

# HAIR ELEMENTS



**PATIENT:** Number 87  
**SEX:** Female  
**AGE:** 50  
**Location:** Hout Bay, South Africa

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	5.6	< 7.0		
Antimony	0.014	< 0.050		
Arsenic	0.21	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.45	< 2.0		
Cadmium	< 0.009	< 0.10		
Lead	0.53	< 1.0		
Mercury	0.04	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.001	< 0.060		
Nickel	0.06	< 0.40		
Silver	0.25	< 0.15		
Tin	0.11	< 0.30		
Titanium	0.42	< 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	521	300- 1200					
Magnesium	16	35- 120					
Sodium	43	12- 90					
Potassium	17	8- 38					
Copper	13	12- 35					
Zinc	160	140- 220					
Manganese	0.05	0.15- 0.65					
Chromium	0.64	0.20- 0.40					
Vanadium	0.035	0.018- 0.065					
Molybdenum	0.086	0.028- 0.056					
Boron	0.46	0.30- 2.0					
Iodine	0.35	0.25- 1.3					
Lithium	0.005	0.007- 0.023					
Phosphorus	174	160- 250					
Selenium	1.9	0.95- 1.7					
Strontium	0.69	0.50- 7.6					
Sulfur	45600	44500- 52000					
Barium	0.29	0.26- 3.0					
Cobalt	0.016	0.013- 0.050					
Iron	6.9	5.4- 14					
Germanium	0.024	0.045- 0.065					
Rubidium	0.023	0.007- 0.096					
Zirconium	0.017	0.020- 0.42					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 5/5/2007	Sample Size: 0.2 g			Ca/Mg	32.6	4- 30
Date Received: 5/18/2007	Sample Type: Head			Ca/P	2.99	1- 12
Date Completed: 5/23/2007	Hair Color: Blond			Na/K	2.53	0.5- 10
	Treatment:			Zn/Cu	12.3	4- 20
Methodology: ICP-MS	Shampoo: Body Shop			Zn/Cd	> 999	> 800

V06.99