

Title: Fuel Guidance

Headline: Fuel Quality in Mexico

By Tom Gahs

There are a number of quality issues concerning fuel obtained in Mexico. There are numerous anecdotal accounts of tank trucks being heavily contaminated with dirt, leaves, sticks, water, even sewage. Recently, low flash point fuel became an issue because the Mexican refinery officials didn't feel there was sufficient market to justify refining marine fuel (min flash point of 140°F, 60°C). It was their intention to supply Automotive Gas Oil (AOG) to USCG vessels (min flash point of only 125°F, 52°C). Because commercial cargo and cruise ships also require 60°C min flash point fuel, i.e., this is not a USCG specific requirement, the problem may eventually resolve itself. Fuel quality in Mexico can be expected to improve dramatically at Acapulco, Cabo San Lucas, Lazaro Cardenas, and Salinas Cruz where Defense Energy Support Center (DESC) bunker contracts were established last January. Naval Purchase Description Marine Gas Oil (NPD MGO) will be available at these four West Coast locations. DESC, as with all their other bunker contracts, will vigorously enforce the quality requirements at these Mexican ports of call. All other fuel purchases in Mexico are open market procurements with no clearly defined purchase specifications. This article will summarize the results of the DESC/USCG fuel quality database for Mexican ports.

The Mexican fuel quality database currently contains 14 samples. Some ports are represented by multiple samples, others only have a single entry. As additional samples are forwarded by cutters on the In-Line Sampling Program, the database will grow and become more and more meaningful.

NPD/F-76 QUALITY CRITERIA:

APPEARANCE. All but one sample (Mazatlan, Sep 00) met the NPD & F-76 Clear & Bright criteria.

ASH. All samples met the NPD criteria and one was just over the F-76 standard (Lazaro Cardenas, Apr 00)

CARBON RESIDUE. All samples met both the NPD and F-76 standards.

CLOUD POINT. No valid cloud point data was obtained.

COLOR. Much of the fuel was dyed using a blue dye. Blue dye has been linked to fuel stability problems.

COPPER CORROSION. All samples met both the NPD and F-76 standards.

DENSITY. All samples met both the NPD and F-76 standards.

90% DISTILLATION POINT. All samples met both the NPD and F-76 standards.

FLASH POINT. All samples met both the NPD and F-76 standards.

CETANE INDEX. All samples met both the NPD and F-76 standards.

SEDIMENT & WATER. All samples met both the NPD and F-76 standards.

SULFUR. All samples met both the NPD and F-76 standards.

VISCOSITY. All samples met both the NPD and F-76 standards.

F-76 INFORMATIONAL CRITERIA:

ACID NUMBER. All samples met the F-76 standards.

DEMULSIFICATION TIME. Not all samples had valid data, those that did, met the F-76 criteria.

DISTILLATION END POINT. All samples met the F-76 standards.

PARTICULATE CONTAMINATION. All but two samples (Mazatlan, Jan 00 & Acapulco May 00) met the F-76 standard.

POUR POINT. All samples met the F-76 standards.

STORAGE STABILITY. Not all samples had valid data, but of those that did only one failed the F-76 criteria (Mazanillo, Jan 01).

TRACE METALS. Only one sample exceeded the F-76 standard for Calcium (Mazanillo, Feb 01).

In summary, Mexican bunker fuel doesn't appear to be as bad as its reputation would have suggested. For the most part, the analyzed samples appeared to be good quality fuel. No one port stood out as being particularly good or bad. However, every so often a measured value shows up that is reason for concern. It's therefore important that cutters outfitted with In-Line Sampling flanges forward fuel samples for analysis when bunkering in Mexico. The addition of DESC bunker contracts in Mexico can only help the quality situation, but the primary QA on those contracts is provided by samples sent in as part of the DESC/USCG In-Line Sampling Program.

The DESC/Navy/USCG Fuel Quality database can be accessed at <http://cgweb.elcbalt.uscg.mil/docs/Fueltest/fueltest.htm>. Any questions should be directed Tom Gahs, ELC-026, voice 410-762-6291, fax 410-762-6203, email TGahs@elcbalt.uscg.mil.