PEPSI

Guatemala

pepsi

<u>Fuel</u>: Diesel
<u>Machine/Type</u>: Truck/Motor
<u>Test</u>: Fuel Efficiency and Maintenance

OBJECTIVE

Evaluation of Xp³ for Diesel's effectiveness in transport units Nos. 950 y 945.

Fuel consumption history, oil analysis, and injectors were checked before Xp³ was added.

Oil analyses were conducted after 5,352 km, with and without Xp³. In addition, a detail record of fuel consumption (km/gallon) was kept for each unit.

CONTROL PARAMETERS

Oil Analysis:

The engine's internal parts wear can be determine by analyzing the used oil, and from there you can then determine the life expectancy of an engine. One (1) ppm is equal to one minute of wear in two years of an engine. However, not all the engine wear can be attributed to the fuel combustion. In this report the only ones analyzed were the ones who showed wear related to combustion: like chrome, soot, lead, oxidation, water and sulfur.

Oil test analysis results:

Wear on Parts per Million (ppm)

Residual	Without Xp³	With Xp³	% Difference
Sulfur	53	28	-47%
Soot	156	90	-42.3%
Water	N	N	N/A
Chrome	25	4	-84%
Lead	12	0	-100%
Oxidation	83	76	-8.4%

Fuel Filters

A fuel filter's function is to trap sediments, sludge, fibers, and water present in the fuel lines and tanks.

The enclosed photographs show the fuel filters from the units before and after the use of Xp³. The first photo is from the non-treated fuel. This is highly contaminated. In contrast, the photograph of the fuel treated with Xp³ shows a drastic reduction of contaminants.

Without Xp³

With Xp³

<u>Injectors Condition</u>

The injectors were reviewed in both cases after driving 5,325 km. An immense reduction of soot and carbon incrustations was obtained with the use of Xp³.

Without Xp³

With Xp³

Fuel Consumption

Consumption was verified by the bottling plant and the Xp³ distributor staff. Both agreed the unit number 950 had 15.72% savings while unit number 945 had 22.50% savings. For the purpose of analyzing the advantages, it was decided to use 9.49% as the projected savings.

Projected Savings Analysis

To project the savings we used two different analysis:

a) Savings in fuel consumption
b) Savings in maintenance

Economic Projections

a) Fuel Savings

Diesel fuel used	40,000 gallons
Quantity of Xp³ per month	10 gallons
Gross savings	9.49%

b) Savings in maintenance:

History:

Units	100 units
When should the unit overhaul take place	every 400,000 Km.

Projected when Xp³ is used:

Units	100 units
When should the unit overhaul take place	every 500,000 Km
Life expectancy increased by 25%	20 months