

# HAIR ELEMENTS



**PATIENT: Number 168**  
**SEX: Male**  
**AGE: 55**  
**Location: UK**

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	2.0	< 7.0		
Antimony	0.028	< 0.066		
Arsenic	0.045	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.080	< 2.0		
Cadmium	0.15	< 0.15		
Lead	0.26	< 2.0		
Mercury	0.43	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.011	< 0.060		
Nickel	5.6	< 0.40		
Silver	0.01	< 0.12		
Tin	0.18	< 0.30		
Titanium	0.35	< 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	370	200- 750					
Magnesium	19	25- 75					
Sodium	200	12- 90					
Potassium	53	9- 40					
Copper	28	10- 28					
Zinc	250	130- 200					
Manganese	0.05	0.15- 0.65					
Chromium	0.40	0.20- 0.40					
Vanadium	0.038	0.018- 0.065					
Molybdenum	0.029	0.025- 0.064					
Boron	0.91	0.40- 3.0					
Iodine	0.26	0.25- 1.3					
Lithium	0.012	0.007- 0.023					
Phosphorus	181	160- 250					
Selenium	1.3	0.95- 1.7					
Strontium	0.43	0.30- 3.5					
Sulfur	47000	44500- 52000					
Barium	0.14	0.16- 1.6					
Cobalt	0.011	0.013- 0.035					
Iron	7.4	5.4- 13					
Germanium	0.054	0.045- 0.065					
Rubidium	0.044	0.011- 0.12					
Zirconium	0.093	0.020- 0.44					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected: 4/25/2008	Sample Size: 0.198 g			Ca/Mg	19.5	4- 30
Date Received: 5/9/2008	Sample Type: Head			Ca/P	2.04	0.8- 8
Date Completed: 5/14/2008	Hair Color: Brown			Na/K	3.77	0.5- 10
	Treatment:			Zn/Cu	8.93	4- 20
Methodology: ICP-MS	Shampoo: Head Shoulders			Zn/Cd	> 999	> 800