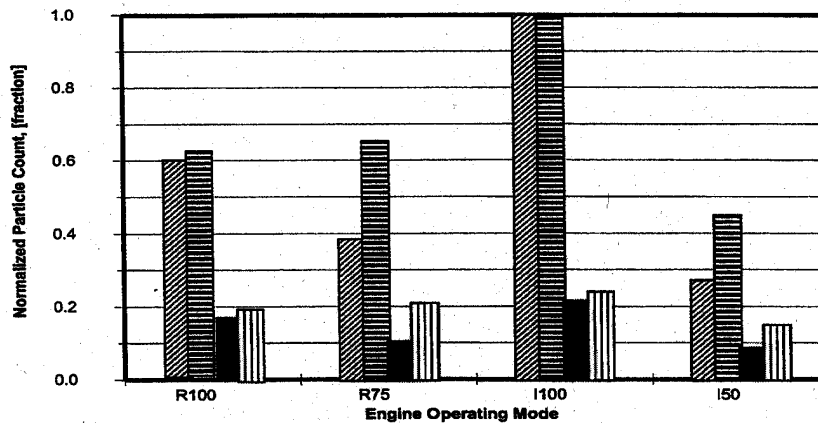


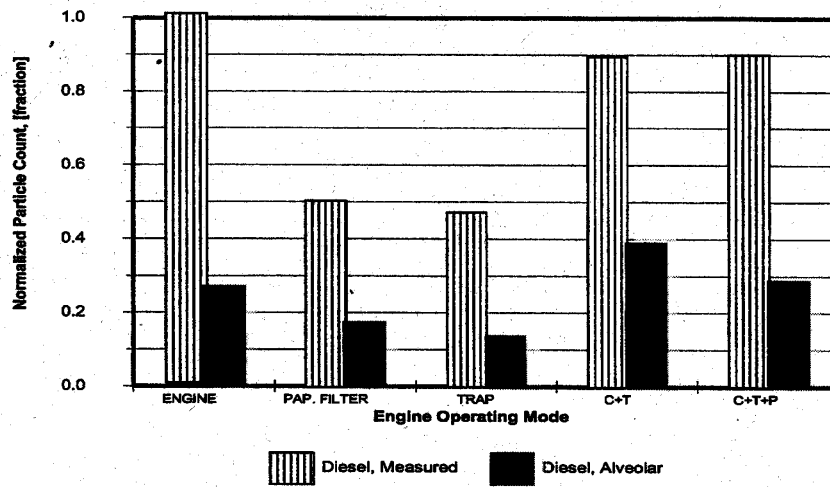
Diesel, Measured      F-T, Measured  
 Diesel, Alveolar      F-T, Alveolar

**Isuzu C-240, Steady-State, Diesel No. 2 and F-T Synthetic Diesel, Untreated Exhaust, Normalized Particle Mass Concentrations, Regional Deposition of DPM, Effects of Fuel Formulation**

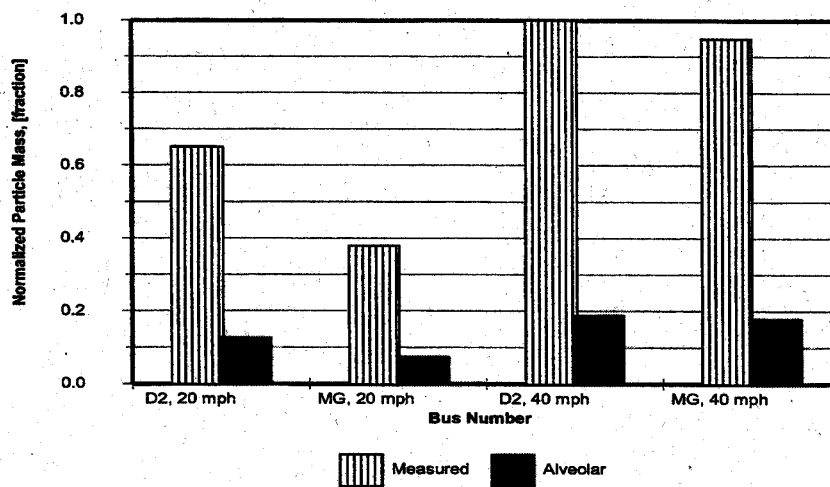


Diesel, Measured      F-T, Measured  
 Diesel, Alveolar      F-T, Alveolar

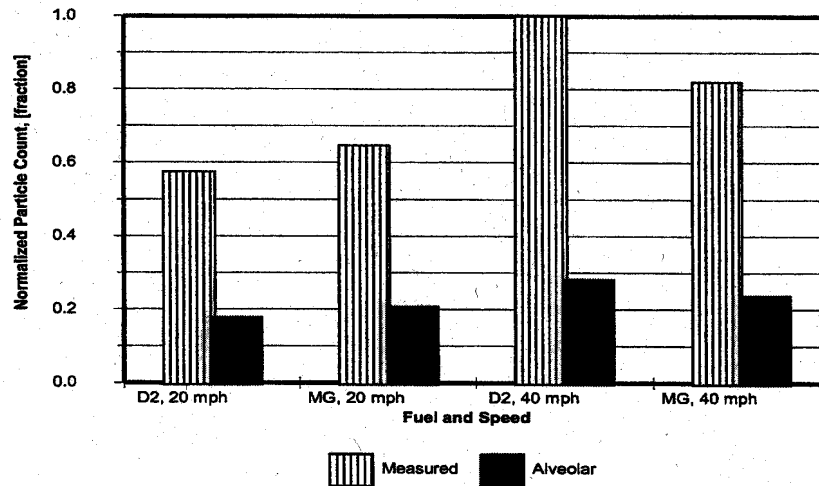
**Isuzu C-240, Steady-State, Diesel No. 2 and F-T Synthetic Diesel, Untreated Exhaust, Normalized Particle Number Concentrations, Regional Deposition of DPM, Effects of Fuel Formulation**



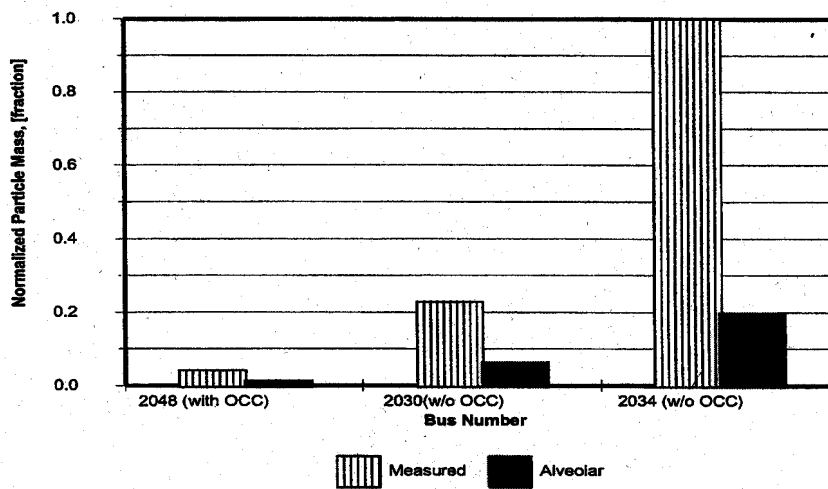
**Isuzu C-240, Steady-State, R-75, Diesel No. 2, Normalized Particle Number Concentrations, Regional Deposition of DPM, Deposition in Alveolar Region, Effects of After-treatment Process**



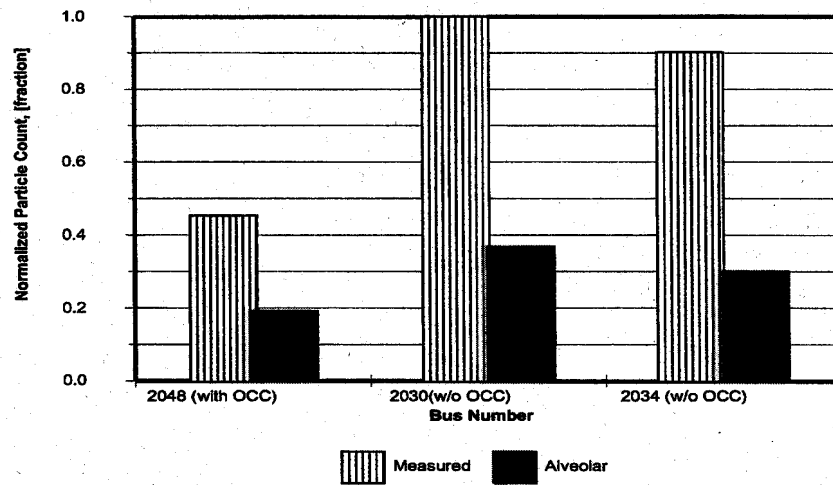
**Orion/DDC 6V92 TA, Bus 2034 without OCC, Steady-State, Diesel No. 2 (D2) and Moss gas (MG), Normalized Particle Mass Concentrations, Regional Deposition of DPM, Deposition in Alveolar Region, Effects of Fuel Formulation**



**Orion/DDC 6V92 TA, Bus 2034 without OCC, Steady-State, Diesel No. 2 (D2) and Mossgas (MG), Normalized Particle Number Concentrations, Regional Deposition of DPM, Deposition in Alveolar Region, Effects of Fuel Formulation**



**Orion/DDC 6V92 TA, Steady-State, 30 mph, Mossgas Synthetic Diesel, Normalized Particle Mass Concentrations, Regional Deposition of DPM, Deposition in Alveolar Region, Vehicle-to-Vehicle Variation**



**Orion/DDC 6V92 TA, Steady-State, 30 mph, Moss gas Synthetic Diesel, Normalized Particle Number Concentrations, Regional Deposition of DPM, Deposition in Alveolar Region, Vehicle-to-Vehicle Variation**

## CONCLUSIONS

- **USE OF SYNTHETIC DIESEL (F-T DIESEL) SHOWED A REDUCTION IN PM MASS EMISSION RATES BUT AN INCREASE IN THE NUMBER OF PARTICLES DEPOSITED IN THE ALVEOLAR REGION.**
- **THE USE OF AN OCC AND CATALYZED TRAP RESULTED IN REDUCTIONS IN THE PARTICLE MASS EMISSIONS AND LOWERED MASS DEPOSITION IN THE ALVEOLAR REGION. HOWEVER, THERE WAS AN INCREASE IN THE NUMBER OF PARTICLES DEPOSITED IN THE ALVEOLAR REGION.**

## **CONCLUSIONS**

- **HENCE, IT IS IMPORTANT THAT COUNT BASED ANALYSIS OF PM EMISSIONS BE CONDUCTED IN ADDITION TO MASS BASED EMISSIONS.**
- **EXHAUST AFTERTREATMENT DEVICES SHOULD BE OPTIMIZED FOR REDUCTIONS IN MASS AND NUMBER OF PM EMISSIONS**