



**ECO SYSTEMS FUEL ENHANCER  
PRODUCT TESTING REPORT**

**ROAD AND BRIDGE EQUIPMENT  
FABENS WAREHOUSE**

**October 25<sup>th</sup> — November 30<sup>th</sup> 2007**

## To All Interested Parties:

I had the pleasure of meeting an individual by the name of Jay Bennet from ECO Systems Fuel Enhancers. This individual was referred to me by Piti Vasquez of the Purchasers office.

We authorized this individual to install the product on several different vehicles to perform a study in order to prove or disprove his claims that the product would increase fuel economy, add horsepower, and clean the emissions of all the vehicles in which it was installed. We had Installed the product on five (5) different vehicles which are as Follows: 1994 Chevrolet C-1500 Flatbed pick-up, 1999 Chevrolet C-3500 Field Service vehicle, 2000 Freightliner FL-60 our Field Mechanic vehicle, 2004 Sterling Truck/Tractor, and a 2005 Komatsu Loader.

On the 1994 Chevrolet Flatbed pick-up we were having problems *with the* vehicle emissions, we had completed a full service and tune-up, and this vehicle could not pass the emissions inspection. After we had installed the device and drove the vehicle for approximately one hundred (100) miles we checked the vehicle with a gas analyzer. All of the readings for emissions had vastly improved and the vehicle passed the test. The readings are as follows:

Testing area	Before	After
CO – Carbon Monoxide	.80	.25
HC – Hydrocarbons	38	16
CO2 – Carbon Dioxide	7.9	7.0
O2 -- Oxygen	0.1	0.1

As indicated above there were significant reductions in the harmful emissions of this vehicle. The mileage of the vehicle also increased from 12 miles per gallon to over 15 miles per gallon. This will give a cost efficiency savings of approximately 25 % on this vehicle.

We had also placed the device on a 1999 Chevrolet pickup that the hydrocarbons were reading in the 1000 range and it too would not pass inspection. After using the device the emissions have steadily decreased, in fact this vehicle is *now ready for* inspection.

On the 1999 Chevrolet C-3500 which is used as our field service vehicle. There was a longer starting period in the mornings and it had hard starts throughout the day. There was also a lack of horsepower and fuel economy. After installation of the device, starts were more easily obtained and an increase in horsepower was very noticeable. We also had an increase of 2 more miles per gallon.

The 2000 Freightliner FL-60 had an increase of horsepower. This vehicle is sometimes used for pulling equipment that has broken down and needs to be moved from the roadway, the operator says it has more power and pulls the equipment easier since the add-on of this product and it too has had an increase in fuel economy.

The 2004 Sterling Truck/Tractor is used with a belly dump trailer for hauling material wherever needed. This vehicle started with an average MPG of 5.3 mpg and has increased to between 7.5 – 7.8 miles per gallon. The operator also says he has noticed an easier take-off when loaded than before. The vehicle fuel economy has increased with and without loads. He also says the engine is running smoother than before.

The 2005 Komatsu loader was being re-fueled on a daily basis. Since the addition of the device we have had on average a half day longer working period between fueling and there has also been an increase of horsepower noticed as well. Being that this vehicle is constantly in use it will show a great decrease in fuel consumption.

The overall rating of this product has been a success. There is a great benefit in having this product added to our equipment. Not only in the fuel savings but in the emissions that will be reduced from all of our equipment which will cause less pollutants being emitted into the atmosphere. The increase in horsepower means less effort for the equipment doing the same job so efficiency will be improved.

This advantage of a cleaner running vehicle will decrease the amount of oil products used in the scheduled maintenance of all our equipment. This will result in less frequent services being required because the oil *in the* equipment will last longer and still perform at its maximum efficiency. Being that this device can be installed on most of our gasoline and diesel equipment, there will be a cost savings all around.

It's my opinion that the Road and Bridge department will benefit considerably from the addition of this *product on its equipment*. It has proved to be productive in the fuel economy improvements, power enhancements and emission reductions. It should *be considered for* placement in all Road and Bridge equipment.

This product may need to be further tested on other types of vehicles. The equipment here at the road and bridge sees a limited type of usage, than other department s within the county. A wider based testing may need to be required possibly by the sheriffs department where the vehicles are used more vigorously during emergency and other type situations. Further testing will ensure that it is beneficial to the county. This will also ensure that there is a need for this device within the county as a whole.

Mark S. Macias

Equip. Maint, Foreman

Road & Bridge Dept.