

### MINERAL ANALYSIS

### Hair

Doctor	SAMPLE P2-FULL REPORT	Sample Number	10001H00001
Patient Name	Patient	Age	N/A
Test Date	sample	Sex	N/A

Nutrient Elements (ppm)	Low	Acceptable Range	High
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	Acceptable Range	Test Value	
Calcium	220.000---1600.0	708.620	*****
Chromium	0.012---0.634	0.073	*****
Copper	10.000---41.000	10.039	*****
Iodine *	0.011---4.650	28.071	<b>High</b> *****
Iron	7.000---19.400	7.751	*****
Magnesium	20.000---130.00	27.557	*****
Manganese	0.120---1.300	0.137	*****
Molybdenum	0.014---0.381	0.032	*****
Phosphorus	134.000---270.00	231.538	*****
Potassium	5.000---40.000	0.098	<b>Low</b> Not Detected
Selenium	0.070---5.750	0.750	*****
Silicon	8.000---46.000	13.161	*****
Sodium	10.000---130.00	2.664	<b>Low</b> ***
Strontium	0.650---6.900	1.076	*****
Vanadium	0.007---0.284	0.005	<b>Low</b> *****
Zinc	144.000---272.00	169.531	*****

Other Elements(ppm)	Low	Acceptable Range	High
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	Acceptable Range	Test Value	
Boron	0.072---9.000	0.952	*****
Cobalt	0.020---0.190	0.007	<b>Low</b> ****
Germanium	0.000---0.166	0.006	*****
Gold	0.000---0.752	0.005	*****
Lithium	0.000---0.212	0.007	*****
Tin	0.000---1.370	0.395	*****
Tungsten	0.000---0.058	0.010	*****

Toxic or Potentially Toxic Elements (ppm)	Low	Acceptable Range	High
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	Acceptable Range	Test Value	
Aluminum	0.000---17.000	18.483	<b>High</b> *****
Antimony	0.000---0.597	0.095	*****
Arsenic	0.000---1.000	0.057	*****
Barium	0.000---4.640	0.966	*****
Beryllium	0.000---0.049	0.000	Not Detected
Bismuth	0.000---0.268	0.000	Not Detected

\* Semiquantitative analysis

Lab Director: E. Blaurock-Busch PhD; med.Consultant: Dr. J. Montante; Quality Control: Doug MacTaggart,

# TMI, Inc.

Trace Minerals International

Clinical and Environmental Laboratory

CLIA Lic: 06D0644375

Medicare: C-6718-3

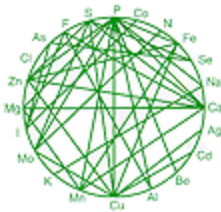
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## MINERAL ANALYSIS

## Hair

Doctor	SAMPLE P2 FULL REPORT	Sample Number	10001H00001
Patient Name	Patient	Age	N/A
Test Date	sample	Sex	N/A

Toxic or Potentially Toxic Elements (ppm)	Low	Acceptable Range	High
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	Acceptable Range	Test Value	
Cadmium	0.000---0.473	0.279	*****
Cerium *	0.000---0.107	0.003	*****
Cesium	0.000---0.010	0.000	Not Detected
Dysprosium *	0.000---0.006	0.000	*****
Erbium *	0.000---0.005	0.000	*****
Europium *	0.000---0.005	0.000	*****
Gallium	0.000---0.215	0.037	*****
Lanthanum *	0.000---0.032	0.001	*****
Lead	0.000---5.230	0.736	*****
Lutetium *	0.000---0.010	0.000	Not Detected
Mercury	0.000---1.250	0.983	*****
Neodymium *	0.000---0.029	0.001	*****
Nickel	0.000---1.050	0.204	*****
Osmium *	0.000---0.007	0.000	*****
Palladium	0.000---0.022	0.002	*****
Platinum	0.000---0.033	0.000	Not Detected
Praseodymiu	0.000---0.013	0.000	*****
Rhenium *	0.000---0.005	0.000	Not Detected
Rhodium *	0.000---0.007	0.000	*****
Rubidium	0.000---0.249	0.001	*****
Ruthenium *	0.000---0.449	0.000	*****
Samarium *	0.000---0.011	0.000	*****
Silver	0.000---0.700	0.112	*****
Tellurium	0.000---0.016	0.011	*****
Thallium	0.000---0.006	0.001	*****
Thorium	0.000---0.034	0.010	*****
Thullium *	0.000---0.002	0.000	Not Detected
Uranium	0.000---0.146	0.000	Not Detected
Ytterbium *	0.000---0.005	0.000	Not Detected

\* Semiquantitative analysis

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\*\*\*\*\* 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.

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ALUMINIUM (Al) is commonly ingested with food, medicine and water. Previously, aluminum was considered virtually non-absorbable and was thus freely used in a variety of food additives and over-the-counter drugs such as antacids. New research suggests that Al can cause neurological changes such as seen in Alzheimer's and Parkinson's disease, and dialysis dementia. Al can bind to DNA, resulting in abnormal neurofibrillary tangles in the brain. Al inhibits the enzyme, hexokinase. It is absorbed in the intestine and excreted via the kidney. In persons with abnormal kidney function, Al is deposited in the bones. TOXICITY SYMPTOMS include ataxia, colic, and GI irritation. Serum levels >200mcg/L are associated with clinical symptoms. SOURCE: widely found in foods and water. THERAPEUTIC CONSIDERATION: Increased blood levels indicate increased exposure and uptake. To decrease uptake and increase elimination, support digestive and kidney function. .

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COBALT (Co) is part of the Vitamin B12 molecule and is necessary for Vitamin B12 activity and function. Cobalt, which is mainly stored in the liver, activates numerous enzymes, and is excreted in bile. A low dietary intake inhibits fetal development and may reflect a low intake of Vitamin B12. SOURCES: all animal products, including all meats, fish, cheese, brewer's yeast and yeast extracts. Strict vegetarians (vegans) and those who lack intrinsic factor risk vitamin B12 and cobalt deficiency. SYMPTOMS include pernicious anemia. THERAPEUTIC CONSIDERATION: increase vitamin B12 intake and/or consumption of cobalt-rich foods.

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IODINE: (I) high blood levels increase intake of B-vitamines and vitamin E, reduce dietary intake of fish and kelp. Avoid iodine-rich salt.

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POTASSIUM (K) is an electrolyte element and a potentiator of enzyme functions. About 98% of total potassium is found in intracellular fluids and factors that enhance its transport into cells and thereby increase the ratio of intracellular to extracellular potassium are insulin, aldosterone, alkalosis, and beta-adrenergic stimulation. Factors that decrease cell transport or enhance leakage out of the cell include acidosis, alpha-adrenergic stimulation and tissue hypoxia. Blood levels reflect the balance between absorption and excretion, with the absorption depending on the nutritional intake. Excretion occurs through the gastrointestinal tract, skin and urine. The kidneys regulate potassium excretion, maintaining body levels. CAUSES OF DEPLETION: gastrointestinal loss from diarrhea, frequent vomiting, alkalosis, low potassium intake, alcoholism, anorexia nervosa, diuretic, laxative or enema abuse, increased or prolonged sweating, increased urinary losses. DEFICIENCY SYMPTOMS: Muscle weakness or muscle spasms during intense physical activity, fatigue and mental apathy, constipation, tachycardia or irregular heartbeat, nervousness, edema. THERAPEUTIC CONSIDERATION: increase intake of potassium-rich foods such as fruits and vegetables. Increase intake of B-vitamins and Effer C, 1/4 tsp. 2-4x day. In severe cases, potassium chlorid, 400-800mg/day

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SODIUM (Na) is an extracellular electrolyte element that influences acid-base equilibrium and helps maintain osmotic pressure. Dehydration is a common cause of low sodium levels. Predisposing factors are diuretic use, excessive sweating, kidney dysfunction, diarrhea, and metabolic acidosis. A decreased dietary intake is rarely a factor. SYMPTOMS ASSOCIATED WITH DEFICIENCY: low blood pressure, anorexia, reduced calcium absorption, ocular diseases, weight loss, cardiovascular weakness and reduced immune functions. SOURCES: salt, fruits and vegetables and juices. The RDA is 1.1-3.3 g/day, which is easily met with a normal diet. THERAPEUTIC CONSIDERATION: Serum is best used to evaluate the sodium status. Check the sodium/potassium ratio which inversely correlates with blood pressure and may have a greater impact than either nutrient alone.

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VANADIUM (V): the biological function of this trace element has not been substantiated and deficiency symptoms have not been established, although there is evidence that this trace element influences the glucose metabolism, the sodium/potassium transport and the adrenal catecholamine metabolism. Vanadium appears to catalyze the oxidation of catecholamines and inhibit cholesterol synthesis and lower phospholipid levels. It may have anti-diabetic, weight-reducing function and anticaries effects. SOURCE: fiber-rich foods, dill seeds, parsley and black pepper. Vanadium is highly concentrated in vegetable oils. THERAPEUTIC CONSIDERATION: high fiber diet, use of vegetable oil instead of animal fats.

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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.

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COBALT: Product suggestion: Sublingual 12, 1/day

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IODINE: Reduce dietary intake of fish and kelp. Avoid iodine-rich salt. Product suggestion: Vita/Minera Co-Enzyme Q10 & L-Tyrosine, 1xdaily

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POTASSIUM chloride, 400-750mg/d. Eat more fruits and vegetables and increase your daily fluid intake

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SODIUM: Increase fluid intake and eat more fruits and vegetables

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VANADIUM: VitaMinera Vanadyl Sulfate Spray, 1 application daily. Soy and corn products, peanut and sunflower oil are rich vanadium sources.

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