

Analysis Report

Date of Analysis: 15.04.2021

Analysis No: OC184122

Date of Sampling: 22.03.2021 – 18:00

Customer: Keith R. Estes

Customer ID: 3533

Tank: 300g mixed reef

Main Parameters

Parameter	Measured Value	Ideal Value	Rating
Salinity	35,6 psu	35,0 psu	✓
Alkalinity (KH)	8,89 dKH	7,50 dKH	↗

Main Elements

Parameter	Measured Value	Ideal Value	Rating
Calcium	477 mg/l	448 mg/l	✓
Boron	5,5 mg/l	4,6 mg/l	↗
Bromide	89 mg/l	68,1 mg/l	↗
Chloride	19595 mg/l	19733 mg/l	✓
Potassium	424 mg/l	407 mg/l	✓
Magnesium	1574 mg/l	1424 mg/l	↗
Sodium	11253 mg/l	10985 mg/l	✓
Strontium	10,4 mg/l	8,1 mg/l	✓
Sulfate	2987 mg/l	2746 mg/l	✓

Trace Elements

Parameter	Measured Value	Ideal Value	Rating
Barium	61,3 µg/l	10-100 µg/l	✓
Chromium	n.n.	0,5 µg/l	✓
Cobalt	n.n.	0,5 µg/l	✓
Iron	0,9 µg/l	1-3 µg/l	✓
Fluoride	0,61 mg/l	1,3 mg/l	↘
Iodine	1587 µg/l	50-70 µg/l	↑
Copper	1,5 µg/l	1-3 µg/l	✓
Lithium	321 µg/l	50-150 µg/l	↗
Manganese	0,3 µg/l	1,0 µg/l	↘
Molybdenum	4,2 µg/l	10-15 µg/l	↓

Nickel	n.n.	1,0 µg/l	✓
Rubidium	69 µg/l	90–150 µg/l	✓
Selenium	n.n.	0,5 µg/l	✓
Vanadium	4,5 µg/l	2–3 µg/l	✓
Zinc	1,3 µg/l	1,0 µg/l	✓
Tin	n.n.	< 1 µg/l	✓

Pollutants

Parameter	Measured Value	Ideal Value	Rating
Aluminium	16,0 µg/l	< 40 µg/l	✓
Bismuth	n.n.	< 3 µg/l	✓
Lead	n.n.	< 3 µg/l	✓
Mercury	n.n.	< 3 µg/l	✓
Antimony	n.n.	< 3 µg/l	✓
Titan	n.n.	< 1 µg/l	✓
Cadmium	n.n.	< 3 µg/l	✓
Uranium	n.n.	< 10 µg/l	✓
Beryllium	n.n.	< 1 µg/l	✓
Arsenic	n.n.	< 3 µg/l	✓
Lanthanum	n.n.	< 3 µg/l	✓
Thallium	n.n.	< 3 µg/l	✓

Nutrients

Parameter	Measured Value	Ideal Value	Rating
Phosphate (photometric)	0,310 mg/l	0,03–0,1 mg/l	↑
Total Phosphorous (ICP)	101 µg/l	10–50 µg/l	↑
Nitrate	0,60 mg/l	2–15 mg/l	✓
Nitrite	0,058 mg/l	< 0,1 mg/l	✓
Silicon	36 µg/l	50–250 µg/l	✓

Osmose

Parameter	Measured Value	Ideal Value	Rating
Copper	n.n.	n.n. µg/l	✓
Zinc	n.n.	n.n. µg/l	✓
Silicon	32,7 µg/l	n.n. µg/l	↗

- ✓ No action required
- ↗↘ Need for action
- ↑↓ Urgent need for action

n.n Not found
n.b Not measured

Interpretation

Dear Keith,

sorry for the long wait! Your sample arrived in our lab very recently, it seems to have spent a prolonged time in transport!

Regarding major elements boron and bromide are a bit elevated. This is not critical, but those elements should not be dosed at the moment. Same applies to magnesium: Since its above the recommended value, I recommend not dosing magnesium at the moment.

Regarding trace elements there is a deficiency in fluoride: This element is incorporated into the coral skeleton, and I would recommend dosing fluoride into the optimum concentration range, if youre keeping LPS/SPS coral. Fluoride should be increased only very slowly.

Iodine is elevated! This can cause browning of coral, and might cause additional issues in the reef tank. Iodine dosing should be stopped for several weeks (we recommend a check analysis afterwards). Also the use of granular activated carbon is recommended to lower the iodine concentration.

Lithium is slightly elevated, which is not problematic. Typical sources include artificial rockwork, reef cement, etc.

The essential trace element molybdenum is below the optimum concentration. We recommend increasing to the desired concentration range. Molybdenum is important for several metabolic processes including photosynthesis.

Phosphate is moderately elevated with very low nitrate. Increasing your nitrogen-availability (for example by setting your skimmer to dryer skimming) is likely to support lowering your phosphate.

Your Ro water is fine (only silicon slightly elevated).

In case of any questions I am happy to help!

Best regards from Austria,

Christoph

Dosing recommendations

Produkt	Dosierung
Single Element Fluoride	790 ml total split over 14 days
Single Element Molybdenum	90 ml total split over 8 days