

Prüfbericht zu Auftrag 31506506

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Projekt: Chemische Analyse von Eisengranula*

| Parameter | Einheit | BG | Grenzwert | Typischer Bereich | Methode |
|-----------|---------|----|-----------|-------------------|-------------------|
| | | | | | Probenbezeichnung |
| | | | | | Probenahmedatum |
| | | | | | Labornummer |

Bestimmung aus dem Salzsäureaufschluss

| | | | | | | |
|---------------------------|----------|------|------|----------|--------------------|-------|
| Trockensubstanz (TS) (F) | % | | | 50-60 | DIN EN 38414 - S 2 | 62,4 |
| Arsen (F) | mg/kg TS | 1 | 20 | <1 | DIN EN ISO 17294-2 | 82 |
| Blei (F) | mg/kg TS | 1 | 40 | <1 | DIN EN ISO 17294-2 | <1 |
| Cadmium (F) | mg/kg TS | 0,05 | 5 | <0,5 | DIN EN ISO 17294-2 | 0,45 |
| Chrom (F) | mg/kg TS | 1 | 250 | 25-50 | DIN EN ISO 17294-2 | 5 |
| Kupfer (F) | mg/kg TS | 1 | 100 | 10-30 | DIN EN ISO 17294-2 | 2 |
| Mangan (F) | mg/kg TS | 1 | 3000 | 500-2000 | DIN EN ISO 17294-2 | 9800 |
| Nickel (F) | mg/kg TS | 1 | 250 | 20-100 | DIN EN ISO 17294-2 | 64 |
| Zink (F) | mg/kg TS | 1 | 250 | 10-50 | DIN EN ISO 17294-2 | 57 |
| Phosphor als Phosphat (F) | mg/kg TS | 60 | | <60 | DIN EN ISO 17294-2 | 14122 |
| Eisen (F) | g/kg TS | 1 | | 580-630 | DIN EN ISO 17294-2 | 389 |

Die Analyse erfolgte in einem akkreditierten Fremdlabor (F)

Prüfbericht zu Auftrag 31500580

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Projekt: Chemische Analyse von Eisengranulat

| Parameter | Einheit | BG | Grenzwert | Typischer Bereich | Probenbezeichnung | Aqua Forest |
|-----------|---------|----|----------------------------------|---------------------------|-------------------|-------------|
| | | | | | Probenahmedatum | 08.01.2015 |
| | | | Maximum limit for drinking water | Normal Levels in ROWAphos | Labornummer | 315002242 |
| | | | | | Methode | |

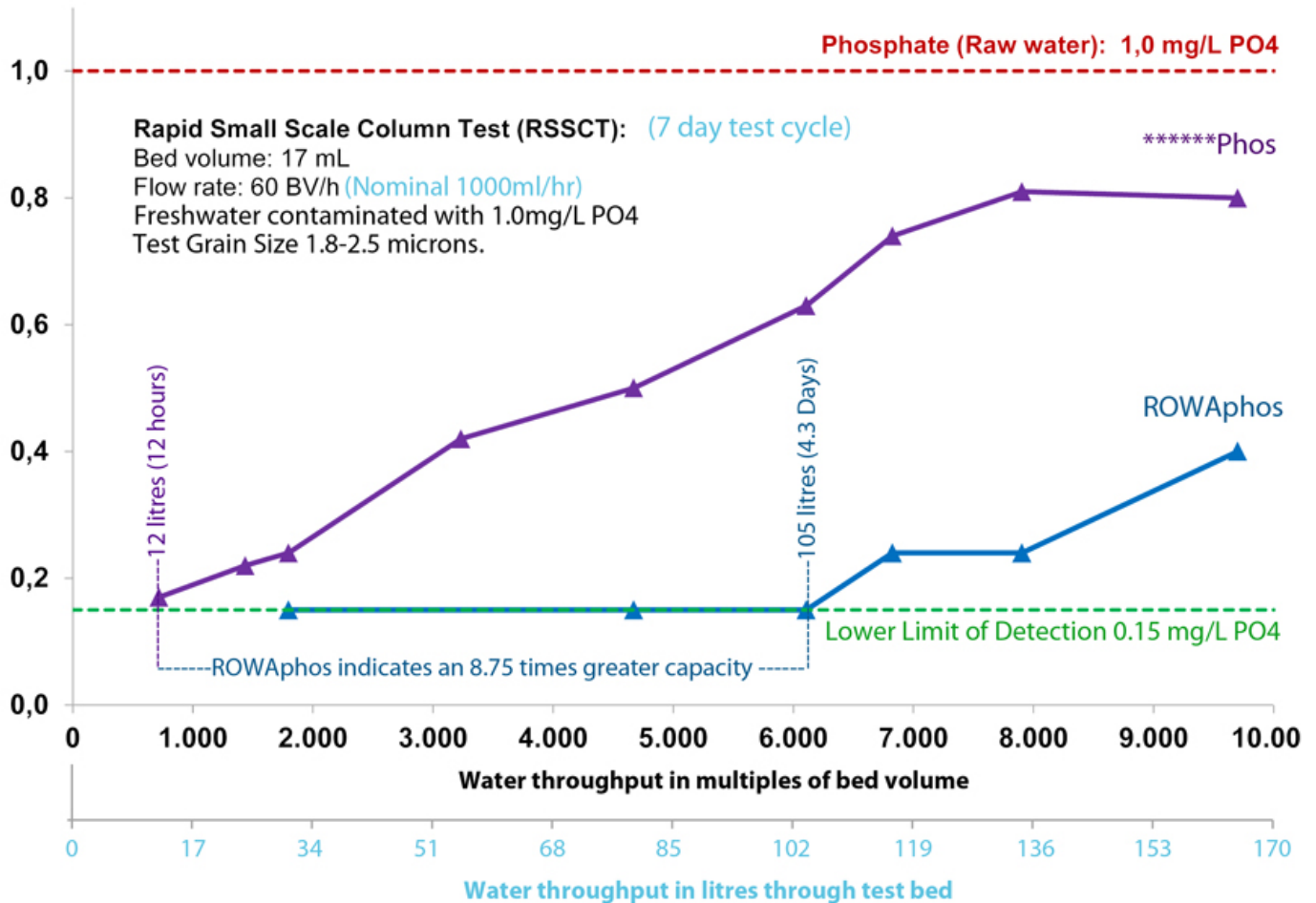
Bestimmung aus dem Salzsäureaufschluss

| Parameter | Einheit | BG | Grenzwert | Typischer Bereich | Methode | Ergebnis |
|-------------------------------------|----------|------|-----------|-------------------|--------------------|----------|
| Trockensubstanz (TS) (F) | % | | | 50-60 | DIN EN 38414 - S 2 | 57,2 |
| Arsen (F) <small>Arsenic</small> | mg/kg TS | 1 | 20 | <1 | DIN EN ISO 17294-2 | 85,0 |
| Blei (F) <small>Lead</small> | mg/kg TS | 1 | 40 | <1 | DIN EN ISO 17294-2 | <1 |
| Cadmium (F) | mg/kg TS | 0,05 | 5 | <0,5 | DIN EN ISO 17294-2 | 0,35 |
| Chrom (F) <small>Chromium</small> | mg/kg TS | 1 | 250 | 25-50 | DIN EN ISO 17294-2 | 3 |
| Kupfer (F) <small>Copper</small> | mg/kg TS | 1 | 100 | 10-30 | DIN EN ISO 17294-2 | 1 |
| Mangan (F) <small>Manganese</small> | mg/kg TS | 1 | 3000 | 500-2000 | DIN EN ISO 17294-2 | 8750 |
| Nickel (F) | mg/kg TS | 1 | 250 | 20-100 | DIN EN ISO 17294-2 | 43 |
| Zink (F) | mg/kg TS | 1 | 250 | 10-50 | DIN EN ISO 17294-2 | 31 |
| Phosphor als Phosphat (F) | mg/kg TS | 60 | | <60 | DIN EN ISO 17294-2 | 14736 |
| Eisen (F) <small>Iron</small> | g/kg TS | 1 | | 580-630 | DIN EN ISO 17294-2 | 362 |

Die Analyse erfolgte in einem akkreditierten Fremdlabor (F)

Laboratory Comparison of Phosphate Removal Capacity

Test Materials - ROWAphos compared with ***** Phos



Laboratory Test Methodology

Freshwater, with a known phosphate concentration of 1mg/l, is passed through a single pass filter bed containing 17ml of the media under test at a constant flow rate of 1000ml/hr under controlled conditions.

As the water passes through the filter, the media removes phosphate thus reducing the concentration measurable in the water exiting the test bed. The volume of contaminated water passed through the media is logged against the phosphate concentration of the water exiting the equipment and plotted against each other to give the graph above.

Results

In our tests the *****Phos was unable to maintain a phosphate level below 0.15mg/l after approximately 12 liters of water had passed through the filter bed compared with approximately 105 litres of water with ROWAphos. This indicates that ROWAphos has approximately an 8.75 times greater capacity for phosphate adsorption.

Once this point is reached both brands of phosphate media under test continued to decrease in loading capacity at approximately the same rate at that flow rate. In a recirculation application both products would have some capacity if left in the system but would generally be close to exhaustion.

Non Virgin Materials

Rowaphos is a unique, patented, virgin material with a well documented extreme affinity for phosphate removal in both freshwater and saltwater.

Our tests suggest that *****Phos, like many of the "wet" ferric based phosphate removers that have recently appeared on the market, is a non virgin material. These non virgin products are often waste by-products of the water treatment industry where they have been used to remove Arsenic and Heavy Metals from mains drinking water but are taken off line before they reach full loading and therefore still have some, albeit much reduced, remaining capacity to remove Phosphate in the aquarium.