Cell digest analysis

Initial sample prep
Initial sample prep is not described here, but is according to the method of:

Eide, D.J., Clark., S., Nair, T.M., Gehl, M., Gribskov, G., Guerinot, M.L., and Harper, J.F., 2005, Characterization of the yeast ionome: a genome-wide analysis of nutrient mineral and trace element homeostasis in Saccharomyces cerevisiae. Genome Biology, v. 6, R77.

The resulting solution from this initial sample prep is ~1 ml in 15% HNO_3.

Dish washing
Low Cu and Zn concentrations are to be analyzed. Experience has shown that our usual cheap 10 ml polypropylene test tubes have minor Cu and Zn contamination. This can be removed by soaking for several hours in 1% HNO_3. More expensive tubes (Falcon) are contaminant-free to our detection limits.

Diluting solution
To a 1000 ml clean plastic bottle add 7 ml of high-purity HNO_3 and 10 µL of the Ga 1000 µg/ml single element solution as an internal standard (0.5% HNO_3, 10 ppb Ga).

Stock standard solution
To a 100 ml volumetric flask add 3.5 ml of high-purity HNO_3. Add to the flask the amounts of the 1000 µg/ml single element solutions shown in the yellow column below. Dilute to volume and put into a clean storage bottle.

	ml of each 1000 µg/ml element solution per 100 ml of stock standard	Concentration in the stock standard, ppb	Concentration in the final standard, ppb (2.5 ml of the stock standard per 50 ml)
Mn	0.002	20	1
Ca	0.2	2000	100
Fe	0.01	100	5
Ni	0.01	100	5
Mg	0.2	2000	100
P	2	20000	1000
Zn	0.1	1000	50
Co	0.01	100	5
Cu	0.01	100	5
Na	0.2	2000	100
K	0.2	2000	100

Dissolution procedure Part 2
1. Using 10 ml of the diluting solution, quantitatively transfer the samples into the cleaned 10 ml test tubes.
2. For the blank, add 50 ml of diluting solution to the 50 ml blank test tube.

3. For the standard, add 50 ml of diluting solution to the 50 ml standard test tube. Add 2.5 ml of the stock standard solution.