



# BUNKERING

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WORLD BUNKERING



## Competition rules in Turkey

Russian resurgence

- The boom continues
- ...but risks
- ...demand



# Owning up

**Dr Vis**, head of Viswa Lab, recounts a recent contamination case with some unusual features.



**Dr Vis, head of Viswa Lab**

Here is a story on off-spec fuels tested by Viswa Lab from the Houston area that is very interesting for more than one reason. Refreshingly, a supplier/barge operator admitted the possibility of delivery of a contaminated fuel around the same timeframe. At least five ships tested by Viswa Lab between 4 January and 13 January in the ports of Houston, Pasadena, Texas City and Freeport reported machinery problems.

All the fuels conformed to the ISO 8217 specifications. These fuels had a Acid number (AN) of 3.0 mg KOH/g to 6.85 mg KOH/g. Normal fuels have a AN of 0.2 to 0.3 unless the fuel comes from a naphthenic base in which case an AN of 3.0 is considered acceptable. Viswa Lab also carried out a pH on the extracts of these samples. The values went as low as 5.9 (normal around 7.0), clearly indicating that the samples were acidic. Another important constituent was asphaltene, which was also high in the samples from 8.6% to 13% (normal 2 to 6%).

GCMS analysis (including quantification) revealed presence of styrene up to 11,63 ppm (normally less than 20ppm); DCPD up to 7,050 ppm (normally less than 20ppm), Indene up to 2,635 ppm (normally less than 20ppm), Butoxybutanol up to 170 ppm (normally less than 20ppm), Dihydro-DCPD up to 203 ppm (normally less than 20ppm) and C16 FAME up to 357 ppm (normally less than 100 ppm).

With the contaminants, high asphaltene and high acid number, fuel users complained of piston ring breakage, rapid wear out of fuel pump and fuel nozzles, and gummy deposits choking filters and purifiers. All problems were experienced only after 15 to 20 days of usage of the contaminated fuel.

Viswa Lab closely followed up the analysis and reports from the vessels in order to confirm that these contaminants resulted in problems in the engine. Usually, if the fuel does not present any problem in the first few days, the ship staff assume that there is no fuel related problem. Viswa Lab, based on the detection of the contaminants,

anticipated problems, and continued the follow-up. In some cases damages occurred after 20 days of usage of this fuel.

The supplier/barge operator circulated a note in which he admitted to the possibility of contaminated fuel deliveries in the port of Houston.

The lessons to be drawn are:

- Without qualitative identification and quantification of contaminants as carried out by Viswa Lab, it is difficult to prove that a fuel is contaminated.
- Enough empirical data connecting machinery problems to quantified contamination will help in proper diagnosis of the problem.
- If every supplier/barge operator admitted mistakes, the bunker business world would be a much happier and stress free place!

