CanAlt
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PATIENT REPORT

HAIR MINERAL ANALYSIS

The Mineral *Portrait.*

A simplified preview of your long-term mineral balance — prepared for the conversation with your practitioner.

ELEMENTAL BURDEN INDEX

82 *Critical*

PREPARED FOR

Jordan Sample

Female · DOB April 12, 1985 · Head hair

PRACTITIONER

Dr. Morgan Ellis

ND · Practitioner ID 9000

SAMPLE ID

HMA900001

Kit · —

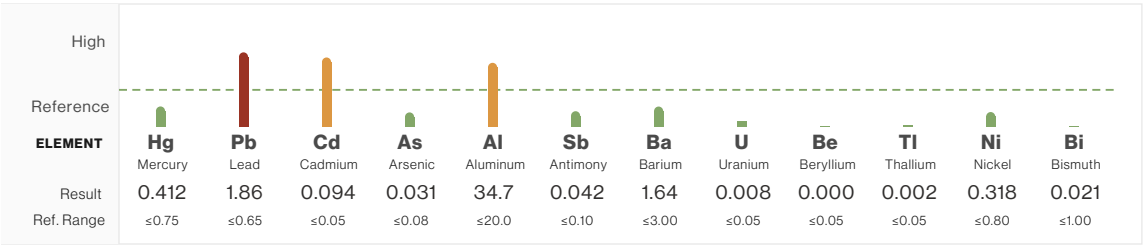
COLLECTED July 15, 2026

RECEIVED July 17, 2026

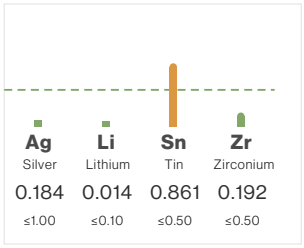
REPORTED August 6, 2026

HEAVY METALS

Reference Elevated High



OTHER ELEMENTS



MINERAL-HEAVY METAL RATIOS

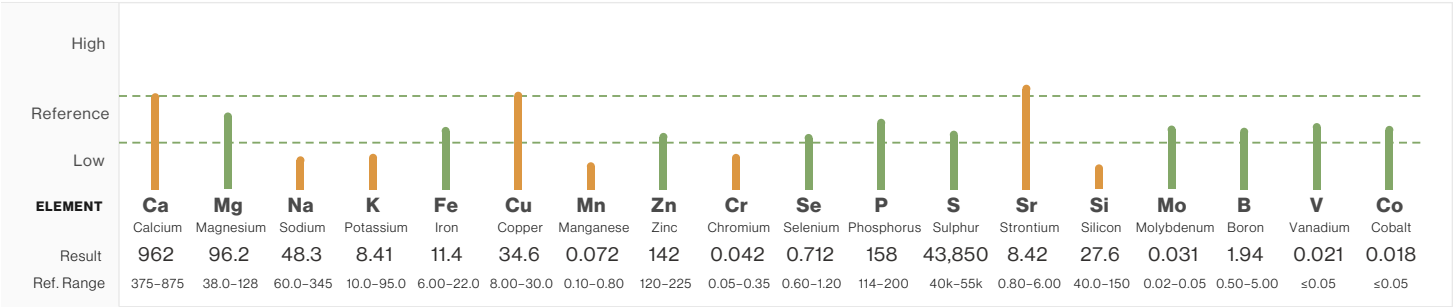
Protective mineral-to-toxic metal ratios reflect the body's capacity to buffer against heavy metal burden.

Ratio	Current	Range
Ca : Cd	10,238	>800
Fe : Pb	6.1 ▼	>20.0
Zn : Hg	345.4	>200
Se : Hg	1.7	>1.00

Ratio	Current	Range
Se : As	23.0	>10.0
Fe : Hg	27.7	>22.0
Ca : Pb	517.4	>84.0
Zn : Cd	1,514	>800

NUTRITIONAL ELEMENTS

Reference High / Low Warning High / Low



ENERGY & METABOLISM RATIOS

Mineral patterns governing thyroid, adrenal, and cellular energy function.

Ratio	Current	Range
Ca : Mg	10.0	4.00–20.0
Ca : Na	19.9 ▲	2.00–5.00
Ca : K	114.4 ▲	2.00–5.50
Na : Mg	0.50 ▼	2.00–6.00
Na : K	5.7 ▲	2.00–4.00
K : Mg	0.09 ▼	0.10–1.40

STRUCTURAL RATIOS

Ratios tied to bone density, connective tissue, and iron–copper balance.

Ratio	Current	Range
Ca : P	6.1 ▲	1.60–4.00
Ca : Sr	114.3 ▼	150–700
Ca : Zn	6.8	1.50–7.50
Fe : Cu	0.33	0.20–1.50
Zn : Cu	4.1	4.00–17.0
Ca : Fe	84.3 ▲	17.0–82.0

ADDITIONAL RATIOS

These ratios are provided for additional information only.

Ratio	Current
Mg : P	0.61
Fe : Mn	158.6
Cu : Mo	1,116
Cu : Se	48.6

Ratio	Current
S : Cu	1,267
Zn : Fe	12.5
Zn : P	0.90
Zn : Se	199.9

LABORATORY COMMENT

Sample received in good condition and within stability. Results are reported on a washed-hair basis; correlate with clinical history and exposure review.

These results are a personal copy of your hair mineral analysis. Results for calcium, magnesium, sodium, potassium, and lithium are provided for informational and research purposes only. Please discuss all results with your practitioner, who can interpret them in the context of your health history.

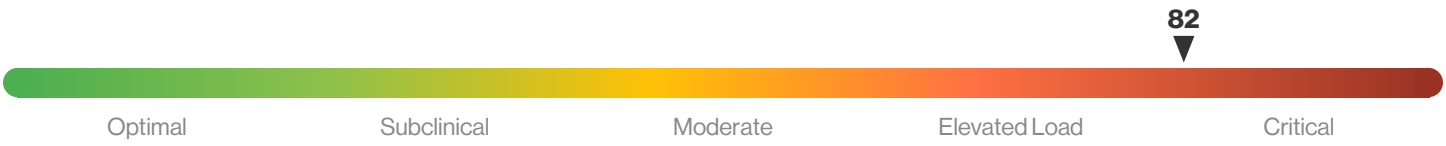
YOUR OXIDIZER TYPE

Extreme Slow

Your mineral pattern is an **Extreme Slow** oxidizer profile. "Oxidation rate" is a framework that describes whether the body's current mineral patterns lean toward a faster or slower metabolic rhythm. Extreme Slow is a pronounced version of the slow pattern — **calcium and magnesium are substantially elevated relative to sodium and potassium**, indicating the body has been in an energy-conserving state for an extended period. This is a **pattern descriptor, not a diagnosis**, but a pronounced pattern warrants a closer look. Your practitioner will walk you through what this pattern means in the context of your full results and health history.

YOUR ELEMENTAL BURDEN INDEX

ELEMENTAL BURDEN INDEX	82 /100	Critical	Score range 80–100



The Elemental Burden Index summarises patterns across the elements measured in your hair sample into a single score from **0 to 100**. It organises findings across five areas: **stress and adrenal load**, **nutritional reserves**, **environmental metal load**, **metabolic efficiency**, and **hormonal terrain**. Higher scores reflect more values outside their normal values, or more patterns of interest. They are not a measure of severity, and they are not a diagnosis. The EBI is a screening summary designed to support your practitioner's review, not to replace one, and it cannot identify or rule out any specific health condition. Hair mineral analysis reflects mineral deposition over roughly the last two to three months. It is one piece of a broader picture that also includes your health history, diet, lifestyle, and any other testing you have had done.

Your sample showed **several values well outside their normal values**, and multiple distinct patterns were identified during the analysis. A score in this range is a clear signal that the results deserve careful attention with your practitioner. It is not a diagnosis, and it does not identify any specific health condition on its own. What it does mean is that there is enough in the data that a focused, in-person conversation is the right next step. Your practitioner will walk you through which findings contributed most to the score and what they may reflect in the context of your overall health. If you have questions before your next appointment, please reach out to your practitioner's office.

Results outside the normal values

NUTRITIONAL ELEMENTS

Calcium (Ca) ▲ 962 µg/g

ref 375-875

As **the body's most abundant mineral**, calcium builds bones and teeth, drives muscle contractions, and helps nerves fire. The body keeps blood calcium within a tight, narrow range, but **hair calcium tells a different story** — it reflects how calcium has been distributed and stored in your tissues over the past few months. A hair value above the normal values **doesn't mean you're taking in too much calcium from your diet**; it speaks to how your body has been handling calcium in tissue over time.

Sodium (Na) ▼ 48.3 µg/g

ref 60.0-345

Sodium is **an essential electrolyte**, and your body relies on it to balance fluids, carry nerve signals, and support the adrenal response to stress. What hair sodium captures is how your body has been handling sodium over the past few months, so a value here **doesn't directly track how much salt you're eating** or your blood sodium level. The body regulates both of those independently of the patterns hair analysis detects.

Potassium (K) ▼ 8.41 µg/g

ref 10.0-95.0

Potassium is **an essential electrolyte** that partners with sodium to keep fluids balanced, carry nerve signals, and support the muscles. Keep in mind that **hair potassium reflects long-term tissue patterns** from the past few months, not a blood potassium measurement. Foods that supply potassium include **bananas, potatoes, beans, leafy greens, and avocados**.

Copper (Cu) ▲ 34.6 µg/g

ref 8.00-30.0

Copper is an essential trace mineral your body draws on for **iron metabolism, connective tissue formation, and several antioxidant enzyme systems**. What hair copper shows is how the body has been handling and depositing copper in tissue across the sample period — not the amount in your diet or blood. Because a value above the range reflects tissue handling rather than a dietary shortfall, it isn't a prompt to increase copper intake; your practitioner will read it alongside your other results, since copper balance is closely tied to zinc and several other factors.

Manganese (Mn) ▼ 0.072 µg/g

ref 0.100-0.800

Manganese is an essential trace mineral that plays into **bone development, wound healing, and antioxidant enzyme activity**. A hair manganese result below the normal values reflects tissue distribution across the sample period. Foods that supply manganese include **whole grains, legumes, nuts, leafy greens, and tea**.

NUTRITIONAL ELEMENTS

Chromium (Cr) ▼

0.042 µg/g
ref 0.050-0.350

Chromium is a trace mineral that plays a part in **carbohydrate and fat metabolism**. A hair chromium result below the normal values reflects tissue distribution across the sample period. Foods that supply chromium include **broccoli, grape juice, whole grains, and lean meats**.

Strontium (Sr) ▲

8.42 µg/g
ref 0.800-6.00

Strontium is a trace element whose **chemical properties resemble calcium's**, so the two often move together in the body. A hair strontium result above the normal values frequently traces back to **dietary or environmental exposure**, including certain mineral waters or regional geological sources.

Silicon (Si) ▼

27.6 µg/g
ref 40.0-150

Silicon is a trace element that helps maintain the **structural integrity of bone, skin, hair, and nails**. A hair silicon result below the normal values reflects tissue distribution across the sample period. Foods that supply silicon include **whole grains, cucumbers, oats, and mineral water**.

OTHER ELEMENTS

Tin (Sn) ▲

0.861 µg/g
ref 0.000-0.500

Tin has **no known essential role in the body**. Exposure commonly comes from **certain canned foods** (older-style tin cans can leach tin into acidic contents) and some environmental sources.

ENVIRONMENTAL AND NON-ESSENTIAL ELEMENTS

Lead (Pb) ▲

1.86 µg/g
ref 0.000-0.650

Lead is a heavy metal with **no known role in the body**. Exposure commonly comes from **older plumbing** (lead pipes or lead solder in pre-1986 homes), **legacy paint** (lead paint was common before the ban), certain imported consumer products, and some occupational settings. Hair analysis offers a snapshot of exposure over roughly the last two to three months. A value above the normal values points to exposure during that window; where the value is significant, an elevated reading often prompts a review of possible sources of exposure with your practitioner.

ENVIRONMENTAL AND NON-ESSENTIAL ELEMENTS

Cadmium (Cd)

▲

0.094 µg/g
ref 0.000-0.050

Cadmium is a heavy metal with **no known role in the body**. Its most common source is **tobacco smoke** — including second-hand smoke, since tobacco plants concentrate cadmium from soil. Other sources include certain foods grown in cadmium-rich soils and some occupational settings such as **battery manufacturing and metal plating**.

Aluminium (Al)

▲

34.7 µg/g
ref 0.000-20.0

Aluminium is a metal found widely in the environment, and it has **no known essential role in the body**. Exposure commonly comes from **aluminium cookware**, some antacids and consumer products, certain processed foods, and water from some municipal sources. A value above the normal values points to exposure during the sample period.

ENERGY & METABOLISM RATIOS

Ca/K ratio

▲

114
ref 2.00-5.50

Calcium and potassium play **contrasting roles in cells** — calcium tends to slow cellular activity and stabilize membranes, while potassium tends to sharpen cellular sensitivity and energy turnover. Because of its association with metabolic rhythm, the Ca/K ratio is sometimes called the **"thyroid ratio"** in hair analysis. When it sits above the normal values, **calcium is dominant** — the balance points toward slower, more conservative cellular patterns.

Ca/Na ratio

▲

19.9
ref 2.00-5.00

Calcium and sodium play **contrasting roles** — calcium tends to stabilize cell membranes and slow activity, while sodium tends to activate and mobilize. The Ca/Na ratio captures the balance between these two minerals in your hair sample. When it sits above the normal values, **calcium is dominant relative to sodium** — the balance tips toward stabilizing, energy-conserving patterns.

Na/K ratio

▲

5.74
ref 2.00-4.00

Sodium and potassium work as a **paired electrolyte system**, together regulating fluid balance, cellular charge, and nerve-signal transmission. The Na/K ratio is **one of the most closely watched ratios** in hair analysis, since it shifts in distinct patterns through the different phases of the body's response to ongoing demand. When it sits above the normal values, **sodium is dominant relative to potassium**.

ENERGY & METABOLISM RATIOS

Na/Mg ratio

▼ **0.50**
ref 2.00-6.00

Sodium and magnesium pull in **opposite directions on the nervous system and adrenal activity** — sodium tends to activate, magnesium tends to calm. Because of its association with stress-response patterns, the Na/Mg ratio is sometimes called the **"adrenal ratio"** in hair analysis. When it sits below the normal values, **magnesium is dominant relative to sodium**.

K/Mg ratio

▼ **0.09**
ref 0.10-1.40

Potassium and magnesium **both support cellular function**, though in somewhat different ways — potassium enables active cellular processes, magnesium underpins relaxation and enzymatic activity. The K/Mg ratio captures their balance in your hair sample. When it sits below the normal values, **magnesium is dominant relative to potassium**.

STRUCTURAL RATIOS

Ca/P ratio

▲ **6.08**
ref 1.60-4.00

Calcium and phosphorus are the **two minerals that form the mineral matrix of bone**, and they interact throughout the body in structural and energy-producing roles. The Ca/P ratio captures the balance between them in your hair sample. When it sits above the normal values, **calcium is dominant relative to phosphorus**.

Ca/Sr ratio

▼ **114**
ref 150-700

Calcium and strontium share **very similar chemical properties** — strontium can stand in for calcium in some structural roles and usually moves with it in the body. When the Ca/Sr ratio sits noticeably below the normal values, **strontium is relatively more prominent** — often a reflection of environmental or dietary sources of strontium.

Ca/Fe ratio

▲ **84.3**
ref 17.0-82.0

Calcium and iron play **quite different roles** — calcium supports structure and stability, while iron carries oxygen and powers cellular energy. The Ca/Fe ratio captures their balance in your hair sample. When it sits above the normal values, **calcium is dominant relative to iron**; and because **blood testing is more direct for iron status**, this ratio is usually weighed alongside serum iron if relevant.

TRACE MINERAL & COFACTOR RATIOS

Mg/P ratio

▲ **0.61**
ref 0.15-0.50

Magnesium and phosphorus both feed into how cells produce and use energy — the two come together in **ATP, the cell's main energy currency**. The Mg/P ratio captures their balance in your hair sample. When it sits above the normal values, **magnesium is dominant relative to phosphorus**.

Fe/Mn ratio

▲ **159**
ref 15.0-75.0

Iron and manganese are both trace minerals that feed into **enzyme systems, several of them antioxidant ones**, and they share some absorption pathways. The Fe/Mn ratio captures their balance in your hair sample. When it sits above the normal values, **iron is dominant relative to manganese**.

Cu/Mo ratio

▲ **1,116**
ref 175-700

Copper and molybdenum **interact across several enzyme systems**, and molybdenum can dial back copper's activity in the body when present in sufficient amounts. The Cu/Mo ratio captures their balance in your hair sample. When it sits above the normal values, **copper is dominant relative to molybdenum**.

Cu/Se ratio

▲ **48.6**
ref 10.0-30.0

Copper and selenium both feed into the **body's antioxidant enzyme systems**, though through different enzymes with somewhat different jobs. The Cu/Se ratio captures their balance in your hair sample. When it sits above the normal values, **copper is dominant relative to selenium**.

S/Cu ratio

▼ **1,267**
ref 1,350-6,000

Sulphur and copper meet across several of the body's **enzymatic and detoxification pathways**, including the metallothionein proteins that bind metals. The S/Cu ratio captures their balance in your hair sample. When it sits below the normal values, **copper is dominant relative to sulphur**.