

# HAIR ELEMENTS



**PATIENT: Number 184**  
**SEX: Female**  
**AGE: 59**

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	4.0	< 7.0		
Antimony	< 0.01	< 0.050		
Arsenic	0.053	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.052	< 2.0		
Cadmium	0.024	< 0.10		
Lead	0.10	< 1.0		
Mercury	< 0.03	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.004	< 0.060		
Nickel	0.02	< 0.40		
Silver	0.01	< 0.15		
Tin	0.04	< 0.30		
Titanium	0.36	< 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	419	300- 1200					
Magnesium	69	35- 120					
Sodium	51	12- 90					
Potassium	20	8- 38					
Copper	13	12- 35					
Zinc	180	140- 220					
Manganese	0.24	0.15- 0.65					
Chromium	0.34	0.20- 0.40					
Vanadium	0.038	0.018- 0.065					
Molybdenum	0.016	0.028- 0.056					
Boron	0.57	0.30- 2.0					
Iodine	2.1	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	159	160- 250					
Selenium	2.5	0.95- 1.7					
Strontium	0.81	0.50- 7.6					
Sulfur	45400	44500- 52000					
Barium	0.32	0.26- 3.0					
Cobalt	0.010	0.013- 0.050					
Iron	7.7	5.4- 14					
Germanium	0.029	0.045- 0.065					
Rubidium	0.014	0.007- 0.096					
Zirconium	0.74	0.020- 0.42					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 6/17/2008	Sample Size: 0.199 g			Ca/Mg	6.07	4- 30
Date Received: 6/24/2008	Sample Type: Head			Ca/P	2.64	1- 12
Date Completed: 6/27/2008	Hair Color: Brown			Na/K	2.55	0.5- 10
	Treatment:			Zn/Cu	13.8	4- 20
Methodology: ICP-MS	Shampoo: Aussie			Zn/Cd	> 999	> 800

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