−0.000323(37.5)) ×98.8=96.332 ppm.

(v) CO_d=(1–0.000323(37.5))×1.195=1.181 ppm.

(vi)

$$C_{CH3OHe} = \frac{(3.813\times10^{-2})\ (527.67)\ [(7.101)\ (15.0)+(0.256)\ (15.0)]}{(725.42)\ (0.2818)} = 10.86\ \text{ppm}$$

(vii) HCe=14.65 −(0.788)(10.86)=6.092.

(viii)

$$DF = \frac{100\ (1/[1+(3.487/2)+3.76\ (1+(3.487/4)-(0.763/2))])}{0.469+(6.092+96.332+10.86+0.664)\ (10^{-4})} = 24.939$$

$$CCH3OH_d = \frac{(3.813\times10^{-2})\ (527.67)\ [(0.439)\ (15.0)+(0.0)\ (15.0)]}{(725.42)\ (1.1389)} = 0.16\ \text{ppm}$$

(x) CH_3OH_{conc}=10.86 − 0.16(1–1/24.939)=10.71 ppm.

(xi) CH_3OH_{mass}=6048.1×37.71×(10.71/1,000,000)=2.44 grams per test phase.

(xii) HC_{conc}=[14.65 − (0.788)(10.86)] − [2.771 − (0.788)(0.16)] (1–1/24.94)=3.553 ppm.

(xiii) HC_{mass}=(6048.1)(16.33)(3.553/1,000,000)=0.35 grams per test phase.

(xiv)

$$C_{HCHOe} = \frac{4.069\times10^{-2}(8.970)\ (5.0)\ (0.1429)\ (527.67)}{(0.2857)\ (725.42)} = 0.664\ \text{ppm}$$

(xv)

$$C_{HCHOd} = \frac{4.069\times10^{-2}(0.39)\ (5.0)\ (0.1429)\ (527.67)}{(1.1043)\ (725.42)} = 0.0075\ \text{ppm}$$

(xvi) $HCHO_{conc}$=0.664–0.0075(1–1/24.939)=0.6568 ppm.

(xvii) $HCHO_{mass}$=(6048.1)(35.36)(0.6568/1,000,000)=0.1405 grams per test phase.

(xviii) THCE=0.35+(13.8756/32.042)(2.44)+(13.8756/30.0262)(0.1405)=1.47 grams per test phase.

(xix) NO_{Xconc}=5.273 − (0.146)(1–1/24.939)=5.13 ppm.

(xx) NO_{Xmass}=(6048.1)(54.16)(5.13/1,000,000)(0.8951)=1.505 grams per test phase.

(xxi) CO_{conc}=96.332 − 1.181(1–1/24.939)=95.2 ppm.

(xxii) CO_{mass}=(6048.1)(32.97)(95.2/1,000,000)=18.98 grams per test phase.

(xxiii) $CO2_{conc}$=0.469–0.039(1–1/24.939)=0.432 percent.

(xxiv) $CO2_{mass}$=(6048.1)(51.85)(0.432/100)=1353 grams.

(xxv) $CH4_{conc}$=2.825–2.019(1–1/24.939)=0.89 ppm.

(xxvi) $NMHC_{conc}$=3.553 ppm − 0.89 ppm=2.67 ppm.

(xxvii) $NMHC_{mass}$=(6048.1)(16.33)(2.67/1,000,000)=0.263 grams per test phase.

(xxviii) $NMHCE_{mass}$=0.263+(13.8756/32.042)(2.44)+(13.8756/30.0262)(0.1405)=1.39 grams per test phase.

(2) For the stabilized portion of the cold start test assume that similar calculations resulted in the following:

(i) THCE=0.143 grams per test phase.

(ii) NO_{Xmass}=0.979 grams per test phase.

(iii) CO_{mass}=0.365 grams per test phase.

(iv) CO_{2mass}=1467 grams per test phase.

(v) D_s=3.854 miles.

(vi) NMHCE=0.113 grams per test phase.

(3) For the ''transient'' portion of the hot start test assume that similar calculations resulted in the following:

(i) THCE=0.488 grams as carbon equivalent per test phase.

(ii) NO_{Xmass}=1.505 grams per test phase.

(iii) CO_{mass}=3.696 grams per test phase.

(iv) CO_{2mass}=1179 grams per test phase.

(v) D_{ht}=3.577 miles.

(vi) NMHCE=0.426 grams per test phase.

(4) Weighted emission results:

(i)

$$THCE_{wm} = (0.43)\frac{(1.473+0.143)}{(3.583+3.854)} + (0.57)\frac{(0.488+0.143)}{(3.577+3.854)} = 0.142\ \text{grams as carbon equivalent per mile}$$

(ii)