# AUTOMATED CUSTOM SYSTEMS INC.

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December 5, 1985

Microlon Corp.

REFERENCE: EPA 511 Test Program

One-Time Engine Treatment

Dear Jim,

Attached are the summary data sheets covering the two vehicles tested per the E.P.A. 511 Test Program. As you know, both vehicles were procured from Enterprise Leasing, Co. and found to be in good mechanical condition and met all original factory specifications.

Both vehicles were processed identically and for your review, the testing program was conducted as follows:

#### TEST PROCEDURE

- 1.) Obtain a 4 cylinder vehicle from Enterprise Leasing Co.
- 2.) Vehicle Basic Parameter Check
- 3.) Vehicle Oualification

This step assures that the vehicle is in good working order, and most importantly, will provide <u>repeatable</u> test results for fuel economy and emissions

- A.) Oil Change
- B.) 50 Mile Milage Accumulation
- C.) Hot Start LA-4
- D.) Back-to-Back HFET

The vehicle will be rejected if results of  $\underline{D}$  are not repeatable.

- 4.) 1000 Mile Milage Accumulation All Highway driving: 500 miles/day This step is required by EPA to assure the vehicle will be tested in an identical manner to establish a baseline before addition of the additive. (Same drivers used for both milage accumulations, over identical routes, route map attached.)
- 5.) Baseline Test
  - A.) Pre-Condition HFET
  - B.) Hot Start LA-4
  - C.) HFET
  - D.) Hot Start LA-4

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- E.) HFET
- F.) Calculate Baseline Results (See Attached)
- G.) Install additive per manufacturers instructions
- 6.) 1000 Mile Milage Accumulation (Same As Step 4 Above)
- 7.) Parameter Check
  Reset idle speed to factory specifications if required
- 8.) Final Test
  - A.) Pre-Condition HFET
  - B.) Hot Start LA-4
  - C.) HFET
  - D.) Hot Start LA-4
  - E.) HFET
  - F.) Calculate Final Results

The attached results indicate the Following:

### LA-4 Urban Fuel Economy

Both vehicles displayed a significant reduction in CO and HC emissions.

2 Vehicle Average HC 9.2% Reduction CO 16.4% Reduction

One vehicle displayed an increase in NOx (4.88%) and one vehicle displayed a reduction in NOx (-8.87%)

2 Vehicle Average NOx 2% Reduction

One vehicle displayed no change in urban fuel economy with the second vehicle displaying a fuel economy increase of 3.67%

2 Vehicle Average F.E. 1.6% Increase

#### Highway Fuel Economy

One vehicle displayed a reduction of HC emissions (-28.57%) with the second vehicle displaying a slight increase of (2%)

2 Vehicle Average 13.3% Reduction

Both Vehicles displayed a significant reduction in CO emissions

2 Vehicle Average 33.7% Reduction One vehicle displayed a reduction in NOx emissions (26.76%) with the second vehicle displaying an increase of 10%.

2 Vehicle Average 8.4% Reduction

Both vehicles displayed a significant increase in Highway Fuel Economy 7.69% & 4.85%

2 Vehicle Average 6.3% Increase

## SUMMARY

On the two four cylinder vehicles tested, Microlon Engine Treatment produced an increase in fuel economy with a general reduction in vehicle emissions as tested per the United States Environmental Protection Agency published Federal Register.

Fount. Mathews

Loren T. Mathews

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LTM/jms enc.