Fur Mineral Analysis

Testing By: Delta-Biomarkers SAS

VDI Lab Services
4685 Runway St. Ste K Simi Valley, CA 93063
ph: 805-577-6742 fax: 805-426-8115

PATIENT NAME:	**Mackenzie Wilson**	**MRN:**	**1023211**	**VETERINARIAN:**	**Dr. Max Smith**
SPECIMEN ID #:	**700008**	DRAW DATE:	Not Provided	FACILITY:	VDI Animal Hospital
SPECIES:	Canine	RECEIVED DATE:	6-Jun-22		123 Main Street
GENDER:	Female Spayed	REPORT DATE:	17-Jun-22		Small Town, CA 55555
AGE:	9.5	SAMPLE TYPE:	Fur	PH:	805-555-5555
WEIGHT:	55 lb			FAX:	805-555-5556

Fur/hair is the only matrix suitable for studying a long period of exposure to pollutants. The pollutants circulating in the blood are automatically captured by the weft of the fur when it grows and stays intact. Blood analysis is useful, but contrary to fur/hair analysis, blood is a snapshot and not the culmination of weeks of exposure.

Test	Range	Flag	Previous	Results PPM	Notable Change	Comments
Ca	700-3000			2082.75		Patient values outside of the normal ranges for nutritional minerals may be the result of inadequate diet, environmental exposure, poor metabolism, or other conditions. Evaluate patient and retest in 2 months after correcting for any irregularities. Refer to Mineral Supplementation page for guidance.
Co	0.02-0.5			0.05		
Cr	0.6-5	low		0.12		
Cu	8-25			23.53		
Fe	25-400	low		10.09		
K	200-1400			211.26		
Mg	100-450			230.27		
Mn	1-10	low		0.29		
Na	700-10000			1144.23		
P	220-500			280.27		
Se	0.4-2.5	low		0.30		
Si	20-600			30.62		
Sr	0-4.5	high		17.64		
V	0-1.2			0.31		
Zn	150-300			198.67		
Ag	0-2			0.13		Patient values are all within the normal limits indicating no historical or ongoing issues with environmental minerals. Retest if major diet or health change occurs, or animal's environment substantially changes.
Al	0-250			13.65		
Au	0-2			0.01		
B	0-5			0.93		
Ba	0-5			1.89		
Be	0-1			0.01		
Li	0-0.5			0.12		
Mo	0-3			0.05		
Ni	0-10			0.48		
Sn	0-5			2.74		
As	0-1			0.00		Patient has elevated levels of potentially toxic elements. Detoxification is warranted, and source of exposure should be identified and removed.
Cd	0-0.7			0.19		
Hg	0-0.2	high		0.34		
Pb	0-10			0.18		

Reference intervals should be considered as guidelines for comparison with reported test values. These reference ranges were established from a large population of "healthy" animals. They should not be considered as absolute limits for determining deficiency, toxicity or acceptance until fully validated element-specific studies are completed.

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The following minerals have been identified as being outside of the reference interval.
For a description of all minerals, visit our website at: www.vdilab.com

Symbol	Name	Description
Cr	**Chromium**	Chromium is an essential dietary mineral. It can be found from the consumption of products such as yeast, wheat, apples and green pepper. A deficiency of chromium can cause insulin resistance and diabetes, however elevated Chromium may be toxic especially if found in fur- indicating long term exposure.
Fe	**Iron**	Iron in fur suggest the digestion of iron rich foods or consuming certain items such as prenatal vitamins, fertilizer, oxygen absorbers and handwarmers. Iron deficiency may be an indication of nutrient deficiencies or underlying conditions. Too much iron may cause a range of cardiac and GI-related symptoms, however this is typically associated with sudden ingestion of large amounts of Iron.
Mn	**Manganese**	Manganese is dietary derived and can be absorbed by digesting items that have high concentration of manganese. Whole grains, eggs, nuts and leafy vegetables contain a good amount of manganese.
Se	**Selenium**	Selenium is an essential element. Selenium can be found in Brazil nuts, fish, game poultry etc. Too much consumption of selenium could become toxic.
Sr	**Strontium**	Early studies have shown that dogs who eat high levels of sardines or sardine oil supplements have high levels of strontium. Strontium acts in the same way that calcium does in the body and deposits within the bone.
Hg	**Mercury**	Mercury enters the environment as a result of normal breakdown of minerals in rocks and soil through exposure to wind and water. Mercury source risks for dogs include fish-based diets, omega oils made with fish, vaccinations, some prescription medications, and environmental contamination.

Detox Report

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Metal detoxification can be done safely and effectively using a combination of plant-based products. When used in combination they can help to remove unwanted toxins from the body and restore the natural ecosystem in the animals body. Please review the patient-specific detox regiment below. Contact VDI with questions: 805-577-6742

Mineral Supplement Guidelines, prepared specifically for Mackenzie Wilson

Notes:

Step 1 & 2 should be given together, at the same meal
Daily administration is key to optimal detoxification
If only one product is used, IMD is the primary choice
In patients with ongoing exposure to toxic metals, complete removal may not occur
Dosing regimen is based on patient weight

Step 1: Prime

ClearWay CoFactors is a blend of plant-based antioxidants designed to maximally support metal detoxification.

ClearWay is intended to:
- Enhance the body's natural antioxidant pathways
- Stabilize cell membranes
- Protect the nervous system from toxins
- Alleviate heavy metal toxicity
- Support gut barrier integrity
- Break down biofilms
- Increase cellular excretion of toxins

DOSE
2 caps daily with meals
Complete dosing regimen requires the following number of bottles of CoFactors: **4**

Step 2: Clear

IMD (Intestinal Metals Detox) is a silica blend that optimizes the natural elimination of metals through the gut.

IMD is intended to:
- Bind to metals
- Perform Antioxidant Removal
- Protect the Kidneys
- Aid Immune Function
- Aid Endocrine Health
- Aid Neurological Health

DOSE
1 rounded scoop daily with meals
Complete dosing regimen requires the following number of bottles of IMD: **4**

Step 3: Test

Complete 1 full round detox round (120 days) and repeat toxic metals testing. If additional detoxification is needed, repeat another regimen. In the event that toxic metal levels are not diminishing, additional steps may be needed. Contact VDI for support.

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Essential nutrients, those that are obtained by ingestion, are very important to health. Ensuring your pet is receiving enough can be as simple as supplementing their current diet to improve mineral content. Below is patient-specific dosing guidelines to help your pet obtain the proper minerals that may have been low as indicated in this fur analysis.

Mineral Supplement Guidelines, prepared specifically for Mackenzie Wilson

Canine Minerals, Rx Vitamins for Pets

Canine Minerals provides macro- and micro-mineral supplementation, specifically calcium for dogs to help balance home-prepared meals and as a general mineral supplement when required.

Canine Minerals is intended to provide:
- Calcium
- Magnesium
- Iron
- Strontium
- Sodium
- Manganese
- Phosphorus
- Potassium
- Chromium

DAILY DOSE

2.5 scoops
Split among meals

This dose is a total dose for the day. Do not give more than recommended.

Supplementing with Canine Minerals:

- Supplementation listed above is a total daily dose and should be split among meals to avoid any GI discomfort. If your dog is showing signs of discomfort, excessive thirst, panting, or other abnormal signs, stop use of the product and consult a veterinarian.
- The dosage of the individual minerals is very important. Seemingly small variations in mineral content in a diet can have significant impact on animal health. Any time dietary changes are made, it's important to watch for changes in health and behavior, and retest any labwork to ensure proper balance is achieved.
- This product contains calcium and magnesium, both of which are tightly regulated in the body. If your dog's recent blood work shows abnormal calcium or magnesium levels, consult your veterinarian before starting Canine Minerals. Conversely, if your dog is experience issues with this supplement, blood work may be warranted to check blood levels.

For more information, contact VDI Laboratory (805-577-6742) or Rx Vitamins (800-792-2222)

The Mineral Formula:

The Canine Minerals Formulas was designed to be used primarily as a mineral-rich dietary supplement to balance home-prepared meals for dogs. It can also be used as a general mineral supplement for those patients who would benefit from dietary mineral supplementation.

The Minerals Formula is a 100% natural multiple mineral and trace element product. It is mined from an exclusive source in the western United States, containing 9 macro- and micro- minerals for optimum health. This mineral deposit, which is totally unique in its makeup, is marine sedimentary in nature and estimated to have been formed during the Triassic-Jurassic periods of the Mesozoic Era, approximately 150 to 200 million years ago. It is one of the most complete sources of naturally-occurring essential minerals and trace elements available.