

# HAIR ELEMENTS



**PATIENT: Number 105**  
**SEX: Female**  
**AGE: 16 Location:**  
**Cape Town, South Africa**

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	5.2	< 8.0		
Antimony	0.045	< 0.066		
Arsenic	0.050	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.031	< 2.0		
Cadmium	0.021	< 0.10		
Lead	0.46	< 1.0		
Mercury	< 0.03	< 0.40		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	0.001	< 0.005		
Uranium	0.001	< 0.060		
Nickel	0.12	< 0.40		
Silver	0.04	< 0.16		
Tin	0.13	< 0.30		
Titanium	0.66	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS							
ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 <sup>th</sup>	16 <sup>th</sup>	50 <sup>th</sup>	84 <sup>th</sup>	97.5 <sup>th</sup>
Calcium	175	350- 1000					
Magnesium	24	35- 120					
Sodium	43	12- 90					
Potassium	39	7- 36					
Copper	9.6	12- 35					
Zinc	260	130- 220					
Manganese	0.09	0.15- 0.65					
Chromium	0.29	0.20- 0.40					
Vanadium	0.046	0.020- 0.075					
Molybdenum	0.035	0.029- 0.058					
Boron	0.75	0.30- 1.5					
Iodine	7.0	0.25- 1.3					
Lithium	0.013	0.007- 0.023					
Phosphorus	229	160- 250					
Selenium	0.63	0.95- 1.7					
Strontium	0.14	0.86- 6.2					
Sulfur	52100	44000- 52000					
Barium	0.09	0.34- 2.5					
Cobalt	0.005	0.013- 0.050					
Iron	11	5.8- 15					
Germanium	0.029	0.045- 0.065					
Rubidium	0.028	0.006- 0.060					
Zirconium	0.035	0.025- 0.50					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 8/8/2007	Sample Size: 0.197 g			Ca/Mg	7.29	4- 30
Date Received: 8/29/2007	Sample Type: Head			Ca/P	0.764	1- 12
Date Completed: 9/1/2007	Hair Color: Brown			Na/K	1.1	0.5- 10
	Treatment:			Zn/Cu	27.1	4- 20
Methodology: ICP-MS	Shampoo: Sunsilk			Zn/Cd	> 999	> 800

V06.99