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Analysis Report

Date of Analysis: 06.09.2024
Analysis No: MS222832
Date of Sampling: 02.09.2024 - 0,5

Customer: Carsten Poulsen
Customer ID: 7314
Tank: Riff/Reef

Main Parameters

Parameter	Measured Value	Ideal Value	Rating
Salinity	35,4 psu	35,0 psu	✓
Alkalinity (KH)	7,60 dKH	7,50 dKH	✓
SAC254	4,30 m-1	2-8 m-1	✓

Main Elements

Parameter	Measured Value	Ideal Value	Rating
Calcium	435 mg/l	445 mg/l	✓
Boron	6,2 mg/l	4,6 mg/l	✓
Bromide	83 mg/l	67,8 mg/l	✓
Chloride	20151 mg/l	19622 mg/l	✓
Potassium	439 mg/l	405 mg/l	✓
Magnesium	1355 mg/l	1315 mg/l	✓
Sodium	11129 mg/l	10923 mg/l	✓
Strontium	6,6 mg/l	8,1 mg/l	↘
Sulfate	2787 mg/l	2731 mg/l	✓

Trace Elements

Parameter	Measured Value	Ideal Value	Rating
Barium	5,22 µg/l	10-100 µg/l	↘
Chromium	0,46 µg/l	0,2-0,5 µg/l	✓
Cobalt	1,23 µg/l	0,05-0,2 µg/l	↗
Iron	1,60 µg/l	0,1-3 µg/l	✓
Fluoride	0,88 mg/l	1,3 mg/l	✓
Iodine	64,4 µg/l	50-70 µg/l	✓
Copper	0,52 µg/l	0,2-2 µg/l	✓
Lithium	239 µg/l	50-150 µg/l	✓
Manganese	0,50 µg/l	0,2-1 µg/l	✓
Molybdenum	24,7 µg/l	10-15 µg/l	✓
Nickel	3,72 µg/l	2-5 µg/l	✓

Rubidium	71,2 µg/l	90–150 µg/l	✓
Selenium	0,151 µg/l	0,2–0,5 µg/l	↘
Vanadium	0,85 µg/l	2–3 µg/l	↓
Zinc	7,28 µg/l	1–3 µg/l	↗
Tin	0,82 µg/l	0,05–1 µg/l	✓
Caesium	1,21 µg/l	0,3–3 µg/l	✓

Pollutants

Parameter	Measured Value	Ideal Value	Rating
Aluminium	4,9 µg/l	< 40 µg/l	✓
Bismuth	0,008 µg/l	< 1 µg/l	✓
Lead	0,072 µg/l	< 3 µg/l	✓
Mercury	n.n.	< 0,5 µg/l	✓
Antimony	n.n.	< 3 µg/l	✓
Titan	n.n.	< 1 µg/l	✓
Cadmium	0,065 µg/l	< 0,5 µg/l	✓
Uranium	0,334 µg/l	< 3 µg/l	✓
Beryllium	n.n.	< 0,2 µg/l	✓
Arsenic	0,304 µg/l	< 3 µg/l	✓
Lanthanum	0,015 µg/l	< 3 µg/l	✓
Thallium	0,044 µg/l	< 0,5 µg/l	✓
Gallium	n.n.	< 2 µg/l	✓
Tellurium	n.n.	< 2 µg/l	✓
Thorium	n.n.	< 0,3 µg/l	✓
Cerium	n.n.	< 0,5 µg/l	✓
Ruthenium	n.n.	< 0,1 µg/l	✓
Neodymium	n.n.	< 0,1 µg/l	✓
Tungsten	n.n.	< 2 µg/l	✓

Nutrients

Parameter	Measured Value	Ideal Value	Rating
Phosphate (photometric)	0,074 mg/l	0,03–0,1 mg/l	✓
Nitrate	5,31 mg/l	2–15 mg/l	✓
Nitrite	0,151 mg/l	< 0,3 mg/l	✓
Silicon	79 µg/l	50–250 µg/l	✓

Osmose

Parameter	Measured Value	Ideal Value	Rating
Copper (RO)	n.n.	n.n. µg/l	✓
Zinc (RO)	n.n.	n.n. µg/l	✓

Silicon (RO)	n.n.	n.n. µg/l	✓
Beryllium (RO)	n.n.	n.n. µg/l	✓
Cobalt (RO)	n.n.	n.n. µg/l	✓
Chromium (RO)	n.n.	n.n. µg/l	✓
Iron (RO)	n.n.	n.n. µg/l	✓
Lithium (RO)	n.n.	n.n. µg/l	✓
Manganese (RO)	n.n.	n.n. µg/l	✓
Molybdenum (RO)	n.n.	n.n. µg/l	✓
Nickel (RO)	n.n.	n.n. µg/l	✓
Phosphorus (RO)	n.n.	n.n. µg/l	✓
Lead (RO)	n.n.	n.n. µg/l	✓
Antimony (RO)	n.n.	n.n. µg/l	✓
Tin (RO)	n.n.	n.n. µg/l	✓
Titanium (RO)	n.n.	n.n. µg/l	✓
Vanadium (RO)	n.n.	n.n. µg/l	✓

✓ No action required

↗↘ Need for action

↑↓ Urgent need for action

n.n Not found

n.b Not measured

Interpretation

Dear Carsten!

Strontium is low: Strontium is incorporated into the coral skeleton the same way calcium is (so there is a regular demand). If calcium (without strontium) is supplemented, strontium levels are expected to fall. I do recommend dosing strontium back into the optimum concentration range, followed by regular dosing. Otherwise macroelements are close to the optimum.

Barium is below the natural concentration. This element is incorporated into the coral skeleton the same way calcium and strontium is: we recommend keeping barium at natural seawater levels.

Zinc is elevated. The measured concentration is unlikely to be acutely harmful, but can point towards a corrosion issue in your tank: We recommend checking all equipment (including magnets, pumps, etc) for signs of corrosion.

Also cobalt is elevated, which can cause issues with coral. If you are dosing cobald, the dosed amount should be sharply reduced. Otherwise corrosion can be a source.

Vanadium and selenium are below the recommended level. Since both are considered essential ultratrace-elements increased daily dosing is recommended, for example using Oceamo Custom Elements.

In case of questions, i am happy to help! Best regards, Christoph

Product recommendations

Product	Dosage
Single Element Strontium	95 mL split over 3 days