

HAIR ELEMENTS



PATIENT: Number 188
 SEX: Male
 AGE: 44
 Location: Cape Town, South Africa

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	6.2	< 7.0		
Antimony	0.045	< 0.066		
Arsenic	0.11	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.016	< 2.0		
Cadmium	0.041	< 0.15		
Lead	1.3	< 2.0		
Mercury	0.61	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	0.001	< 0.010		
Thorium	0.001	< 0.005		
Uranium	0.016	< 0.060		
Nickel	0.11	< 0.40		
Silver	0.10	< 0.12		
Tin	0.10	< 0.30		
Titanium	0.71	< 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	414	200- 750					
Magnesium	29	25- 75					
Sodium	180	12- 90					
Potassium	110	9- 40					
Copper	11	10- 28					
Zinc	150	130- 200					
Manganese	0.25	0.15- 0.65					
Chromium	0.47	0.20- 0.40					
Vanadium	0.061	0.018- 0.065					
Molybdenum	0.037	0.025- 0.064					
Boron	28	0.40- 3.0					
Iodine	0.58	0.25- 1.3					
Lithium	0.006	0.007- 0.023					
Phosphorus	210	160- 250					
Selenium	0.99	0.95- 1.7					
Strontium	1.3	0.30- 3.5					
Sulfur	49100	44500- 52000					
Barium	0.37	0.16- 1.6					
Cobalt	0.011	0.013- 0.035					
Iron	11	5.4- 13					
Germanium	0.028	0.045- 0.065					
Rubidium	0.10	0.011- 0.12					
Zirconium	0.068	0.020- 0.44					

SPECIMEN DATA

COMMENTS:

Date Collected: 6/16/2008 Sample Size: 0.198 g
 Date Received: 7/2/2008 Sample Type: Head
 Date Completed: 7/3/2008 Hair Color: Brown
 Treatment:
 Methodology: ICP-MS Shampoo: Various

V06.99

RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	14.3	4- 30
Ca/P	1.97	0.8- 8
Na/K	1.64	0.5- 10
Zn/Cu	13.6	4- 20
Zn/Cd	> 999	> 800