

# HAIR ELEMENTS



**PATIENT:** Hair Test 86  
**SEX:** Male  
**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	4.6	< 7.0		
Antimony	0.011	< 0.066		
Arsenic	0.21	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.022	< 2.0		
Cadmium	0.12	< 0.15		
Lead	1.3	< 2.0		
Mercury	0.39	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.017	< 0.060		
Nickel	0.26	< 0.40		
Silver	0.50	< 0.12		
Tin	0.13	< 0.30		
Titanium	0.28	< 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	786	200- 750					
Magnesium	420	25- 75					
Sodium	30	12- 90					
Potassium	8	9- 40					
Copper	23	10- 28					
Zinc	180	130- 200					
Manganese	0.08	0.15- 0.65					
Chromium	0.70	0.20- 0.40					
Vanadium	0.088	0.018- 0.065					
Molybdenum	0.10	0.025- 0.064					
Boron	2.5	0.40- 3.0					
Iodine	0.37	0.25- 1.3					
Lithium	0.006	0.007- 0.023					
Phosphorus	168	160- 250					
Selenium	1.9	0.95- 1.7					
Strontium	4.2	0.30- 3.5					
Sulfur	45300	44500- 52000					
Barium	0.13	0.16- 1.6					
Cobalt	0.027	0.013- 0.035					
Iron	6.7	5.4- 13					
Germanium	0.027	0.045- 0.065					
Rubidium	0.010	0.011- 0.12					
Zirconium	0.023	0.020- 0.44					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 5/5/2007	Sample Size: 0.199 g			Ca/Mg	1.87	4- 30
Date Received: 5/18/2007	Sample Type: Head			Ca/P	4.68	0.8- 8
Date Completed: 5/23/2007	Hair Color: Brown			Na/K	3.75	0.5- 10
	Treatment:			Zn/Cu	7.83	4- 20
Methodology: ICP-MS	Shampoo: Body Shop			Zn/Cd	> 999	> 800

V06.99