

HAIR ELEMENTS



PATIENT: Number 144
SEX: Female
AGE: 47
Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	5.2	< 7.0		
Antimony	0.020	< 0.050		
Arsenic	0.029	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.052	< 2.0		
Cadmium	0.045	< 0.10		
Lead	0.17	< 1.0		
Mercury	0.52	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.002	< 0.060		
Nickel	0.30	< 0.40		
Silver	0.77	< 0.15		
Tin	1.2	< 0.30		
Titanium	0.70	< 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	563	300- 1200					
Magnesium	44	35- 120					
Sodium	5	12- 90					
Potassium	6	8- 38					
Copper	11	12- 35					
Zinc	200	140- 220					
Manganese	0.12	0.15- 0.65					
Chromium	0.38	0.20- 0.40					
Vanadium	0.025	0.018- 0.065					
Molybdenum	0.022	0.028- 0.056					
Boron	0.23	0.30- 2.0					
Iodine	0.66	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	192	160- 250					
Selenium	0.81	0.95- 1.7					
Strontium	1.4	0.50- 7.6					
Sulfur	46200	44500- 52000					
Barium	1.1	0.26- 3.0					
Cobalt	0.005	0.013- 0.050					
Iron	8.5	5.4- 14					
Germanium	0.037	0.045- 0.065					
Rubidium	0.004	0.007- 0.096					
Zirconium	0.13	0.020- 0.42					

SPECIMEN DATA

COMMENTS:
 Date Collected: 1/20/2008 Sample Size: 0.199 g
 Date Received: 1/22/2008 Sample Type: Head
 Date Completed: 1/25/2008 Hair Color: Blond
 Treatment:
 Methodology: ICP-MS Shampoo: Loreal

RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	12.8	4- 30
Ca/P	2.93	1- 12
Na/K	0.833	0.5- 10
Zn/Cu	18.2	4- 20
Zn/Cd	> 999	> 800