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20 August 2020

Dear Douglas

## RE: EFFLUENT DISCHARGE FROM

We refer to our preliminary evaluation of the operations of the Prop Shine in water hull cleaning operations undertaken on 20 August 2020. Three rapid analyses of intake waters and effluent from the screening and remediation cart were undertaken using a Hannah HI 9829 probe, suitable for sea water use. The area of operation was Berth 101, Durban and the subject of operations was the quayside, where some barnacles, bio film and related sedentary organisms were present. A strong south westerly wind was blowing and high tide was at 14:13 (2.7m). Cleaning operations commenced at 16.15 .

| Test 1 | unit | Intake | effluent |
| :--- | :--- | :--- | :--- |
| Total dissolved solids | ppm | 24 | 15.4 |
| $\mathbf{p H}$ |  | 7.6 | 7.7 |
| salinity | ppm | 34.2 | 32 |
| temperature | ${ }^{\circ} \mathrm{C}$ | 20.8 | 20.8 |


| Test 2 | unit | intake | effluent |
| :--- | :--- | :--- | :--- |
| Total dissolved solids | ppm | 47 | 30 |
| pH |  | 7.6 | 7.4 |
| salinity | ppm | 35.6 | 35.1 |
| temperature | ${ }^{\circ} \mathrm{C}$ | 21.1 | 21.1 |


| Test 3 | unit | intake | effluent |
| :--- | :--- | :--- | :--- |
| Total dissolved solids | ppm | 51 | 31 |
| $\mathbf{p H}$ |  | 7.3 | 7.6 |
| salinity | ppm | 34.4 | 34.3 |
| temperature | ${ }^{\circ} \mathrm{C}$ | 21.1 | 21.0 |

The above preliminary results indicate that the third stage component of the reclaim system does remediate dissolved materials arising from the cleaning process and improves effluent water quality. The additional 50 and $25 \mu \mathrm{~m}$ sieves, as well as the UV lighting ensure that this system should meet and possibly exceed the IMO requirements for ballast water.

I trust that the above is of value.

Kind regards


Simon Bundy (Pr.Sci.Nat Ecol)

