# Evaporative Emissions from In-Use Vehicles: Test Fleet Expansion (CRC E-77-2b)

## Final Report

Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

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for

Southwest Research Institute

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EPA United States Environmental Protection Agency

EPA-420-R-10-025
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## Vehicle 222b

| Test | Fuel | Test No. | Bag THC mg | GC as % of THC | GC VOC mg | Ozone mg | Reactivity | Species Present |
|---|---|---|---|---|---|---|---|---|
| 86° F | E10 - 10 psi | 7552 | 12.2 | 212.7 | 26.0 | 76.7 | 2.953 | 21 |
| Static | E10 - 7 psi | 7576 | 28.2 | 95.7 | 27.0 | 73.7 | 2.729 | 29 |
| | E0 - 9 psi | 7655 | 6.4 | 79.8 | 5.1 | 28.5 | 5.617 | 10 |
| | E0 - 7 psi | 7712 | 7.0 | 215.7 | 15.1 | 59.6 | 3.957 | 24 |
| 105° F | E10 - 10 psi | 7554 | 20.6 | 163.4 | 33.7 | 119.6 | 3.545 | 32 |
| Static | E10 - 7 psi | 7578 | 28.9 | 111.3 | 32.1 | 134.5 | 4.189 | 41 |
| | E0 - 9 psi | 7659 | 11.7 | 180.8 | 21.2 | 100.3 | 4.734 | 46 |
| | E0 - 7 psi | 7715 | 14.0 | 228.9 | 32.1 | 165.4 | 5.146 | 43 |
| Dynamic | E10 - 10 psi | 25779 | 73.3 | 30.1 | 22.1 | 54.9 | 2.488 | 22 |
| | E10 - 7 psi | 25785 | 51.6 | 66.8 | 34.5 | 81.1 | 2.351 | 21 |
| | E0 - 9 psi | 25791 | 33.5 | 145.1 | 48.6 | 231.3 | 4.759 | 19 |
| | E0 - 7 psi | 25808 | 97.2 | 72.7 | 70.6 | 220.5 | 3.122 | 39 |
| DHB | E10 - 10 psi | 7558 | 257.2 | 70.4 | 181.0 | 525.8 | 2.905 | 68 |
| Total | E10 - 7 psi | 7580 | 287.6 | 93.6 | 269.1 | 853.3 | 3.171 | 66 |
| | E0 - 9 psi | 7696 | 177.2 | 95.4 | 169.1 | 728.2 | 4.307 | 64 |
| | E0 - 7 psi | 7742 | 136.4 | 67.5 | 92.1 | 286.4 | 3.111 | 47 |

## Vehicle 222b – 2004 Ford Focus

| Veh | Fuel psi/EtOH | Test | Type | Date | Test# | Corrected Permeation mg/hr | SHED Results mg/day (Corrected) | Canister Loss g |
|---|---|---|---|---|---|---|---|---|
| 222b | 10.0/E10 | Static (86) | Perm | 05/20/09 | 7552 | 3.7 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 05/21/09 | 7554 | 7.4 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 8.3 | | |
| | | Dynamic | RL | 06/03/09 | 25779 | 73.1 | | 0.00 |
| | | | TEFVO | | | 0.0 | | 0.00 |
| | | 72 DHB | 65-105 | 05/27/09 | 7558 | | | |
| | | Day 1 | | | | | 104.1 | 1.70 |
| | | Day 2 | | | | | 79.7 | 16.00 |
| | | Day 3 | | | | | 73.4 | 30.20 |
| | 7.0/E10 | Static (86) | Perm | 06/17/09 | 7576 | 12.1 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 06/18/09 | 7578 | 16.3 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Dynamic | RL | 07/01/09 | 25785 | 61.7 | | 0.00 |
| | | | TEFVO | | | 0.0 | | 0.00 |
| | | 72 DHB | 65-105 | 06/23/09 | 7580 | | | |
| | | Day 1 | | | | | 99.6 | 0.00 |
| | | Day 2 | | | | | 104.0 | 0.00 |
| | | Day 3 | | | | | 84.0 | 0.00 |
| | 9.0/E0 | Static (86) | Perm | 08/25/09 | 7655 | 3.1 | | 0.00 |
| | | | Press. Incr. | | | 0.5 | | |
| | | | Prs+Fuel Incr. | | | 4.0 | | |
| | | Static (105) | Perm | 08/26/09 | 7659 | 5.8 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.5 | | |
| | | Dynamic | RL | 08/27/09 | 25791 | 45.5 | | 0.00 |
| | | | "True" HS | | | 0.0 | | 0.00 |
| | | 72 DHB | 65-105 | 09/22/09 | 7696 | | | |
| | | Day 1 | | | | | 77.4 | 0.00 |
| | | Day 2 | | | | | 41.9 | 0.00 |
| | | Day 3 | | | | | 57.9 | 0.00 |

**Vehicle 222b - Fuel 7 psi E10 - 3 Day Diurnal - Test 7580**

Non Zero Mass Species Sorted By VOC

| Species | CAS No. | MIR | Composite VOC mg | Ozone mg |
|---|---|---|---|---|
| 2-Methylbutane (Isopentane) | 00078-78-4 | 1.35 | 92.55 | 125.393 |
| Ethanol | 00064-17-5 | 1.45 | 37.91 | 54.925 |
| n-Pentane | 00109-66-0 | 1.21 | 21.15 | 25.692 |
| 2-Methyl-2-butene | 00513-35-9 | 14.20 | 10.63 | 150.891 |
| t-2-Pentene | 00646-04-8 | 10.47 | 10.13 | 106.146 |
| Toluene | 00108-88-3 | 3.93 | 9.02 | 35.392 |
| n-Butane | 00106-97-8 | 1.08 | 8.38 | 9.026 |
| 2-Methyl-1-butene | 00563-46-2 | 6.38 | 7.59 | 48.406 |
| 1-Pentene & 2-Butyne | 00109-67-1+00503-17-3 | 11.70 | 5.40 | 63.239 |
| 2-MePentane & 4-Me-c-2-Pentene | 00691-38-3+00107-83-5 | 1.40 | 5.40 | 7.545 |
| n-Hexane | 00110-54-3 | 1.13 | 5.15 | 5.840 |
| c-2-Pentene | 00627-20-3 | 10.28 | 5.02 | 51.574 |
| Benzene | 00071-43-2 | 0.69 | 3.58 | 2.484 |
| 2,2-DiMeHexane | 00590-73-8 | 0.94 | 3.53 | 3.322 |
| 2,3-Dimethylbutane | 00079-29-8 | 0.90 | 3.29 | 2.954 |
| Methylcyclopentane | 00096-37-7 | 2.05 | 2.78 | 5.694 |
| 3-Methylpentane | 00096-14-0 | 1.69 | 2.68 | 4.528 |
| 1-Methyl-3-Ethylbenzene | 00620-14-4 | 7.39 | 2.45 | 18.079 |
| 2,2,4-TriMePentane (IsoOctane) | 00540-84-1 | 1.20 | 2.29 | 2.748 |
| Cyclohexane | 00110-82-7 | 1.14 | 1.73 | 1.972 |
| meta- & para-Xylenes | 00108-38-3+00106-42-3 | 7.76 | 1.39 | 10.766 |
| 3-Methyl-c-2-pentene | 00922-62-3 | 12.52 | 1.28 | 16.079 |
| 2,3,5-Trimethylhexane | 01069-53-0 | 1.12 | 1.26 | 1.413 |
| 2-Methylpropene & 1-Butene | 00115-11-7+00106-98-9 | 7.94 | 1.14 | 9.033 |
| Cyclohexene & 3-Methylhexane | 00110-83-8+00589-34-4 | 3.19 | 1.10 | 3.503 |
| 2-Methylhexane | 00591-76-4 | 1.09 | 1.08 | 1.174 |
| 2,3,4-Trimethylpentane | 00565-75-3 | 0.95 | 1.01 | 0.957 |
| 2,4-Dimethylpentane | 00108-08-7 | 1.46 | 0.99 | 1.447 |
| Methylcyclohexane | 00108-87-2 | 1.56 | 0.94 | 1.470 |
| c-2-Butene | 00590-18-1 | 14.26 | 0.93 | 13.274 |
| 2,2-Dimethylbutane | 00075-83-2 | 1.11 | 0.90 | 0.998 |
| 2-Methylheptane | 00592-27-8 | 0.97 | 0.86 | 0.834 |
| Cyclopentene | 00142-29-0 | 6.69 | 0.86 | 5.733 |
| 1,2,4-TriMeBenz & t-Butylbenzene | 00095-63-6+00098-06-6 | 5.37 | 0.81 | 4.328 |
| 3 & 4-Methyl-1-Pentenes | 00691-37-2+00760-20-3 | 5.78 | 0.80 | 4.634 |
| n-Heptane | 00142-82-5 | 0.97 | 0.75 | 0.725 |
| 2,2,3-Trimethylbutane | 00464-06-2 | 1.05 | 0.75 | 0.786 |
| t-2-Hexene | 04050-45-7 | 8.55 | 0.74 | 6.294 |
| n-Decane | 00124-18-5 | 0.59 | 0.72 | 0.425 |
| 2,3-Dimethylpentane | 00565-59-3 | 1.25 | 0.69 | 0.858 |
| c-2-Hexene & 3-MeCyclopentene | 07688-21-3+01120-62-3 | 6.61 | 0.65 | 4.312 |
| 2-Methyl-1-pentene & 1-Hexene | 00592-41-6+00763-29-1 | 5.30 | 0.60 | 3.182 |
| c-1,3-Dimethylcyclopentane | 02532-58-3 | 3.17 | 0.60 | 1.904 |
| 3-Methyl-t-2-pentene | 00616-12-6 | 11.66 | 0.57 | 6.636 |

## Vehicle 213b

| Test | Fuel | Test No. | Bag THC mg | GC as % of THC | GC VOC mg | Ozone mg | Reactivity | Species Present |
|---|---|---|---|---|---|---|---|---|
| 86° F | E10 - 10 psi | 7442 | 74.9 | 84.5 | 63.3 | 229.3 | 3.620 | 59 |
| Static | E10 - 7 psi | 7464 | 60.4 | 77.3 | 46.7 | 118.1 | 2.531 | 12 |
| | E0 - 9 psi | 7506 | 34.8 | 88.3 | 30.7 | 102.3 | 3.329 | 41 |
| | E0 - 7 psi | 7526 | 40.9 | 86.2 | 35.3 | 104.0 | 2.947 | 38 |
| 105° F | E10 - 10 psi | 7446 | 228.3 | 105.1 | 239.8 | 761.0 | 3.174 | 78 |
| Static | E10 - 7 psi | 7465 | 159.2 | 87.2 | 138.9 | 440.2 | 3.169 | 64 |
| | E0 - 9 psi | 7507 | 71.1 | 82.7 | 58.8 | 173.0 | 2.943 | 32 |
| | E0 - 7 psi | 7528 | 66.8 | 106.3 | 71.0 | 251.7 | 3.546 | 50 |
| Dynamic | E10 - 10 psi | 25750 | 144.8 | 124.2 | 179.8 | 839.7 | 4.669 | 48 |
| | E10 - 7 psi | 25754 | 284.5 | 88.3 | 251.3 | 879.7 | 3.500 | 60 |
| | E0 - 9 psi | 25764 | 191.7 | 52.9 | 101.4 | 314.8 | 3.105 | 38 |
| | E0 - 7 psi | 25769 | 141.4 | 69.4 | 98.1 | 381.1 | 3.885 | 59 |
| DHB | E10 - 10 psi | 7429 | 1966.7 | 101.3 | 1992.2 | 5290.8 | 2.656 | 92 |
| Total | E10 - 7 psi | 7473 | 1769.4 | 67.1 | 1187.5 | 4082.1 | 3.438 | 80 |
| | E0 - 9 psi | 7516 | 967.5 | 88.7 | 858.6 | 2298.5 | 2.677 | 73 |
| | E0 - 7 psi | 7538 | 917.6 | 94.2 | 864.0 | 2571.4 | 2.976 | 80 |

## Vehicle 213b – 2004 Dodge Ram 1500

| Veh | Fuel psi/EtOH | Test | Type | Date | Test# | Corrected Permeation mg/hr | SHED Results mg/day (Corrected) | Canister Loss g |
|---|---|---|---|---|---|---|---|---|
| 213b | 10.0/E10 | Static (86) | Perm | 01/14/09 | 7442 | 39.2 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 01/15/09 | 7446 | 106.8 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Dynamic | RL | 01/26/09 | 25750 | 130.9 | | 0.00 |
| | | | TEFVO | | | 0.9 | | 0.00 |
| | | 72 DHB | 65-105 | 01/06/09 | 7429 | | | |
| | | Day 1 | | | | | 650.6 | 0.00 |
| | | Day 2 | | | | | 615.4 | 0.00 |
| | | Day 3 | | | | | 700.7 | 1.60 |
| | 7.0/E10 | Static (86) | Perm | 02/11/09 | 7464 | 29.6 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 02/12/09 | 7465 | 82.2 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Dynamic | RL | 02/13/09 | 25754 | 243.1 | | 0.00 |
| | | | TEFVO | | | 60.5 | | 0.00 |
| | | 72 DHB | 65-105 | 02/25/09 | 7473 | | | |
| | | Day 1 | | | | | 602.8 | 0.00 |
| | | Day 2 | | | | | 577.7 | 0.00 |
| | | Day 3 | | | | | 588.9 | 0.00 |
| | 9.0/E0 | Static (86) | Perm | 04/07/09 | 7506 | 14.7 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 04/08/09 | 7507 | 34.5 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Dynamic | RL | 04/09/09 | 25764 | 203.1 | | 0.61 |
| | | | TEFVO | | | 14.5 | | 0.00 |
| | | 72 DHB | 65-105 | 04/14/09 | 7516 | | | |
| | | Day 1 | | | | | 346.3 | 0.00 |
| | | Day 2 | | | | | 328.4 | 0.00 |
| | | Day 3 | | | | | 292.8 | 0.00 |

**Vehicle 213b - Fuel 7 psi E10 - 3 Day Diurnal - Test 7473**

Non Zero Mass Species Sorted By VOC

| Species | CAS No. | MIR | Composite VOC mg | Ozone mg |
|---|---|---|---|---|
| Ethanol | 00064-17-5 | 1.45 | 395.89 | 573.641 |
| Toluene | 00108-88-3 | 3.93 | 94.26 | 369.982 |
| 2-Methylbutane (Isopentane) | 00078-78-4 | 1.35 | 88.04 | 119.281 |
| n-Hexane | 00110-54-3 | 1.13 | 70.01 | 79.440 |
| 1,3-Butadiene | 00106-99-0 | 12.45 | 45.50 | 566.676 |
| Unknown #2 | | 3.44 | 41.56 | 142.858 |
| 2-Methyl-1-butene | 00563-46-2 | 6.38 | 37.14 | 236.925 |
| 1-Methylcyclopentene | 00693-89-0 | 12.45 | 31.23 | 388.904 |
| 3-Methylpentane | 00096-14-0 | 1.69 | 28.27 | 47.799 |
| 2,2,4-TriMePentane (IsoOctane) | 00540-84-1 | 1.20 | 26.08 | 31.278 |
| 2-Methyl-2-butene | 00513-35-9 | 14.20 | 23.92 | 339.483 |
| 2-Methyl-1,3-butadiene | 00078-79-5 | 10.48 | 21.51 | 225.440 |
| Methylcyclopentane | 00096-37-7 | 2.05 | 19.90 | 40.784 |
| Cyclohexane | 00110-82-7 | 1.14 | 18.54 | 21.082 |
| Cyclopentane | 00287-92-3 | 2.24 | 18.49 | 41.375 |
| 2,2-Dimethylpropane | 00463-82-1 | 0.65 | 12.80 | 8.272 |
| Methylcyclohexane | 00108-87-2 | 1.56 | 11.70 | 18.206 |
| 3,3-Dimethyl-1-butene | 00558-37-2 | 5.68 | 11.27 | 64.059 |
| 2-Methylhexane | 00591-76-4 | 1.09 | 10.68 | 11.584 |
| 2,3,4-Trimethylpentane | 00565-75-3 | 0.95 | 10.31 | 9.780 |
| n-Heptane | 00142-82-5 | 0.97 | 9.67 | 9.337 |
| Cyclohexene & 3-Methylhexane | 00110-83-8+00589-34-4 | 3.19 | 9.46 | 30.194 |
| 2,4-Dimethylpentane | 00108-08-7 | 1.46 | 8.44 | 12.310 |
| 1-Pentene & 2-Butyne | 00109-67-1+00503-17-3 | 11.70 | 7.58 | 88.759 |
| t-2-Hexene | 04050-45-7 | 8.55 | 6.94 | 59.321 |
| meta- & para-Xylenes | 00108-38-3+00106-42-3 | 7.76 | 6.90 | 53.491 |
| 2,3-Dimethylpentane | 00565-59-3 | 1.25 | 5.74 | 7.167 |
| 2,2-DiMeHexane | 00590-73-8 | 0.94 | 5.53 | 5.204 |
| 2-Methyl-1-pentene & 1-Hexene | 00592-41-6+00763-29-1 | 5.30 | 5.29 | 28.010 |
| 2-Methylpropane | 00075-28-5 | 1.18 | 5.24 | 6.168 |
| 2,4-Dimethylhexane | 00589-43-5 | 1.61 | 5.17 | 8.301 |
| 1-Butyne | 00107-00-6 | 6.05 | 5.05 | 30.569 |
| 1-Methyl-4-Ethylbenzene | 00622-96-8 | 4.39 | 4.89 | 21.466 |
| 3-Methyl-c-2-pentene | 00922-62-3 | 12.52 | 4.86 | 60.816 |
| 2-Methylpropene & 1-Butene | 00115-11-7+00106-98-9 | 7.94 | 4.69 | 37.221 |
| n-Octane | 00111-65-9 | 0.80 | 4.64 | 3.692 |
| Cyclopentene | 00142-29-0 | 6.69 | 4.16 | 27.845 |
| c-2-Hexene & 3-MeCyclopentene | 07688-21-3+01120-62-3 | 6.61 | 4.15 | 27.435 |
| 2,5-DiMeHexane & EtCyPentane | 00592-13-2+01640-89-7 | 1.61 | 3.98 | 6.384 |
| 2-Methyl-2-pentene | 00625-27-4 | 11.03 | 3.96 | 43.704 |
| 2,2,5-Trimethylhexane | 03522-94-9 | 1.05 | 3.43 | 3.610 |
| 1,2,4-TriMeBenz & t-Butylbenzene | 00095-63-6+00098-06-6 | 5.37 | 3.37 | 18.074 |
| Propane | 00074-98-6 | 0.46 | 3.19 | 1.459 |
| 2,3-DiMeHexane & 2,3-MeEtPentane | 00584-94-1+ | 1.09 | 2.74 | 2.989 |

## Vehicle 210b

| Test | Fuel | Test No. | Bag THC mg | GC as % of THC | GC VOC mg | Ozone mg | Reactivity | Species Present |
|---|---|---|---|---|---|---|---|---|
| 86° F | E10 - 10 psi | 7449 | 51.6 | 89.7 | 46.3 | 143.2 | 3.096 | 49 |
| Static | E10 - 7 psi | 7468 | 63.0 | 96.2 | 60.6 | 186.3 | 3.072 | 56 |
| | E0 - 9 psi | 7523 | 46.2 | 121.3 | 56.1 | 208.1 | 3.712 | 53 |
| | E0 - 7 psi | 7547 | 37.5 | 90.0 | 33.7 | 108.4 | 3.214 | 40 |
| 105° F | E10 - 10 psi | 7451 | 147.3 | 102.1 | 150.3 | 473.4 | 3.150 | 62 |
| Static | E10 - 7 psi | 7471 | 117.5 | 92.6 | 108.8 | 346.6 | 3.186 | 69 |
| | E0 - 9 psi | 7525 | 69.8 | 132.1 | 92.3 | 296.6 | 3.215 | 62 |
| | E0 - 7 psi | 7549 | 74.0 | 104.9 | 77.6 | 270.6 | 3.486 | 48 |
| Dynamic | E10 - 10 psi | 25749 | 198.4 | 85.9 | 170.5 | 569.7 | 3.342 | 52 |
| | E10 - 7 psi | 25756 | 189.1 | 100.1 | 189.2 | 710.5 | 3.754 | 48 |
| | E0 - 9 psi | 25767 | 178.0 | 74.9 | 133.2 | 328.8 | 2.468 | 41 |
| | E0 - 7 psi | 25776 | 234.9 | 84.5 | 198.4 | 848.9 | 4.278 | 32 |
| DHB | E10 - 10 psi | 7462 | 1386.1 | 93.7 | 1298.2 | 3812.8 | 2.937 | 95 |
| Total | E10 - 7 psi | 7482 | 1192.5 | 87.0 | 1037.4 | 3101.2 | 2.989 | 86 |
| | E0 - 9 psi | 7531 | 1143.4 | 88.3 | 1010.2 | 2351.6 | 2.328 | 32 |
| | E0 - 7 psi | 7550 | 758.3 | 87.7 | 665.0 | 1927.4 | 2.898 | 86 |

## Vehicle 210b – 2004 Chevrolet Impala

| Veh | Fuel psi/EtOH | Test | Type | Date | Test# | Corrected Permeation mg/hr | SHED Results mg/day (Corrected) | Canister Loss g |
|---|---|---|---|---|---|---|---|---|
| 210b | 10.0/E10 | Static (86) | Perm | 01/20/09 | 7449 | 19.9 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 01/21/09 | 7451 | 70.1 | | 2.87 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 34.1 | | |
| | | Dynamic | RL | 01/23/09 | 25749 | 147.5 | | 0.00 |
| | | | TEFVO | | | 60.6 | | 0.00 |
| | | 72 DHB | 65-105 | 02/04/09 | 7462 | | | |
| | | Day 1 | | | | | 486.5 | 8.00 |
| | | Day 2 | | | | | 458.3 | 28.30 |
| | | Day 3 | | | | | 441.3 | 34.80 |
| | 7.0/E10 | Static (86) | Perm | 02/18/09 | 7468 | 29.9 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 0.0 | | |
| | | Static (105) | Perm | 02/19/09 | 7471 | 51.9 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 23.2 | | |
| | | Dynamic | RL | 02/23/09 | 25756 | 218.3 | | 0.14 |
| | | | TEFVO | | | 61.8 | | 0.03 |
| | | 72 DHB | 65-105 | 03/10/09 | 7482 | | | |
| | | Day 1 | | | | | 445.1 | 0.00 |
| | | Day 2 | | | | | 388.3 | 0.00 |
| | | Day 3 | | | | | 359.1 | 0.00 |
| | 9.0/E0 | Static (86) | Perm | 04/21/09 | 7523 | 21.2 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 4.0 | | |
| | | Static (105) | Perm | 04/22/09 | 7525 | 33.5 | | 0.00 |
| | | | Press. Incr. | | | 0.0 | | |
| | | | Prs+Fuel Incr. | | | 4.8 | | |
| | | Dynamic | RL | 04/23/09 | 25767 | 171.1 | | 0.00 |
| | | | TEFVO | | | 19.8 | | 0.00 |
| | | 72 DHB | 65-105 | 04/28/09 | 7531 | | | |
| | | Day 1 | | | | | 407.8 | 0.00 |
| | | Day 2 | | | | | 377.4 | 0.00 |
| | | Day 3 | | | | | 358.3 | 30.91 |

**Vehicle 210b - Fuel 7 psi E10 - 3 Day Diurnal - Test 7482**

Non Zero Mass Species Sorted By VOC

| Species | CAS No. | MIR | Composite VOC mg | Ozone mg |
|---|---|---|---|---|
| Ethanol | 00064-17-5 | 1.45 | 189.14 | 274.057 |
| Toluene | 00108-88-3 | 3.93 | 105.48 | 414.004 |
| 2-Methylbutane (Isopentane) | 00078-78-4 | 1.35 | 84.31 | 114.234 |
| n-Hexane | 00110-54-3 | 1.13 | 78.27 | 88.812 |
| 2-MePentane & 4-Me-c-2-Pentene | 00691-38-3+00107-83-5 | 1.40 | 42.94 | 60.023 |
| 2,2,4-TriMePentane (IsoOctane) | 00540-84-1 | 1.20 | 32.59 | 39.085 |
| 3-Methylpentane | 00096-14-0 | 1.69 | 31.61 | 53.452 |
| 2-Methyl-2-butene | 00513-35-9 | 14.20 | 25.77 | 365.852 |
| Benzene | 00071-43-2 | 0.69 | 25.76 | 17.885 |
| n-Propylbenzene | 00103-65-1 | 1.96 | 23.14 | 45.338 |
| n-Pentane | 00109-66-0 | 1.21 | 23.05 | 28.006 |
| Methylcyclopentane | 00096-37-7 | 2.05 | 21.91 | 44.904 |
| t-2-Pentene | 00646-04-8 | 10.47 | 21.33 | 223.407 |
| Cyclohexane | 00110-82-7 | 1.14 | 20.87 | 23.733 |
| n-Butane | 00106-97-8 | 1.08 | 19.35 | 20.836 |
| 2,3-Dimethylbutane | 00079-29-8 | 0.90 | 17.41 | 15.642 |
| Methylcyclohexane | 00108-87-2 | 1.56 | 12.74 | 19.820 |
| Methanol | 00067-56-1 | 0.66 | 12.58 | 8.268 |
| 2-Methylhexane | 00591-76-4 | 1.09 | 12.28 | 13.331 |
| 2,3,4-Trimethylpentane | 00565-75-3 | 0.95 | 12.08 | 11.463 |
| c-2-Pentene | 00627-20-3 | 10.28 | 11.28 | 116.014 |
| Cyclohexene & 3-Methylhexane | 00110-83-8+00589-34-4 | 3.19 | 11.28 | 35.981 |
| n-Heptane | 00142-82-5 | 0.97 | 11.03 | 10.652 |
| 2-Methyl-1-butene | 00563-46-2 | 6.38 | 10.29 | 65.662 |
| 2,4-Dimethylpentane | 00108-08-7 | 1.46 | 9.90 | 14.447 |
| meta- & para-Xylenes | 00108-38-3+00106-42-3 | 7.76 | 9.44 | 73.237 |
| t-2-Hexene | 04050-45-7 | 8.55 | 7.58 | 64.823 |
| 1-Pentene & 2-Butyne | 00109-67-1+00503-17-3 | 11.70 | 7.47 | 87.416 |
| 2,3-Dimethylpentane | 00565-59-3 | 1.25 | 6.60 | 8.243 |
| 2-Methyl-1-pentene & 1-Hexene | 00592-41-6+00763-29-1 | 5.30 | 6.45 | 34.196 |
| 1,2,4-TriMeBenz & t-Butylbenzene | 00095-63-6+00098-06-6 | 5.37 | 6.40 | 34.345 |
| 3-Methyl-t-2-pentene | 00616-12-6 | 11.66 | 5.93 | 69.157 |
| 2,2-DiMeHexane | 00590-73-8 | 0.94 | 5.87 | 5.526 |
| 3-Methyl-c-2-pentene | 00922-62-3 | 12.52 | 5.62 | 70.387 |
| 2,4-Dimethylhexane | 00589-43-5 | 1.61 | 5.56 | 8.934 |
| n-Octane | 00111-65-9 | 0.80 | 5.51 | 4.384 |
| 1-Methyl-3-Ethylbenzene | 00620-14-4 | 7.39 | 5.36 | 39.610 |
| c-2-Butene | 00590-18-1 | 14.26 | 5.21 | 74.262 |
| 1-Methylcyclopentene | 00693-89-0 | 12.45 | 4.83 | 60.185 |
| 2-Methyl-2-pentene | 00625-27-4 | 11.03 | 4.76 | 52.523 |
| Cyclopentene | 00142-29-0 | 6.69 | 4.64 | 31.020 |
| 2-Methylpropene & 1-Butene | 00115-11-7+00106-98-9 | 7.94 | 4.62 | 36.682 |
| c-2-Hexene & 3-MeCyclopentene | 07688-21-3+01120-62-3 | 6.61 | 4.50 | 29.726 |
| 2,5-DiMeHexane & EtCyPentane | 00592-13-2+01640-89-7 | 1.61 | 4.45 | 7.138 |