

Summary of the September 21, 2009 Emisstar Fuel Consumption Evaluation of the Equity Transportation Truck Using Portable Emissions Measurement Systems.

This testing was performed using Equity Tractor number 0752 which had been in local pickup and delivery service for 103,421 miles prior to the test. For comparison purposes, a new engine with zero carbon build up like the OEM'S use on this type of testing would provide better Hydrocarbon results. The baseline hydrocarbons (THC) for the pre EGR Detroit Diesel Series 60 engine in the test truck is 0.2 THC (g/bhp-hr), the EPA requirements for 2010 is 0.14 THC (g/bhp-hr). In our test the worst THC (g/bhp-hr) was .087 and our best was .041, well below 2010 standards. (*Hydrocarbons are Unburnt fuel*) The truck is powered with a **PRE EGR** Detroit Diesel Series 60 engine without a DPF (Diesel Particulate Filter) using only ***Hydrogen to Clean the Engine*** .

There were three sets of tests performed on the 32.2 mile test loop. (16.1 miles each leg) Test one was with a preset hydrogen flow at a setting of 59 amp's with a cruise speed of 60 mph; Test two was with the same hydrogen flow with a cruise speed of 55 mph; Test three was at an increased hydrogen flow at a setting of 62 amps at a cruise speed of 60 mph. This last test proves that with increased hydrogen flow our THC (g/bhp-hr) is reduced even more even though the engine was working harder in a 19 mph wind. Our belief is that test one and two would have had a .3+ mpg improvement had they been performed with the increased Hydrogen flow providing improved THC (Hydrocarbon) results.

Our best MPG was 9.03 at 55 mph and our worst was 7.508 at 60 mph. Please note the change of wind speed and direction between test one and test two compared to test three. Our best mpg was in test two, which had a 4 mph tail wind and our worst mpg was in test three which had a 13 mph head wind. Another note is the Mileage and THC (Hydrocarbons) information was measured on the tractor/trailer starting from a dead stop for 16.1 miles back to a dead stop, the point of the testing reset. Had this tractor/trailer ran 150 miles straight the test results would have been improved because the starting of the tractor/trailer causes major fuel consumption.