

# HAIR ELEMENTS



**PATIENT: Number 150**  
**SEX: Female**  
**AGE: 11**  
**Location: Lake Ontario, Canada**

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	< 0.01	< 0.066		
Arsenic	0.032	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.026	< 2.0		
Cadmium	0.021	< 0.10		
Lead	0.75	< 1.0		
Mercury	0.37	< 0.40		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.036	< 0.060		
Nickel	0.10	< 0.40		
Silver	0.05	< 0.16		
Tin	0.13	< 0.30		
Titanium	0.76	< 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	748	250- 800					
Magnesium	23	25- 90					
Sodium	6	12- 90					
Potassium	< 3	7- 40					
Copper	33	12- 35					
Zinc	190	120- 220					
Manganese	0.16	0.18- 0.60					
Chromium	0.25	0.23- 0.45					
Vanadium	0.018	0.025- 0.10					
Molybdenum	0.032	0.037- 0.083					
Boron	0.08	0.30- 1.7					
Iodine	0.30	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	182	160- 250					
Selenium	0.87	0.95- 1.7					
Strontium	0.85	0.37- 3.6					
Sulfur	46900	45500- 53000					
Barium	0.40	0.21- 1.9					
Cobalt	0.005	0.013- 0.050					
Iron	6.2	6.0- 17					
Germanium	0.032	0.045- 0.065					
Rubidium	0.003	0.008- 0.080					
Zirconium	0.056	0.030- 0.40					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 1/15/2008	Sample Size: 0.205 g			Ca/Mg	32.5	4- 30
Date Received: 1/22/2008	Sample Type: Head			Ca/P	4.11	1- 12
Date Completed: 1/26/2008	Hair Color: Brown			Na/K	2	0.5- 10
	Treatment:			Zn/Cu	5.76	4- 20
Methodology: ICP-MS	Shampoo: Down Under Nat			Zn/Cd	> 999	> 800