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Summary and analysis of Fuel Consumption Tests November 03 – 17, 2009

The tests were conducted to evaluate the effectiveness of a Fuel Performance Catalyst commonly referred to as FPC and marketed by Fuel Performance Canada Inc.

OVERVIEW

A group of 13 Concrete Mixer Trucks with three different engine brands, all located at the Langley facility were identified for the test. Historic "computer generated" fuel consumption data was downloaded from each of the units prior to the start of the workday on Tuesday November 03, 2009. The "full tank" onboard fuel in each of the units was treated with FPC prior to the start of work the following morning. At the same time, all the fuel in the bulk fuel tank was treated and a quantity of fuel from the bulk tank was re-circulated in an effort to help blend the catalyst with the fuel already in the tank.

SUMMARY

Eight units were Caterpillar powered.
Three units were Mack powered.
Two units were Cummins Powered.

Seven of the units recorded positive improvement in the range of + 1.47% to + 19.21%
Three of the units recorded decreased efficiency in the range of – 4.35% to – 5.8%
Two units recorded changes of + or - less than 1%.
One unit had an obvious error in the baseline and that data was discarded.

The results based on the average of the twelve units with valid data.

4.53% Fuel Economy Improvement

OBSERVATIONS

As detailed on the attached worksheet there are considerable variations in the outcomes of the data. While these are not surprising, there are a number of factors that may have had an influence.

1. The Baseline data for most of the units was an average collected over the lifetime of operation with an average of just over 5,000 hours each. Two units, (both Macks) had Baseline data of 426 and 1007 hours respectively. These two units both recorded very respectable improvement. The data for the unit with a noticeably corrupt baseline was based on over 14,000 hours. By comparison, the test periods on all units averaged 69 hours. This is not to suggest that any conclusions can be drawn but rather to point out one of several possible contributing factors.
2. The Baseline data for all 13 units was downloaded on Tuesday morning November 03. The fuel in the trucks and the bulk tank was not treated until the following day. All of the trucks that were on the road on Tuesday November 03 were operating without treated fuel and this would have had a small but measurable negative impact on the benefit outcomes for each of those units.
3. Elevation can play a major role. A loaded truck traveling up hill will consume far more fuel than it will save returning downhill empty. According to Google Earth, the Rempel plant in Langley sits at about 60 feet above sea level. A truck traveling from that plant in certain directions will within a relatively short distance need to climb to as much as 200 to over 300 feet. A unit or units making a number of deliveries to one or more of these elevated points over the relatively short test period could well post negative results.
4. Driver Style is another factor that can have significant impact on fuel consumption. An aggressive or inexperienced driver can drive up fuel consumption considerably. This is one more factor that may or may not have influenced some of the less than positive results.

CONCLUSIONS

Even without giving consideration to any of the observations, all of which would appear to have a negative impact on the benefit potential, the results are very positive. Considering these units operate at idle speed an average of almost 60% of the time, the 4.53% improvement makes a compelling endorsement for the product.

Source material for this report was derived from computer generated data downloaded from the on-board computer logs on each of the units and Google Earth website.

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