Fur Mineral Analysis

Testing By: Delta-Biomarkers SAS

VDI Lab Services
9420 Topanga Cyn Blvd #100 Chatsworth, CA 91311
ph: 805-577-6742 fax: 805-426-8115

PATIENT NAME:	**Max Stevens**	**MRN:**	**1106013**	**VETERINARIAN:**	
SPECIMEN ID #:	**700587**	COLLECTION DATE:	17-Jul-23	FACILITY:	
SPECIES / SEX:	Canine / MN	RECEIVED DATE:	24-Jul-23		
BREED:	Border Collie	REPORT DATE:	27-Jul-23		
AGE:	5.0	SAMPLE TYPE:	Fur	PH:	
WEIGHT:	44.8 lb			FAX:	

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	Notable Change*	Results PPM	High Values	Comments
Ca	700-3000	low			474.62		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	0.02-1				0.03		
Cr	0.1-5				0.21		
Cu	8-30				8.88		
Fe	25-400	low			14.38		
K	100-2500				388.86		
Mg	100-450	low			58.34		
Mn	1-15				1.08		
Na	700-10000				2549.72		
P	220-500				258.05		
Se	0.4-2.5				0.42		
Si	20-600	low			13.27		
Sr	0-6				0.13		
V	0-1.2				0.01		
Zn	100-300				106.47		
Ag	0-2				0.51		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				5.66		
Au	0-2				0.02		
B	0-5				0.36		
Ba	0-5				0.17		
Be	0-1				0.00		
Li	0-1				0.00		
Mo	0-3				0.07		
Ni	0-5				0.67		
Sn	0-5				0.01		
As	0-3				0.02		Patient has no significant elevation of toxic metals
Cd	0-1				0.00		
Hg	0-0.4				0.03		
Pb	0-10				0.09		

KEY:
Orange Flag = within 15% of normal range
Red Flag = outside of 15% of normal range
Monitoring arrows represent a 20% change from previous test

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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Mineral Descriptions

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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
Ca	Calcium	Calcium is an essential nutrient that is tightly regulated in the blood. Evaluate blood-serum calcium levels. Calcium is nutritionally derived often from enriched products such as canned and bagged pet food or dairy items.
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.
Mg	Magnesium	Magnesium is essential mineral derived from diet. It can be found in whole grains, soybeans, nuts, spinach and fish. Magnesium deficiency is easy to correct and should be evaluated periodically, both in blood and in fur.
Si	Silicon	Silicon is a micromineral that is found in small quantities in food. Sources included whole grains, nuts, beans, rice and other plants. Excess silicon in fur may reflects environmental exposure such as in electrical products.

Mineral & Nutritional Support

Products By: Rx Vitamins for Pets

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Below are patient-specific dosing guidelines that may help your pet obtain the proper minerals that may have been low as indicated in this fur analysis, or remove accumulated minerals that are elevated. All products should be evaluated in consultation with your veterinarian or nutritionist to ensure safe and adequate supplementation as part of a full health and diet program.

Product Supplement Guidelines for Max Stevens

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

Applicable

Rx Zyme, Rx Vitamins for Pets

Rx Zyme comes as a high potency, highly palatable powder containing a proprietary mixture of digestive enzymes designed to promote physiologically effective digestive function in dogs and cats.

Intended use: Aid in digestion of food to improve mineral absoprtion

DAILY DOSE
1 scoop per cup of food
Rx Zyme should always be given with food to promote enzymatic digestion.

Not Applicable

Rx Clay, Rx Vitamins for Pets

The clay in Rx Clay has been clinically shown to bind heavy metals in the gastrointestinal tract (GIT) of mammals. While the clay is not absorbed into the body, the presence of RxClay in the GIT will bind heavy metals and toxins present in the diet and/or heavy metals and toxins excreted by the liver via the bile duct(s) and lymphatics into the GIT.

Intended use: Aid in removal of metals present in the diet or being accumulated from environment, and regulate bowel function

DAILY DOSE

Applicable

Canine/Feline 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.

Intended use: Canine Minerals is designed to provide
- Calcium - Magnesium - Iron - Sodium - Phosphorus
- Manganese - Strontium - 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. Anytime 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.