



With a fleet of 27 fishing vessels, the freezer fleet of **Grupo Amasua** began its operations in the 1970s in the waters of Sub-Saharan Africa.

Eleven of its ships, fishing for deep sea prawns, operate in the waters of Mozambique.

Two of the vessels of this fleet, the *Krustamoz I* and *Krustamoz II*, began to operate on **Xbee** fuel at the start of the 2007 season: the results observed after the first six months, as confirmed by Manuel Lijo, **Grupo Amasua** Technical Director, are very positive:

“cleaner fuel, 100% saving on filters, combustion is more complete, resulting in lower consumption, valves less covered in carbon, etc.”

From the start of the next season, **Grupo Amasua** will extend use of the **Xbee** enzyme to all of its Mozambique fleet.

The objective of **Grupo Amasua** is to make an active contribution to the reduction in harmful gas emissions, and to improve the operation of its vessels.



Engines and fuels guarantees:

α **Xbee** is at least recognized by some of the most important engines manufacturers.



α On the other hand, **Xbee** respects the European regulation EN 590 Diesel norm and CSR 500 IFO 380 norm.

Groupe AMASUA S.A.

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Pierre Thebaud
Xbee
France

Huelva, August 30th 2007

Sirs,

We hereby inform you that we have been applying your product – “Xbee” – in two of our vessels operating in Mozambique waters m/v Krustamoz I and m/v Krustamoz II.

At the end of a 6 months fishing campaign and various refuelling operations, our engineers responsible for this area report the following:

- a. During the time of consumption of the first load of fuel that was treated with Xbee, gas oil filters got significantly dirtier, both generic filters and the ones specific to each engine were affected.
- b. As from second load of fuel, filters started to get steadily cleaner and the time between each replacement got longer.
- c. Now, time between each replacement of filters is far longer on these two boats compared with the rest of the fleet that has not been using Xbee, thus generating a 100 % economy.
- d. Although it is almost impossible to measure fuel consumption on board a fishing vessel, due to the constant changes of regimes, we believe that these two boats have a burn significantly less gasoil than the others because fuel is cleaner and we believe has a better calorific power.
- e. The eight boats “Krustamoz” operating in Mozambique waters are due to have their overhaul in South Africa in November this year ; we will then be able to compare cleanliness of fuel tanks from one boat to the other and also take conclusions on other points.

For all the above mentioned reasons, we will be using Xbee in all our vessels during next fishing campaign because we believe the simple fact that fuel is cleaner will generate not only an economy on filters but also, in the long run, considerable savings as far as injectors replacement and removal of carbon deposits in cylinder heads are concerned, since combustion is far more efficient.

We are not able to make any statement regarding gases and particles emissions of the engines, since no measurements and CO2 analysis were carried out on board the vessels; however we believe contamination has been reduced due to the improved combustion.

Sincerely yours

Manuel Lijó Aido
Technical Manager GRUPO AMASUA S.A. Huelva

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