

HAIR ELEMENTS



PATIENT: No 42
 SEX: Female
 AGE: 43
 Location: Cape Town, South Africa

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	6.1	< 7.0		
Antimony	0.011	< 0.050		
Arsenic	0.024	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.009	< 0.10		
Cadmium	< 0.009	< 0.10		
Lead	0.16	< 1.0		
Mercury	0.87	< 1.1		
Platinum	0.006	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.009	< 0.060		
Nickel	0.08	< 0.40		
Silver	2.5	< 0.15		
Tin	0.07	< 0.30		
Titanium	0.93	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS							
ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	1370	300- 1200					
Magnesium	76	35- 120					
Sodium	170	12- 90					
Potassium	43	8- 38					
Copper	9.5	12- 35					
Zinc	180	140- 220					
Manganese	0.16	0.15- 0.65					
Chromium	0.39	0.20- 0.40					
Vanadium	0.021	0.018- 0.065					
Molybdenum	0.039	0.028- 0.056					
Boron	0.65	0.30- 2.0					
Iodine	0.23	0.25- 1.3					
Lithium	0.014	0.007- 0.023					
Phosphorus	178	160- 250					
Selenium	0.54	0.95- 1.7					
Strontium	2.7	0.50- 7.6					
Sulfur	47400	44500- 52000					
Barium	0.42	0.26- 3.0					
Cobalt	0.010	0.013- 0.050					
Iron	4.3	5.4- 14					
Germanium	0.030	0.045- 0.065					
Rubidium	0.065	0.007- 0.096					
Zirconium	0.018	0.020- 0.42					

SPECIMEN DATA				RATIOS		
COMMENTS:				ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected: 12/1/2006	Sample Size: 0.195 g			Ca/Mg	18	4- 30
Date Received: 12/13/2006	Sample Type: Head			Ca/P	7.7	1- 12
Date Completed: 12/16/2006	Hair Color: Brown			Na/K	3.95	0.5- 10
	Treatment: Dye			Zn/Cu	18.9	4- 20
Methodology: ICP-MS	Shampoo: Nioxin			Zn/Cd	> 999	> 800

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