

# HAIR EL



PATIENT: Number 126  
SEX: Male  
AGE: 42

| POTENTIALLY TOXIC ELEMENTS |                        |                 |                  |                  |
|----------------------------|------------------------|-----------------|------------------|------------------|
| TOXIC ELEMENTS             | RESULT $\mu\text{g/g}$ | REFERENCE RANGE | PERCENTILE       |                  |
|                            |                        |                 | 68 <sup>th</sup> | 95 <sup>th</sup> |
| Aluminum                   | 0.9                    | < 7.0           |                  |                  |
| Antimony                   | 0.017                  | < 0.066         |                  |                  |
| Arsenic                    | 0.066                  | < 0.080         |                  |                  |
| Beryllium                  | < 0.01                 | < 0.020         |                  |                  |
| Bismuth                    | 0.012                  | < 2.0           |                  |                  |
| Cadmium                    | 0.024                  | < 0.15          |                  |                  |
| Lead                       | 0.16                   | < 2.0           |                  |                  |
| Mercury                    | 1.3                    | < 1.1           |                  |                  |
| Platinum                   | < 0.003                | < 0.005         |                  |                  |
| Thallium                   | < 0.001                | < 0.010         |                  |                  |
| Thorium                    | < 0.001                | < 0.005         |                  |                  |
| Uranium                    | 0.008                  | < 0.060         |                  |                  |
| Nickel                     | 0.16                   | < 0.40          |                  |                  |
| Silver                     | 0.05                   | < 0.12          |                  |                  |
| Tin                        | 0.09                   | < 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                      | 1230                   | 200- 750        |                   |                  |                  |                  |                    |
| Magnesium                    | 98                     | 25- 75          |                   |                  |                  |                  |                    |
| Sodium                       | 300                    | 12- 90          |                   |                  |                  |                  |                    |
| Potassium                    | 40                     | 9- 40           |                   |                  |                  |                  |                    |
| Copper                       | 24                     | 10- 28          |                   |                  |                  |                  |                    |
| Zinc                         | 180                    | 130- 200        |                   |                  |                  |                  |                    |
| Manganese                    | 0.26                   | 0.15- 0.65      |                   |                  |                  |                  |                    |
| Chromium                     | 0.59                   | 0.20- 0.40      |                   |                  |                  |                  |                    |
| Vanadium                     | 0.055                  | 0.018- 0.065    |                   |                  |                  |                  |                    |
| Molybdenum                   | 0.032                  | 0.025- 0.064    |                   |                  |                  |                  |                    |
| Boron                        | 1.5                    | 0.40- 3.0       |                   |                  |                  |                  |                    |
| Iodine                       | 0.63                   | 0.25- 1.3       |                   |                  |                  |                  |                    |
| Lithium                      | 0.015                  | 0.007- 0.023    |                   |                  |                  |                  |                    |
| Phosphorus                   | 182                    | 160- 250        |                   |                  |                  |                  |                    |
| Selenium                     | 0.82                   | 0.95- 1.7       |                   |                  |                  |                  |                    |
| Strontium                    | 5.7                    | 0.30- 3.5       |                   |                  |                  |                  |                    |
| Sulfur                       | 50800                  | 44500- 52000    |                   |                  |                  |                  |                    |
| Barium                       | 1.6                    | 0.16- 1.6       |                   |                  |                  |                  |                    |
| Cobalt                       | 0.007                  | 0.013- 0.035    |                   |                  |                  |                  |                    |
| Iron                         | 21                     | 5.4- 13         |                   |                  |                  |                  |                    |
| Germanium                    | 0.035                  | 0.045- 0.065    |                   |                  |                  |                  |                    |
| Rubidium                     | 0.040                  | 0.011- 0.12     |                   |                  |                  |                  |                    |
| Zirconium                    | 0.050                  | 0.020- 0.44     |                   |                  |                  |                  |                    |

| SPECIMEN DATA              |                      |  |  | RATIOS          |               |                       |
|----------------------------|----------------------|--|--|-----------------|---------------|-----------------------|
| <b>COMMENTS:</b>           |                      |  |  | <b>ELEMENTS</b> | <b>RATIOS</b> | <b>EXPECTED RANGE</b> |
| Date Collected: 10/7/2007  | Sample Size: 0.202 g |  |  | Ca/Mg           | 12.6          | 4- 30                 |
| Date Received: 10/10/2007  | Sample Type: Head    |  |  | Ca/P            | 6.76          | 0.8- 8                |
| Date Completed: 10/15/2007 | Hair Color: Brown    |  |  | Na/K            | 7.5           | 0.5- 10               |
|                            | Treatment:           |  |  | Zn/Cu           | 7.5           | 4- 20                 |
| Methodology: ICP-MS        | Shampoo: Citre Shine |  |  | Zn/Cd           | > 999         | > 800                 |

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