x $\alpha - \beta$ solutions (High level and low level)
3. 1 x β solution (Low level)

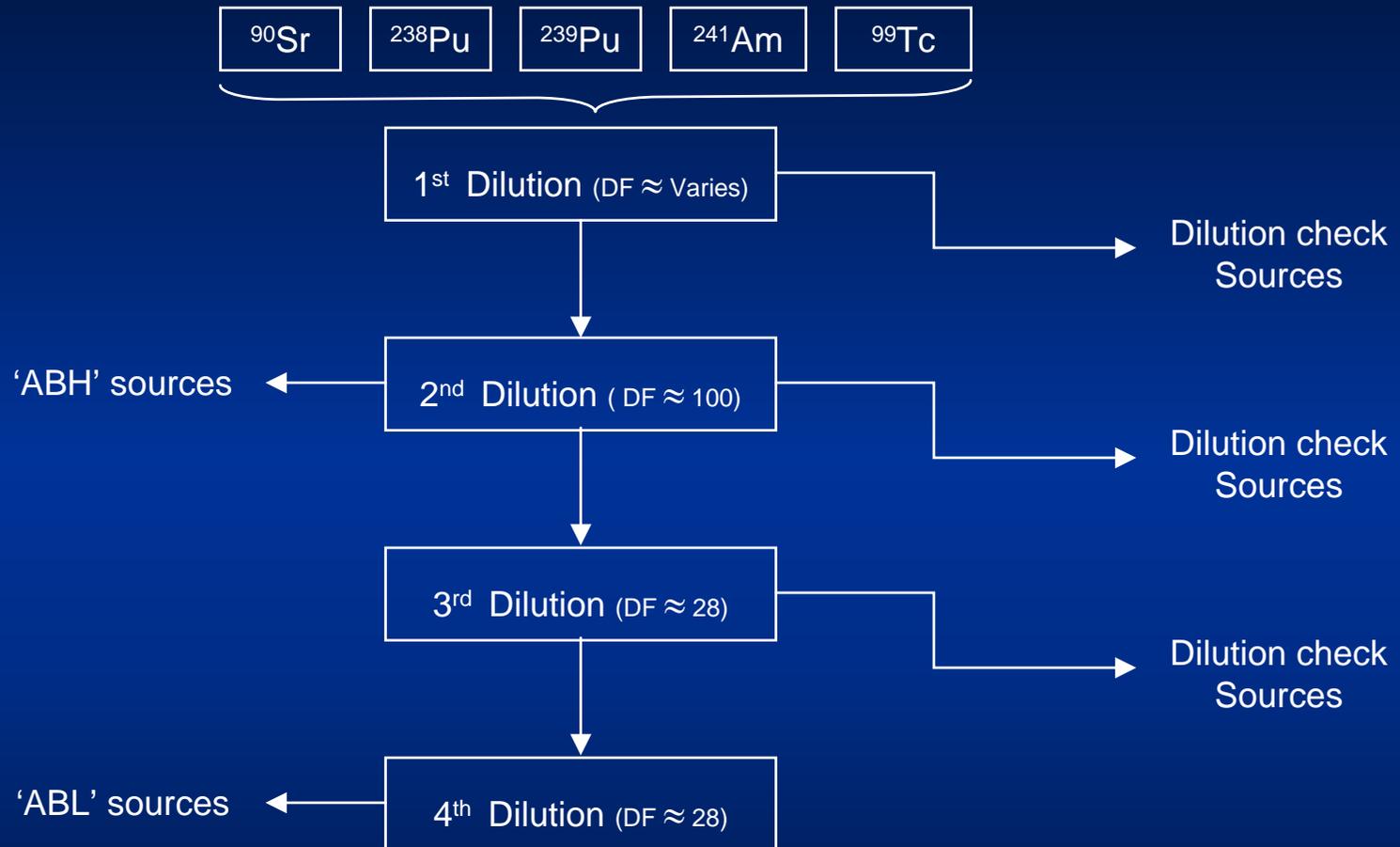
3. Carriers used:

1. $\beta - \gamma$, 2M HNO_3 with $50\mu\text{g g}^{-1}$ each of ^{90}Sr and ^{90}Y
2. $\alpha - \beta$, 2M $\text{HCl}/0.1\text{M}$ oxalic acid (and 0.0002M HNO_3) with 50ppm of Co, Zr, Ru, Cs and Ce and 10ppm of Rh and Nb
3. β , 0.001M NaOH with 50ppm of I

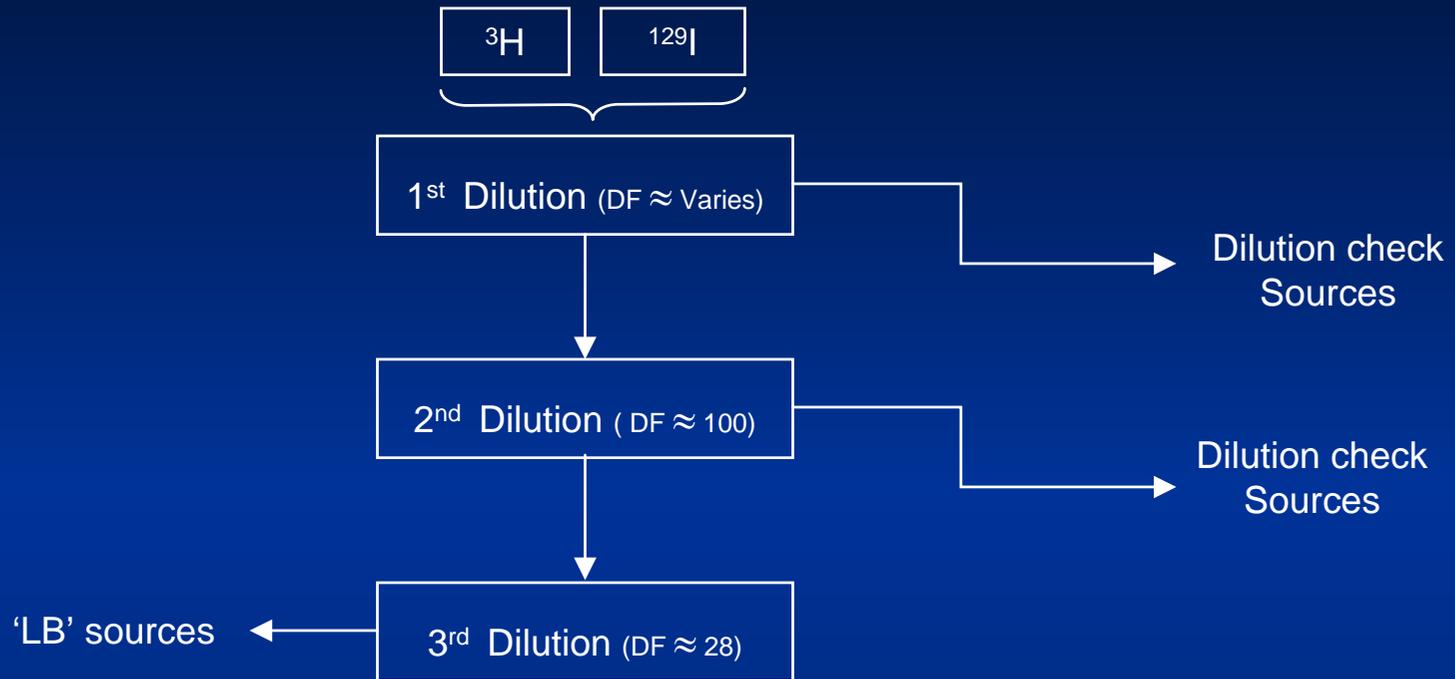
Source preparation scheme of $\beta - \gamma$ mixture



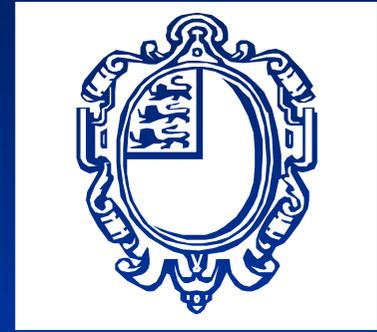
Source preparation scheme of α - β mixture



Source preparation scheme of β mixture



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