

# HAIR ELEMENTS



**PATIENT: Number 135**  
**SEX: Fe**  
**male**  
**AGE: 68 Location: Cape Town, RSA**

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	4.8	< 7.0		
Antimony	0.020	< 0.050		
Arsenic	0.069	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.030	< 2.0		
Cadmium	0.023	< 0.10		
Lead	0.49	< 1.0		
Mercury	1.4	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.003	< 0.060		
Nickel	0.16	< 0.40		
Silver	0.10	< 0.15		
Tin	0.06	< 0.30		
Titanium	0.77	< 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	409	300- 1200					
Magnesium	18	35- 120					
Sodium	11	12- 90					
Potassium	7	8- 38					
Copper	9.2	12- 35					
Zinc	190	140- 220					
Manganese	0.08	0.15- 0.65					
Chromium	0.39	0.20- 0.40					
Vanadium	0.083	0.018- 0.065					
Molybdenum	0.031	0.028- 0.056					
Boron	0.99	0.30- 2.0					
Iodine	0.41	0.25- 1.3					
Lithium	0.011	0.007- 0.023					
Phosphorus	155	160- 250					
Selenium	0.82	0.95- 1.7					
Strontium	0.34	0.50- 7.6					
Sulfur	44900	44500- 52000					
Barium	0.80	0.26- 3.0					
Cobalt	0.004	0.013- 0.050					
Iron	7.8	5.4- 14					
Germanium	0.026	0.045- 0.065					
Rubidium	0.004	0.007- 0.096					
Zirconium	0.016	0.020- 0.42					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected:	11/26/2007	Sample Size:	0.201 g	Ca/Mg	22.7	4- 30
Date Received:	12/10/2007	Sample Type:	Head	Ca/P	2.64	1- 12
Date Completed:	12/14/2007	Hair Color:	Brown	Na/K	1.57	0.5- 10
Methodology:	ICP-MS	Treatment:		Zn/Cu	20.7	4- 20
		Shampoo:		Zn/Cd	> 999	> 800

V06.99