Graceful Earth, Inc. / Hair Mineral Analysis

Customized Dietary, Nutritional and Herbal Information
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Doctor	Graceful Earth	Sample Number	20003H26735		
Patient Name		Sample WT(g)	0.5	Age	46
Test Date	14-Sep-07	Sample VOL(ml)	10	Sex	f

Essential and Other Elements (ppm = mg/L = mg/kg)	Reference Range	Test Value	Low	Reference Range	High
Co Cobalt	0–0.57	0.00		<	
Cr Chromium	0–0.87	0.00		<	
Cu Copper	10–41	31.31		**********	
Fe Iron	4.6–17.7	5.62		**********	
Ge Germanium	0–1.5	0.00		<	
Li Lithium	0–0.53	0.00		<	
Mn Manganese	0.03–1.3	0.00	**Low**	<	
Mo Molybdenum	0–1	0.07		**********	
Se Selenium	0.2–5.46	0.45		**********	
V Vanadium	0–0.73	0.00		<	
Zn Zinc	142–272	186.80		**********	

Essential Macroelements (ppm = mg/L = mg/kg)	Reference Range	Test Value	Low	Reference Range	High
Ca Calcium	220–1600	1571.00		**********	
K Potassium	5–40	11.79		**********	
Mg Magnesium	20–130	203.40	**High**	**********	
Na Sodium	10–130	20.89		**********	
P Phosphorus	134–270	141.80		**********	

Potentially Toxic Elements (ppm = mg/L = mg/kg)	Reference Range	Test Value	Low	Reference Range	High
Al Aluminum	0–17	2.67		**********	
As Arsenic	0–1.12	0.21		**********	
Cd Cadmium	0–0.75	0.00		<	
Hg Mercury	0–1.3	1.46	**High**	**********	
Ni Nickel	0–1.1	0.00		<	
Pb Lead	0–5	0.00		<	

Analytical laboratory: King James Medical Laboratory, Inc.
24700 Center Ridge Rd., Suite 113
Cleveland, OH 44145
CLIA License 36D0339322

Lab Director: R. Shamberger, Ph.D.

******* Trace Mineral Information*******

Your Analysis Determined The Following Mineral Deficiencies And Excesses. Since it is difficult to distinguish treated samples from untreated ones, it is assumed that the spectroanalytical analysis was performed on chemically untreated hair as requested in our laboratory brochure. Chemically treated hair does not provide reliable results and TMI does not assume responsibility for data obtained from treated hair. The information contained in this elemental analysis report is designed as an interpretive adjunct to normally conducted diagnostic procedures. The findings are best viewed in the context of a medical examination and history.

MERCURY (Hg): Elemental mercury is easily converted to organic mercury by living systems. Symptoms of poisoning include inactivation of enzyme function, birth defects, brain damage and other central nervous system disorders. Early symptoms of mercury overexposure include insomnia, dizziness, fatigue, drowsiness, weakness, depression, tremors loss of appetite, loss of memory, nervousness, headache, dermatitis, numbness, and tingling of lips and feet, emotional instability and kidney damage. Symptoms of acute toxicity: loss of teeth, extreme tremor, mental and emotional disorders, kidney failure. Mercury remains in the blood stream for approximately 24 hours and high levels confirm toxicity. SOURCES: overexposure may stem from paints, explosives, electrical apparatus, batteries, mercurial diuretics, fungicides, fluorescent lamps, cosmetics, hair dyes, amalgams in dentistry, contaminated seafood, and petroleum products. THERAPEUTIC RECOMMENDATION: in mild cases, increase oral intake of cysteine and antioxidants, esp selenium and vitamin E. For the treatment of severe mercury poisoning hemodialysis and adminstration of mercury-chelating agents (cysteine, N-acetyl-penicilliamine) has been recommended. Chelating agents such as DMSA and EDTA are also known to increase urinary excretion.

MAGNESIUM (Mg) is an essential element with both electrolyte and enzyme-activator functions. It is a predominately intracellular cation. Hypermagnesia is extremely rare and usually caused by excess intake of magnesium sulfate which is used in the treatment of hypertension, or excess use of magnesium-containing antacids and purgatives.Toxemic women are often treated with high levels of MgSO4, which may result in hypermagnesemia of mother and infant. The absorption and excretion of magnesium is regulated by the renal system and parathyroid hormones. SYMPTOMS: respiratory depression, cardiac arrest, coma.THERAPEUTIC CONSIDERATION: RBCs contain about three times the magnesium found in plasma or serum. Hemolyzed samples, or blood drawn in tubes, containing citrate, oxalate or EDTA are unacceptable. Serum/plasma must be quickly separated from RBCs tro prevent magnesium crossover.

MANGANESE (Mn) is a co-factor for many enzymes including arginase, cholinesterase, phosphoglucomutase, pyruvate carboxylase, mitochondrial superoxide dismutase, and several phosphatases, peptidases and glucosyltranferases. It functions with Vitamin K in the formation of prothrombin and is needed for the acetylcholine synthesis. Manganese is mostly stored in the liver and the kidneys. Acute deficiency has never been reported in humans, but symptoms of decreased intake include fatigue, lack of physical endurance, hearing loss, slow growth of fingernails and hair, impaired bone metabolism, impaired glucose metabolism incl. diabetes, reduced fertility, and increased allergic sensitivities. Deficiency can be caused by dietary insufficiency, intestinal malabsorption, or excess dietary phosphorus, cobalt or magnesium. Manganese is absorbed in the small intestine and excreted in bile and pancreatic secretion. SOURCES: liver, kidney, wheat germ, legumes, black tea and nuts. The RDA is 2.5-5mg/day. THERAPEUTIC CONSIDERATION: support intestinal function. Increase manganese, amino acid and B-complex intake.

*** SIGNIFICANT MINERAL RATIOS ***
ENHANCED UTILIZATION OF CERTAIN MINERALS OCCURS WHEN IDEAL RATIOS EXIST BETWEEN THEM.

Ca / Cu	Normal	
Ca / Fe	Normal	
Ca / Mg	Normal	
Ca / P	Normal	
Ca / Zn	Normal	
Fe / Cu	Normal	
Fe / Mn	High	An imbalance in the manganese/iron ratio contributes to glucose intolerance.
K / Fe	Normal	
Mg / Mn	High	May be associated with anxiety
Na / K	Normal	
Zn / Cr	High	Associated with anemia, anorexia, weight loss, decreased lipid and protein metabolism.
Zn / Cu	Normal	
Zn / Fe	Normal	
Zn / Mg	Low	May be associated with arteriosclerosis, diabetes, infertility, impotence, loss of taste and smell.
Zn / Mn	High	Associated with diabetes and hypoglycemia.

THIS DETOXIFICATION PROGRAM IS DESIGNED FOR PATIENTS 12 YEARS AND OLDER TO REDUCE THE TOXIC BURDEN. AFTER 3-4 MONTHS, A FOLLOW-UP ANALYSIS IS RECOMMENDED TO MODIFY THIS PROGRAM. For medical assistance, consult your physician.

The following nutritional program is aimed at providing optimum health. The program is suitable for patients 12 years and older. It is recommended for 3-4 months, after which a repeat analysis is recommended. A follow-up test would evaluate and determine your body's ability to digest and absorb nutrients. If any questions or problems arise, consult your medical doctor or health care provider.

High magnesium levels of nails may indicate a masked deficiency and an increased need for magnesium.

Increase intake of herbal teas, green or black tea.

Increase dietary intake of whole grains, fruits and vegetables.

Can you give me insight as to the hair results? The ones in light gray are those minerals and metals that were not tested. Red is High, Yellow is low, and darker gray is Med High.

I live in Sedona, AZ. In the middle of August, I finished the last removal of 14 amalgam fillings and one crown which was over an amalgam. Also, in May I quite using a 12 hour nose drop spray when I found out it had Thermisol in it. As well, I had four allergy shots a week for 10 years and I just discovered that they contained Thermisol.

For years I have had allergies and yeast infections. As time progressed, I suffered from "Foggy brain" and hypoglycemia. Recently my ears have started ringing and now as well I have lack of concentration and an ache in my lower back and the back of my neck. Sometimes it feels like someone is pushing on my brain.

The Hail analysis was done one month after the amalgam was removed. I had already started B1, B6, B12, as well as Zinc and Milk thistle. Also I am taking Vit E and sometimes a Calcium/Mag citrate...but I slack on this one. As well, I had increased my Vit. C.

When I sent the hair in, I had done only one round of DMSA (every 4 hours) 25mg per. Later, I felt that that was making me sick and lowered my dose to 12.5 mg.

The test is measured in ppm

Thank you,
Katherine

Hair Test 124 – 46 year old
Trace Elements (ppm=mg/L = mg/kg)

***More Stringent Acceptable Reference Ranges / Designed for more Pro-active / Preventive Assessment / Intervention to offset possible individual trends**

35 Common Elements*	***Acceptable Ranges**	35 Common Elements*	***Acceptable Ranges**
Potentially Toxic Elements		**Essential & "Other" Trace Elements**	
Aluminum (Al) ……	0—8	Copper (Cu) ……..	12 – 35 MH
Antimony(Sb) ……	0.00 – 0.050	Zinc (Zn) ……..	100 – 250
Arsenic (As) ……	0 – 0.060 H	Manganese (Mn) ……L	0.1 – 1.3
Beryllium (Be) ……	0 - 0.02	Chromium (Cr) ……L	0.2 – 0.5
Bismuth (Bi) ……	0 – 0.10	Vanadium (V) ……..L	0.1 – 0.5
Cadmium (Cd) ……	0 – 0.10	Molybdenum (Mo) ……..L	0.1 – 1
Lead (Pb) ……..	0 – 1 H	Boron (B) ……..	0.18 – 9.2
Mercury (Hg) ……..	0 – 0.6 H	Iodine (I) ……..	0.25 – 1.3
Platinum (Pt) ……..	0 – 0.005	Lithium (Li) ……..L	0.1 – 0.8
Uranium (U) ……..	0 – 0.060	Phosphorous (P) ……	100 – 170
Nickel (Ni) ……..	0 – 0.4 H	Selenium (Se) ……..L	**1 – 3
Silver (Ag) ……..	0 – 0.12	Silicon (Si) ……..	8.00 – 46.00
Tin (Sn) ……..	0 – 0.30	Strontium (Sr) ……	0.650 – 6.900
Essential Macro Elements		Sulfur (S) ……..	44500 – 52000
Calcium (Ca) ……	200 – 750 H	Barium (Ba) ……..	0.16 – 1.60
Magnesium (Mg) …….	*25 – 115 H	Cobalt (Co) ……L	0.1 – 0.5
Sodium (Na) ……	10 – 50	Iron (Fe) ……..	3 – 15
Potassium (K) …….	2 – 28	Germanium (Ge) ……L	0.1 – 5

We obtain our normal ranges from healthy population samples. Even though someone may have an abnormality the other 25 or so are normal and therefore useable for ranges. The abnormal levels are removed by a statistical process. Results 2-3 standard deviations from the mean are not included in the mean. This process is used by all laboratories in setting normals for all analytes. There may be local situations such as Japan whose hair may have greater mercury and selenium than usual. We use "normal people" in the initial set up of the test to see if the results make sense. During this early process we also compare our results with other laboratories to see if our analytical results match with their results. We also have flow charts to detect any analytical trends. When we are inspected by our government they check these trends and also how well we perform on our quarterly measurement of samples. This is how quality control and quality assurance works and is the same in all USA licensed laboratories. Here is my information: