December 13, 2007

MOBILE SOURCE EMISSIONS INVENTORY FOR THE CINCINNATI PM2.5 NONATTAINMENT AREA

This report was prepared for the Indiana Department of Environmental Management, the Kentucky Division for Air Quality and the Ohio Environmental Protection Agency. The Cincinnati PM2.5 nonattainment area includes a portion of Dearborn County Indiana, the counties of Boone, Campbell, Kenton in Kentucky, and the counties of Butler, Clermont, Hamilton, and Warren in Ohio. This report includes emission estimates for the years 2005, 2008, 2009 and 2018 and was generated to support the attainment SIPs for the annual PM2.5 standard. The travel demand model VMT estimates and MOBILE6.2 emission factors were originally developed in support of the 8-hour Ozone SIP in June 2007. Please refer to the June 2007 OKI Report "Mobile Source Emissions Inventory for the Cincinnati Ozone Nonattainment Area" for additional details on methodology. 2005, 2008 and 2018 model input and output files are fully documented in that report. Those model runs included direct PM2.5, NOx and SO2 emission information as part of the output, however the 2009 analysis year, and SO2 mobile emissions for all analysis years were not previously documented. Tables 1, 2 and 3 show daily mobile source emissions for the Cincinnat nonattainment area. Tables 4, 5 and 6 show annual mobile source emissions.

Table 1

Daily Mobile Source Emissions Inventory for the Indiana and Ohio Portions of the Cincinnati PM2.5 Nonattainment Area (tons per day)

	2005	**2008**	**2009**	**2018**
PM2.5	2.21	1.71	1.61	0.94
NOx	103.54	84.53	79.43	30.90
SO2	2.09	0.50	0.52	0.57

Table 2

Daily Mobile Source Emissions Inventory for the Kentucky Portion of the Cincinnati PM2.5 Nonattainment Area (tons per day)

	2005	**2008**	**2009**	**2018**
PM2.5	0.44	0.35	0.33	0.20
NOx	25.74	21.36	20.13	8.90
SO2	0.51	0.13	0.13	0.15

Table 3

Daily Mobile Source Emissions by State/County for the Cincinnati PM2.5 Nonattainment Area (tons per day)

State	2005	2008	2009	2018
Indiana				
Dearborn NA				
PM2.5	0.03	0.02	0.02	0.01
NOx	1.46	1.09	1.06	0.43
SO2	0.03	0.01	0.01	0.01
Kentucky				
Boone				
PM2.5	0.17	0.13	0.13	0.07
NOx	9.87	8.09	7.99	3.14
SO2	0.20	0.05	0.05	0.05
Campbell				
PM2.5	0.10	0.08	0.07	0.05
NOx	5.71	4.85	4.48	2.18
SO2	0.11	0.03	0.03	0.04
Kenton				
PM2.5	0.18	0.14	0.13	0.08
NOx	10.16	8.42	7.67	3.58
SO2	0.20	0.05	0.05	0.06
OKI KY Total				
PM2.5	0.44	0.35	0.33	0.20
NOx	25.74	21.36	20.13	8.90
SO2	0.51	0.13	0.13	0.15
Ohio				
Butler				
PM2.5	0.33	0.26	0.24	0.14
NOx	18.78	15.55	14.56	5.73
SO2	0.39	0.09	0.10	0.11
Clermont				
PM2.5	0.22	0.18	0.16	0.11
NOx	12.67	10.90	9.92	4.50
SO2	0.26	0.06	0.07	0.08
Hamilton				
PM2.5	0.98	0.74	0.69	0.39
NOx	56.26	45.16	42.33	15.86
SO2	1.13	0.27	0.27	0.29
Warren				
PM2.5	0.25	0.19	0.19	0.11
NOx	14.38	11.83	11.58	4.38
SO2	0.29	0.07	0.08	0.08
OKI OH Total				
PM2.5	1.77	1.36	1.28	0.74
NOx	102.08	83.44	78.38	30.47
SO2	2.06	0.49	0.51	0.56
NA Area Total				
PM2.5	2.23	1.73	1.62	0.95
NOx	129.28	105.88	99.56	39.80
SO2	0.83	0.20	0.21	0.24

Table 4

Annual Mobile Source Emissions Inventory for the Indiana and Ohio Portions of the Cincinnati PM2.5 Nonattainment Area (tons per year)

	2005	**2008**	**2009**	**2018**
PM2.5	749.70	580.72	545.70	319.60
NOx	35203.94	28739.18	27007.22	10504.98
SO2	711.42	170.33	176.47	194.64

Table 5

Annual Mobile Source Emissions Inventory for the Kentucky Portion of the Cincinnati PM2.5 Nonattainment Area (tons per year)

	2005	**2008**	**2009**	**2018**
PM2.5	149.60	118.66	111.86	67.66
NOx	8751.60	7261.38	6844.54	3026.00
SO2	173.36	42.83	44.55	51.95

Table 6

Annual Mobile Source Emissions by State/County for the Cincinnati PM2.5 Nonattainment Area (tons per year)

State	2005	2008	2009	2018
Indiana				
Dearborn NA				
PM2.5	8.84	6.46	6.12	3.40
NOx	497.76	370.94	359.72	145.86
SO2	10.30	2.37	2.51	2.64
Kentucky				
Boone				
PM2.5	57.12	44.88	44.54	23.80
NOx	3355.80	2749.58	2715.24	1067.94
SO2	66.79	16.30	17.77	18.39
Campbell				
PM2.5	32.98	26.86	24.82	16.66
NOx	1941.06	1649.00	1521.84	740.52
SO2	38.66	9.81	9.95	12.80
Kenton				
PM2.5	59.50	46.92	42.50	27.20
NOx	3454.74	2862.80	2607.46	1217.54
SO2	67.91	16.71	16.83	20.77
OKI KY Total				
PM2.5	149.60	118.66	111.86	67.66
NOx	8751.60	7261.38	6844.54	3026.00
SO2	173.36	42.83	44.55	51.95
Ohio				
Butler				
PM2.5	110.84	86.70	81.60	47.94
NOx	6384.18	5287.68	4949.72	1947.52
SO2	130.93	31.79	32.81	36.65
Clermont				
PM2.5	73.78	59.84	54.74	37.06
NOx	4306.44	3704.30	3371.78	1531.36
SO2	87.23	21.96	22.10	28.41
Hamilton				
PM2.5	331.84	250.58	233.58	130.90
NOx	19128.06	15354.06	14390.50	5392.06
SO2	384.30	90.43	93.34	99.44
Warren				
PM2.5	83.64	64.94	63.92	36.04
NOx	4887.50	4022.20	3935.50	1488.18
SO2	98.65	23.78	25.70	27.51
OKI OH Total				
PM2.5	600.10	462.06	433.84	251.94
NOx	34706.18	28368.24	26647.50	10359.12
SO2	701.11	167.97	173.96	192.00
NA Area Total				
PM2.5	758.54	587.18	551.82	323.00
NOx	43955.54	36000.56	33851.76	13530.98
SO2	282.32	68.97	72.76	82.10

PM Output Reports

2005 MOBILE6.2 PM Output File (OH.PM)

PM emission factors do not vary by state. Ohio PM used for all scenarios.

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: OH.SCN (file 3, run 1).                                   *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2005
                                      Month:  July
               Gasoline Fuel Sulfur Content:   92. ppm
                 Diesel Fuel Sulfur Content:  317. ppm
                       Particle Size Cutoff:  2.50 Microns
                           Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:      0.4050    0.3396    0.1270              0.0359    0.0006    0.0019    0.0845    0.0057    1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:     0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:      0.0039    0.0040    0.0042    0.0041    0.0549    ------    ------    ------    0.0142    0.0055
           ECARBON:      ------    ------    ------    ------    ------    0.1137    0.0412    0.1899    ------    0.0162
           OCARBON:      ------    ------    ------    ------    ------    0.0321    0.0593    0.0954    ------    0.0082
               SO4:      0.0011    0.0016    0.0016    0.0016    0.0033    0.0036    0.0061    0.0197    0.0004    0.0030
  Total Exhaust PM:      0.0050    0.0056    0.0058    0.0056    0.0582    0.1494    0.1066    0.3050    0.0146    0.0329
             Brake:      0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:      0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:      0.0123    0.0129    0.0131    0.0130    0.0657    0.1567    0.1140    0.3169    0.0209    0.0406
               SO2:      0.0208    0.0267    0.0349    0.0289    0.0522    0.0688    0.1177    0.2813    0.0101    0.0479
               NH3:      0.1016    0.1013    0.1007    0.1012    0.0451    0.0068    0.0068    0.0270    0.0113    0.0923
 -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:      GasBUS     URBAN    SCHOOL
                         ------    ------    ------
           VMT Mix:      0.0003    0.0009    0.0016
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:     0.0000    ------    ------
             GASPM:      0.1208    ------    ------
           ECARBON:      ------    0.2993    0.3947
           OCARBON:      ------    0.2351    0.3101
               SO4:      0.0008    0.0327    0.0226
  Total Exhaust PM:      0.1215    0.5671    0.7275
             Brake:      0.0053    0.0053    0.0053
              Tire:      0.0030    0.0030    0.0030
          Total PM:      0.1299    0.5754    0.7358
               SO2:      0.0812    0.4668    0.3230
               NH3:      0.0451    0.0270    0.0270
 -----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2005
                                      Month:  July
               Gasoline Fuel Sulfur Content:   92. ppm
                 Diesel Fuel Sulfur Content:  317. ppm
                       Particle Size Cutoff:  2.50 Microns
                           Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:      0.4050    0.3396    0.1270              0.0359    0.0006    0.0019    0.0845    0.0057    1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:     0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:      0.0039    0.0040    0.0042    0.0041    0.0549    ------    ------    ------    0.0142    0.0055
           ECARBON:      ------    ------    ------    ------    ------    0.1137    0.0412    0.1899    ------    0.0162
           OCARBON:      ------    ------    ------    ------    ------    0.0321    0.0593    0.0954    ------    0.0082
               SO4:      0.0011    0.0016    0.0016    0.0016    0.0033    0.0036    0.0061    0.0197    0.0004    0.0030
  Total Exhaust PM:      0.0050    0.0056    0.0058    0.0056    0.0582    0.1494    0.1066    0.3050    0.0146    0.0329
             Brake:      0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:      0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:      0.0123    0.0129    0.0131    0.0130    0.0657    0.1567    0.1140    0.3169    0.0209    0.0406
               SO2:      0.0208    0.0267    0.0349    0.0289    0.0522    0.0688    0.1177    0.2813    0.0101    0.0479
               NH3:      0.1016    0.1013    0.1007    0.1012    0.0451    0.0068    0.0068    0.0270    0.0113    0.0923
 -----------------------------------------------------------------------------------------------------------------------
         Veh. Type:      GasBUS     URBAN    SCHOOL
                         ------    ------    ------
           VMT Mix:      0.0003    0.0009    0.0016
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:     0.0000    ------    ------
             GASPM:      0.1208    ------    ------
```

```
          ECARBON:    ------    0.2993    0.3947
          OCARBON:    ------    0.2351    0.3101
              SO4:    0.0008    0.0327    0.0226
  Total Exhaust PM:    0.1215    0.5671    0.7275
             Brake:    0.0053    0.0053    0.0053
              Tire:    0.0030    0.0030    0.0030
          Total PM:    0.1299    0.5754    0.7358
               SO2:    0.0812    0.4668    0.3230
               NH3:    0.0451    0.0270    0.0270
-----------------------------------------------------------------------------------------------------------------------
```

2008 MOBILE6.2 PM Output File (OH.PM)

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: OH.SCN (file 3, run 1).                                       *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2008
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:      0.3623    0.3705    0.1385              0.0357    0.0004    0.0020    0.0851    0.0055    1.0000
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:      0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:      0.0038    0.0038    0.0039    0.0038    0.0428    ------    ------    ------    0.0142    0.0049
           ECARBON:      ------    ------    ------    ------    ------    0.0671    0.0295    0.1336    ------    0.0115
           OCARBON:      ------    ------    ------    ------    ------    0.0189    0.0425    0.0675    ------    0.0058
               SO4:      0.0004    0.0005    0.0005    0.0005    0.0014    0.0004    0.0008    0.0027    0.0001    0.0007
  Total Exhaust PM:      0.0041    0.0043    0.0044    0.0043    0.0441    0.0865    0.0729    0.2037    0.0143    0.0229
             Brake:      0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:      0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:      0.0115    0.0116    0.0117    0.0116    0.0516    0.0938    0.0802    0.2155    0.0206    0.0306
               SO2:      0.0068    0.0088    0.0115    0.0095    0.0168    0.0085    0.0160    0.0379    0.0033    0.0112
               NH3:      0.1017    0.1016    0.1012    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113    0.0925
-----------------------------------------------------------------------------------------------------------------------
         Veh. Type:      GasBUS     URBAN    SCHOOL
                         ------    ------    ------
           VMT Mix:      0.0002    0.0009    0.0017
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:      0.0000    ------    ------
             GASPM:      0.1035    ------    ------
           ECARBON:      ------    0.1525    0.3108
           OCARBON:      ------    0.1198    0.2442
               SO4:      0.0004    0.0044    0.0031
  Total Exhaust PM:      0.1039    0.2768    0.5580
             Brake:      0.0053    0.0053    0.0053
              Tire:      0.0030    0.0030    0.0030
          Total PM:      0.1123    0.2851    0.5664
               SO2:      0.0263    0.0627    0.0439
               NH3:      0.0451    0.0270    0.0270
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2008
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:      0.3623    0.3705    0.1385              0.0357    0.0004    0.0020    0.0851    0.0055    1.0000
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
              Lead:      0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:      0.0038    0.0038    0.0039    0.0038    0.0428    ------    ------    ------    0.0142    0.0049
           ECARBON:      ------    ------    ------    ------    ------    0.0671    0.0295    0.1336    ------    0.0115
           OCARBON:      ------    ------    ------    ------    ------    0.0189    0.0425    0.0675    ------    0.0058
               SO4:      0.0004    0.0005    0.0005    0.0005    0.0014    0.0004    0.0008    0.0027    0.0001    0.0007
  Total Exhaust PM:      0.0041    0.0043    0.0044    0.0043    0.0441    0.0865    0.0729    0.2037    0.0143    0.0229
             Brake:      0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:      0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:      0.0115    0.0116    0.0117    0.0116    0.0516    0.0938    0.0802    0.2155    0.0206    0.0306
               SO2:      0.0068    0.0088    0.0115    0.0095    0.0168    0.0085    0.0160    0.0379    0.0033    0.0112
               NH3:      0.1017    0.1016    0.1012    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113    0.0925
-----------------------------------------------------------------------------------------------------------------------
         Veh. Type:      GasBUS     URBAN    SCHOOL
```

```
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0017
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    ------    ------
             GASPM:    0.1035    ------    ------
            ECARBON:    ------    0.1525    0.3108
            OCARBON:    ------    0.1198    0.2442
                SO4:    0.0004    0.0044    0.0031
   Total Exhaust PM:    0.1039    0.2768    0.5580
              Brake:    0.0053    0.0053    0.0053
               Tire:    0.0030    0.0030    0.0030
           Total PM:    0.1123    0.2851    0.5664
                SO2:    0.0263    0.0627    0.0439
                NH3:    0.0451    0.0270    0.0270
 ---------------------------------------------------------------------------------------------------------------
```

2009 MOBILE6.2 PM Output File (OH.PM)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: OH.SCN (file 3, run 1).                                   *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2009
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3493    0.3797    0.1419              0.0358    0.0003    0.0021    0.0854    0.0054    1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0037    0.0038    0.0037    0.0374    ------    ------    ------    0.0142    0.0047
            ECARBON:    ------    ------    ------    ------    ------    0.0543    0.0230    0.1140    ------    0.0098
            OCARBON:    ------    ------    ------    ------    ------    0.0153    0.0331    0.0577    ------    0.0050
                SO4:    0.0003    0.0005    0.0005    0.0005    0.0015    0.0004    0.0008    0.0027    0.0001    0.0006
   Total Exhaust PM:    0.0041    0.0042    0.0043    0.0042    0.0389    0.0701    0.0569    0.1744    0.0143    0.0201
              Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
               Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
           Total PM:    0.0114    0.0115    0.0116    0.0115    0.0464    0.0774    0.0643    0.1862    0.0206    0.0278
                SO2:    0.0068    0.0088    0.0115    0.0095    0.0167    0.0085    0.0161    0.0379    0.0033    0.0112
                NH3:    0.1017    0.1016    0.1013    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113    0.0925
 ---------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    ------    ------
             GASPM:    0.0928    ------    ------
            ECARBON:    ------    0.1201    0.2929
            OCARBON:    ------    0.0944    0.2301
                SO4:    0.0005    0.0044    0.0031
   Total Exhaust PM:    0.0933    0.2189    0.5261
              Brake:    0.0053    0.0053    0.0053
               Tire:    0.0030    0.0030    0.0030
           Total PM:    0.1016    0.2272    0.5344
                SO2:    0.0262    0.0627    0.0439
                NH3:    0.0451    0.0270    0.0270
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2009
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3493    0.3797    0.1419              0.0358    0.0003    0.0021    0.0854    0.0054    1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0037    0.0038    0.0037    0.0374    ------    ------    ------    0.0142    0.0047
            ECARBON:    ------    ------    ------    ------    ------    0.0543    0.0230    0.1140    ------    0.0098
            OCARBON:    ------    ------    ------    ------    ------    0.0153    0.0331    0.0577    ------    0.0050
                SO4:    0.0003    0.0005    0.0005    0.0005    0.0015    0.0004    0.0008    0.0027    0.0001    0.0006
   Total Exhaust PM:    0.0041    0.0042    0.0043    0.0042    0.0389    0.0701    0.0569    0.1744    0.0143    0.0201
              Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
```

```
              Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:    0.0114    0.0115    0.0116    0.0115    0.0464    0.0774    0.0643    0.1862    0.0206    0.0278
               SO2:    0.0068    0.0088    0.0115    0.0095    0.0167    0.0085    0.0161    0.0379    0.0033    0.0112
               NH3:    0.1017    0.1016    0.1013    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113    0.0925
-----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0002    0.0009    0.0018
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
               Lead:    0.0000    ------    ------
             GASPM:    0.0928    ------    ------
           ECARBON:    ------    0.1201    0.2929
           OCARBON:    ------    0.0944    0.2301
               SO4:    0.0005    0.0044    0.0031
  Total Exhaust PM:    0.0933    0.2189    0.5261
             Brake:    0.0053    0.0053    0.0053
              Tire:    0.0030    0.0030    0.0030
          Total PM:    0.1016    0.2272    0.5344
               SO2:    0.0262    0.0627    0.0439
               NH3:    0.0451    0.0270    0.0270
-----------------------------------------------------------------------------------------------------------------------
```

2018 MOBILE6.2 PM Output File (OH.PM)

```
******************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                 *
* Input file: OH.SCN (file 3, run 1).                                        *
******************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2018
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:      0.2770    0.4319    0.1614              0.0359    0.0002    0.0024    0.0861    0.0051    1.0000
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0036    0.0034    0.0034    0.0034    0.0138    ------    ------    ------    0.0142    0.0036
           ECARBON:    ------    ------    ------    ------    ------    0.0103    0.0048    0.0220    ------    0.0019
           OCARBON:    ------    ------    ------    ------    ------    0.0029    0.0069    0.0113    ------    0.0010
               SO4:    0.0003    0.0005    0.0005    0.0005    0.0018    0.0004    0.0008    0.0026    0.0001    0.0007
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0155    0.0136    0.0125    0.0359    0.0143    0.0072
             Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:    0.0112    0.0113    0.0113    0.0113    0.0230    0.0210    0.0199    0.0477    0.0206    0.0149
               SO2:    0.0068    0.0088    0.0115    0.0096    0.0165    0.0084    0.0161    0.0377    0.0033    0.0114
               NH3:    0.1017    0.1017    0.1017    0.1017    0.0451    0.0068    0.0068    0.0270    0.0113    0.0925
-----------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0001    0.0010    0.0019
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
               Lead:    0.0000    ------    ------
             GASPM:    0.0270    ------    ------
           ECARBON:    ------    0.0259    0.0401
           OCARBON:    ------    0.0204    0.0315
               SO4:    0.0013    0.0044    0.0031
  Total Exhaust PM:    0.0283    0.0506    0.0747
             Brake:    0.0053    0.0053    0.0053
              Tire:    0.0030    0.0030    0.0030
          Total PM:    0.0366    0.0590    0.0830
               SO2:    0.0254    0.0623    0.0440
               NH3:    0.0451    0.0270    0.0270
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2018
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:      0.2770    0.4319    0.1614              0.0359    0.0002    0.0024    0.0861    0.0051    1.0000
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0036    0.0034    0.0034    0.0034    0.0138    ------    ------    ------    0.0142    0.0036
           ECARBON:    ------    ------    ------    ------    ------    0.0103    0.0048    0.0220    ------    0.0019
```

OCARBON:	------	------	------	------	------	0.0029	0.0069	0.0113	------	0.0010
SO4:	0.0003	0.0005	0.0005	0.0005	0.0018	0.0004	0.0008	0.0026	0.0001	0.0007
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0155	0.0136	0.0125	0.0359	0.0143	0.0072
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0112	0.0113	0.0113	0.0113	0.0230	0.0210	0.0199	0.0477	0.0206	0.0149
SO2:	0.0068	0.0088	0.0115	0.0096	0.0165	0.0084	0.0161	0.0377	0.0033	0.0114
NH3:	0.1017	0.1017	0.1017	0.1017	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

Veh. Type:	GasBUS	URBAN	SCHOOL
	------	------	------
VMT Mix:	0.0001	0.0010	0.0019

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0270	------	------
ECARBON:	------	0.0259	0.0401
OCARBON:	------	0.0204	0.0315
SO4:	0.0013	0.0044	0.0031
Total Exhaust PM:	0.0283	0.0506	0.0747
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.0366	0.0590	0.0830
SO2:	0.0254	0.0623	0.0440
NH3:	0.0451	0.0270	0.0270

2009 MOBILE6.2 Input/Output Files for Indiana Portion of Nonattainment Area
(2009 files not previously documented)

2009 VMT by Speed Bin (INSVMT.D)

```
SPEED VMT
1  1 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0135 0.0092 0.0000 0.0000 0.0000 0.0000 0.9773
1  2 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0047 0.0071 0.0081 0.0000 0.0000 0.0000 0.0000 0.9802
1  3 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0043 0.0066 0.0075 0.0000 0.0000 0.0000 0.0000 0.9817
1  4 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0108 0.0074 0.0000 0.0000 0.0000 0.0000 0.9817
1  5 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0105 0.0072 0.0000 0.0000 0.0000 0.0000 0.9822
1  6 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0112 0.0077 0.0000 0.0000 0.0000 0.0000 0.9811
1  7 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0109 0.0075 0.0000 0.0000 0.0000 0.0000 0.9816
1  8 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0105 0.0072 0.0000 0.0000 0.0000 0.0000 0.9823
1  9 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0101 0.0069 0.0000 0.0000 0.0000 0.0000 0.9830
1 10 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0097 0.0066 0.0000 0.0000 0.0000 0.0000 0.9837
1 11 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0094 0.0064 0.0000 0.0000 0.0000 0.0000 0.9842
1 12 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0078 0.0054 0.0000 0.0000 0.0000 0.0000 0.9868
1 13 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0077 0.0053 0.0000 0.0000 0.0000 0.0000 0.9870
1 14 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0093 0.0064 0.0000 0.0000 0.0000 0.0000 0.9844
1 15 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0094 0.0064 0.0000 0.0000 0.0000 0.0000 0.9842
1 16 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0089 0.0061 0.0000 0.0000 0.0000 0.0000 0.9850
1 17 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0100 0.0069 0.0000 0.0000 0.0000 0.0000 0.9831
1 18 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0087 0.0060 0.0000 0.0000 0.0000 0.0000 0.9853
1 19 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0103 0.0071 0.0000 0.0000 0.0000 0.0000 0.9826
1 20 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0114 0.0078 0.0000 0.0000 0.0000 0.0000 0.9807
1 21 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0109 0.0075 0.0000 0.0000 0.0000 0.0000 0.9815
1 22 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0115 0.0079 0.0000 0.0000 0.0000 0.0000 0.9806
1 23 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0117 0.0080 0.0000 0.0000 0.0000 0.0000 0.9802
1 24 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0122 0.0084 0.0000 0.0000 0.0000 0.0000 0.9794
2  1 0.0000 0.0000 0.0000 0.1797 0.0096 0.0940 0.0464 0.0844 0.5860 0.0000 0.0000 0.0000 0.0000 0.0000
2  2 0.0000 0.0000 0.0000 0.1896 0.0098 0.0939 0.0501 0.0808 0.5759 0.0000 0.0000 0.0000 0.0000 0.0000
2  3 0.0000 0.0000 0.0000 0.1972 0.0099 0.0945 0.0502 0.0817 0.5664 0.0000 0.0000 0.0000 0.0000 0.0000
2  4 0.0000 0.0000 0.0000 0.2265 0.0101 0.0881 0.0418 0.0828 0.5507 0.0000 0.0000 0.0000 0.0000 0.0000
2  5 0.0000 0.0000 0.0000 0.2338 0.0102 0.0874 0.0413 0.0828 0.5445 0.0000 0.0000 0.0000 0.0000 0.0000
2  6 0.0000 0.0000 0.0000 0.2207 0.0099 0.0869 0.0413 0.0816 0.5595 0.0000 0.0000 0.0000 0.0000 0.0000
2  7 0.0000 0.0000 0.0000 0.2412 0.0102 0.0846 0.0395 0.0812 0.5434 0.0000 0.0000 0.0000 0.0000 0.0000
2  8 0.0000 0.0000 0.0000 0.2459 0.0103 0.0855 0.0399 0.0821 0.5362 0.0000 0.0000 0.0000 0.0000 0.0000
2  9 0.0000 0.0000 0.0000 0.2423 0.0103 0.0866 0.0406 0.0827 0.5376 0.0000 0.0000 0.0000 0.0000 0.0000
2 10 0.0000 0.0000 0.0000 0.2583 0.0105 0.0850 0.0393 0.0825 0.5243 0.0000 0.0000 0.0000 0.0000 0.0000
2 11 0.0000 0.0000 0.0000 0.2458 0.0105 0.0879 0.0412 0.0838 0.5309 0.0000 0.0000 0.0000 0.0000 0.0000
2 12 0.0000 0.0000 0.0000 0.2281 0.0103 0.0913 0.0436 0.0852 0.5415 0.0000 0.0000 0.0000 0.0000 0.0000
2 13 0.0000 0.0000 0.0000 0.2276 0.0106 0.0956 0.0459 0.0882 0.5322 0.0000 0.0000 0.0000 0.0000 0.0000
2 14 0.0000 0.0000 0.0000 0.2148 0.0106 0.0989 0.0481 0.0898 0.5378 0.0000 0.0000 0.0000 0.0000 0.0000
2 15 0.0000 0.0000 0.0000 0.2346 0.0107 0.0957 0.0458 0.0887 0.5244 0.0000 0.0000 0.0000 0.0000 0.0000
2 16 0.0000 0.0000 0.0000 0.2361 0.0107 0.0942 0.0449 0.0877 0.5265 0.0000 0.0000 0.0000 0.0000 0.0000
2 17 0.0000 0.0000 0.0000 0.2287 0.0104 0.0917 0.0438 0.0856 0.5399 0.0000 0.0000 0.0000 0.0000 0.0000
2 18 0.0000 0.0000 0.0000 0.2554 0.0107 0.0892 0.0416 0.0853 0.5178 0.0000 0.0000 0.0000 0.0000 0.0000
2 19 0.0000 0.0000 0.0000 0.2201 0.0095 0.0805 0.0379 0.0770 0.5750 0.0000 0.0000 0.0000 0.0000 0.0000
2 20 0.0000 0.0000 0.0000 0.2112 0.0094 0.0819 0.0389 0.0775 0.5812 0.0000 0.0000 0.0000 0.0000 0.0000
2 21 0.0000 0.0000 0.0000 0.2481 0.0106 0.0887 0.0416 0.0847 0.5264 0.0000 0.0000 0.0000 0.0000 0.0000
2 22 0.0000 0.0000 0.0000 0.2143 0.0102 0.0941 0.0455 0.0864 0.5494 0.0000 0.0000 0.0000 0.0000 0.0000
2 23 0.0000 0.0000 0.0000 0.2130 0.0104 0.0966 0.0468 0.0881 0.5451 0.0000 0.0000 0.0000 0.0000 0.0000
2 24 0.0000 0.0000 0.0000 0.2051 0.0101 0.0947 0.0460 0.0863 0.5578 0.0000 0.0000 0.0000 0.0000 0.0000
```

2009 VMT by Facility (INFVMT.D)

```
VMT BY FACILITY
    1 0.244 0.539 0.211 0.006
      0.266 0.516 0.212 0.005
      0.269 0.508 0.217 0.005
      0.267 0.493 0.235 0.005
      0.266 0.489 0.240 0.005
      0.262 0.501 0.231 0.005
      0.258 0.491 0.246 0.005
      0.258 0.487 0.251 0.005
      0.266 0.483 0.246 0.005
      0.269 0.471 0.256 0.004
      0.274 0.475 0.247 0.004
      0.309 0.462 0.225 0.004
      0.298 0.467 0.232 0.004
      0.263 0.497 0.236 0.004
      0.254 0.490 0.252 0.004
      0.267 0.482 0.247 0.004
```

```
      0.264 0.491 0.241 0.005
      0.280 0.463 0.253 0.004
      0.302 0.479 0.213 0.005
      0.286 0.495 0.213 0.006
      0.254 0.485 0.256 0.005
      0.246 0.512 0.237 0.005
      0.235 0.519 0.242 0.005
      0.238 0.524 0.233 0.005
...
Identical distribution for all veh. types with the exception of diesel
transit buses
   26 0.010 0.949 0.035 0.002
      0.010 0.949 0.035 0.002
      0.010 0.949 0.035 0.002
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.010 0.949 0.035 0.002
      0.010 0.949 0.035 0.002
      0.010 0.949 0.035 0.002
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
      0.003 0.963 0.030 0.004
```

2009 MOBILE6.2 Input File (IN.SCN)

```
* Mobile6 file for Dearborn County, IN
* created 4/9/07, ajr post em62in.06c
******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : HC NOx CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE
REPORT FILE        : in.rpt
DATABASE OUTPUT    :
WITH FIELDNAMES    :
DATABASE EMISSIONS : 2211 1111 22
DAILY OUTPUT       :
EMISSIONS TABLE    : inemiss.tb1
RUN DATA
******************  Run Section  ***************************
VMT BY HOUR        : INHVMT.D
SPEED VMT          : INSVMT.D
VMT BY FACILITY    : INFVMT.D
EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.30
******************  Summer Scenario Section  **********************
SCENARIO RECORD    : Indiana Emissions - CY20xx
CALENDAR YEAR      : 2009
EVALUATION MONTH   : 7
SEASON             : 1
MIN/MAX TEMP       : 61.0 95.0
FUEL PROGRAM       : 1
FUEL RVP           : 9.0
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
******************  Annual Scenario Section  **********************
SCENARIO RECORD    : Indiana Emissions - CY20xx
```

```
CALENDAR YEAR      : 2009
EVALUATION MONTH   : 7
MIN/MAX TEMP       : 47.0 64.0
FUEL PROGRAM       : 1
FUEL RVP           : 9.0
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  End of Run  ****************************
END OF RUN
```

2009 MOBILE6.2 Output Report (IN.RPT)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: IN.SCN (file 1, run 1).                                   *
*************************************************************************

* Reading Hourly VMT distribution from the following external
* data file: INHVMT.D

* Reading Hourly, Roadway, and Speed VMT dist. from the following external
* data file: INSVMT.D

* Reading Hourly Roadway VMT distribution from the following external
* data file: INFVMT.D

  Reading User Supplied ROADWAY VMT Factors

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Indiana Emissions - CY20xx

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M616 Comment:
               User has supplied post-1999 sulfur levels.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.30.

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2009
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  61.0 (F)
              Maximum Temperature:  95.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   8.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
                GVWR:                <6000     >6000     (All)
                          ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:      0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.979     1.005     1.711     1.186     1.510     0.250     0.526     0.477      3.34     1.072
     Composite CO  :      9.35     10.90     15.02     11.95     12.72     1.112     0.917     2.414     20.91    10.250
     Composite NOX :      0.638     0.796     1.180     0.894     2.557     0.597     0.925     8.840      1.21     1.547
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
-------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

```
     Composite VOC :     5.866     0.336     0.702
     Composite CO  :    45.37      3.078     2.624
     Composite NOX :     7.533    12.368    11.380
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Indiana Emissions - CY20xx

* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M616 Comment:
               User has supplied post-1999 sulfur levels.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2009
                            Month:  July
                         Altitude:  Low
             Minimum Temperature:  47.0 (F)
             Maximum Temperature:  64.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
  -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.803     0.899     1.515     1.056     1.135     0.250     0.526     0.477      2.18     0.923
     Composite CO  :     11.66     13.95     18.81     15.19     12.80     1.112     0.917     2.414     17.73    12.721
     Composite NOX :      0.619     0.828     1.232     0.931     2.619     0.597     0.925     8.840      1.42     1.562
  -----------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
-----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     4.466     0.336     0.702
     Composite CO  :    45.64      3.078     2.624
     Composite NOX :     7.716    12.368    11.380
-----------------------------------------------------------------------------------------------------------------------
```

2009 MOBILE6.2 PM Output Report (IN.PM)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: IN.SCN (file 1, run 1).                                   *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Indiana Emissions - CY20xx

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2009
                                      Month:  July
               Gasoline Fuel Sulfur Content:   30. ppm
                 Diesel Fuel Sulfur Content:   43. ppm
                       Particle Size Cutoff:  2.50 Microns
                           Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0038    0.0042    0.0039    0.0374    ------    ------    ------    0.0142    0.0047
```

```
          ECARBON:    ------    ------    ------    ------    ------    0.0463    0.0257    0.1140    ------    0.0099
          OCARBON:    ------    ------    ------    ------    ------    0.0131    0.0370    0.0577    ------    0.0050
              SO4:    0.0003    0.0005    0.0005    0.0005    0.0014    0.0004    0.0008    0.0027    0.0001    0.0007
  Total Exhaust PM:   0.0041    0.0043    0.0047    0.0044    0.0388    0.0598    0.0635    0.1744    0.0143    0.0203
            Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
             Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
         Total PM:    0.0114    0.0116    0.0120    0.0117    0.0463    0.0671    0.0708    0.1862    0.0206    0.0280
              SO2:    0.0068    0.0088    0.0114    0.0095    0.0167    0.0085    0.0160    0.0379    0.0033    0.0112
              NH3:    0.1017    0.1012    0.1001    0.1009    0.0451    0.0068    0.0068    0.0270    0.0113    0.0921
-----------------------------------------------------------------------------------------------------------------------
        Veh. Type:    GasBUS     URBAN    SCHOOL
                      ------    ------    ------
          VMT Mix:    0.0002    0.0009    0.0018
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
             Lead:    0.0000    ------    ------
            GASPM:    0.0928    ------    ------
          ECARBON:    ------    0.1201    0.2929
          OCARBON:    ------    0.0944    0.2301
              SO4:    0.0005    0.0044    0.0031
  Total Exhaust PM:   0.0933    0.2189    0.5261
            Brake:    0.0053    0.0053    0.0053
             Tire:    0.0030    0.0030    0.0030
         Total PM:    0.1016    0.2272    0.5344
              SO2:    0.0262    0.0627    0.0439
              NH3:    0.0451    0.0270    0.0270
-----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Indiana Emissions - CY20xx

* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #

                           Calendar Year:  2009
                                   Month:  July
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   43. ppm
                     Particle Size Cutoff:  2.50 Microns
                         Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:   0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
             Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
            GASPM:    0.0037    0.0038    0.0042    0.0039    0.0374    ------    ------    ------    0.0142    0.0047
          ECARBON:    ------    ------    ------    ------    ------    0.0463    0.0257    0.1140    ------    0.0099
          OCARBON:    ------    ------    ------    ------    ------    0.0131    0.0370    0.0577    ------    0.0050
              SO4:    0.0003    0.0005    0.0005    0.0005    0.0014    0.0004    0.0008    0.0027    0.0001    0.0007
  Total Exhaust PM:   0.0041    0.0043    0.0047    0.0044    0.0388    0.0598    0.0635    0.1744    0.0143    0.0203
            Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
             Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
         Total PM:    0.0114    0.0116    0.0120    0.0117    0.0463    0.0671    0.0708    0.1862    0.0206    0.0280
              SO2:    0.0068    0.0088    0.0114    0.0095    0.0167    0.0085    0.0160    0.0379    0.0033    0.0112
              NH3:    0.1017    0.1012    0.1001    0.1009    0.0451    0.0068    0.0068    0.0270    0.0113    0.0921
-----------------------------------------------------------------------------------------------------------------------
        Veh. Type:    GasBUS     URBAN    SCHOOL
                      ------    ------    ------
          VMT Mix:    0.0002    0.0009    0.0018
-----------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
             Lead:    0.0000    ------    ------
            GASPM:    0.0928    ------    ------
          ECARBON:    ------    0.1201    0.2929
          OCARBON:    ------    0.0944    0.2301
              SO4:    0.0005    0.0044    0.0031
  Total Exhaust PM:   0.0933    0.2189    0.5261
            Brake:    0.0053    0.0053    0.0053
             Tire:    0.0030    0.0030    0.0030
         Total PM:    0.1016    0.2272    0.5344
              SO2:    0.0262    0.0627    0.0439
              NH3:    0.0451    0.0270    0.0270
-----------------------------------------------------------------------------------------------------------------------
```

2009 MOBILE6.2 Input/Output Files for Kentucky Portion of Nonattainment Area

2009 VMT by Speed Bin (KYSVMT.D)

```
SPEED VMT
1  1 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0009 0.0164 0.0254 0.0429 0.0395 0.0602 0.1798 0.6350
1  2 0.0000 0.0000 0.0011 0.0035 0.0000 0.0008 0.0046 0.0111 0.0176 0.0444 0.0344 0.0942 0.1585 0.6299
1  3 0.0000 0.0009 0.0034 0.0007 0.0004 0.0011 0.0067 0.0097 0.0387 0.0961 0.0584 0.0993 0.0771 0.6075
1  4 0.0000 0.0000 0.0000 0.0005 0.0000 0.0026 0.0075 0.0138 0.0189 0.0525 0.0276 0.1042 0.1540 0.6183
1  5 0.0000 0.0000 0.0000 0.0000 0.0006 0.0003 0.0076 0.0116 0.0231 0.0463 0.0413 0.0630 0.1807 0.6255
1  6 0.0000 0.0000 0.0000 0.0000 0.0006 0.0000 0.0081 0.0120 0.0239 0.0452 0.0439 0.0637 0.1802 0.6224
1  7 0.0000 0.0000 0.0000 0.0000 0.0006 0.0015 0.0076 0.0145 0.0222 0.0539 0.0380 0.0650 0.1797 0.6169
1  8 0.0000 0.0000 0.0000 0.0006 0.0000 0.0015 0.0081 0.0145 0.0214 0.0538 0.0369 0.0652 0.1810 0.6168
1  9 0.0000 0.0000 0.0000 0.0000 0.0006 0.0003 0.0076 0.0122 0.0230 0.0452 0.0428 0.0642 0.1823 0.6219
1 10 0.0000 0.0000 0.0000 0.0000 0.0006 0.0003 0.0074 0.0119 0.0223 0.0445 0.0416 0.0638 0.1837 0.6240
1 11 0.0000 0.0000 0.0000 0.0000 0.0006 0.0013 0.0070 0.0124 0.0195 0.0503 0.0336 0.0690 0.1894 0.6168
1 12 0.0000 0.0000 0.0000 0.0005 0.0000 0.0013 0.0066 0.0117 0.0184 0.0518 0.0317 0.0898 0.1669 0.6213
1 13 0.0000 0.0000 0.0000 0.0000 0.0000 0.0005 0.0033 0.0138 0.0197 0.0408 0.0407 0.0670 0.1793 0.6348
```

```
1 14 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0005 0.0169 0.0206 0.0386 0.0436 0.0622 0.1859 0.6317
1 15 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0183 0.0217 0.0371 0.0456 0.0635 0.1870 0.6269
1 16 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0175 0.0208 0.0367 0.0436 0.0629 0.1884 0.6300
1 17 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0159 0.0188 0.0352 0.0398 0.0618 0.1925 0.6360
1 18 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0140 0.0166 0.0335 0.0350 0.0607 0.1971 0.6431
1 19 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0144 0.0170 0.0363 0.0364 0.0600 0.1927 0.6433
1 20 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0152 0.0179 0.0381 0.0387 0.0600 0.1891 0.6409
1 21 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0158 0.0187 0.0386 0.0402 0.0605 0.1876 0.6385
1 22 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0180 0.0213 0.0401 0.0455 0.0620 0.1830 0.6302
1 23 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0189 0.0223 0.0400 0.0476 0.0629 0.1820 0.6262
1 24 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0196 0.0232 0.0407 0.0495 0.0633 0.1802 0.6236
2  1 0.0000 0.0000 0.0000 0.1993 0.0996 0.0746 0.2239 0.1706 0.1970 0.0350 0.0000 0.0000 0.0000 0.0000
2  2 0.0000 0.0000 0.0000 0.2093 0.1130 0.0979 0.1980 0.1604 0.1876 0.0338 0.0000 0.0000 0.0000 0.0000
2  3 0.0000 0.0002 0.0033 0.2121 0.1120 0.1113 0.1947 0.1500 0.1823 0.0342 0.0000 0.0000 0.0000 0.0000
2  4 0.0000 0.0001 0.0004 0.2176 0.1102 0.0964 0.1935 0.1624 0.1852 0.0341 0.0000 0.0000 0.0000 0.0000
2  5 0.0000 0.0000 0.0001 0.2061 0.1094 0.0830 0.2024 0.1723 0.1924 0.0344 0.0000 0.0000 0.0000 0.0000
2  6 0.0000 0.0000 0.0000 0.1963 0.1025 0.0780 0.2072 0.1814 0.1988 0.0357 0.0000 0.0000 0.0000 0.0000
2  7 0.0000 0.0000 0.0002 0.2023 0.1082 0.0850 0.1990 0.1788 0.1913 0.0352 0.0000 0.0000 0.0000 0.0000
2  8 0.0000 0.0000 0.0002 0.2036 0.1073 0.0848 0.1997 0.1783 0.1912 0.0350 0.0000 0.0000 0.0000 0.0000
2  9 0.0000 0.0000 0.0001 0.2013 0.1044 0.0798 0.2036 0.1798 0.1960 0.0349 0.0000 0.0000 0.0000 0.0000
2 10 0.0000 0.0000 0.0001 0.2099 0.1101 0.0813 0.1983 0.1757 0.1906 0.0339 0.0000 0.0000 0.0000 0.0000
2 11 0.0000 0.0000 0.0002 0.2040 0.1091 0.0870 0.1990 0.1768 0.1895 0.0344 0.0000 0.0000 0.0000 0.0000
2 12 0.0000 0.0000 0.0002 0.1931 0.1016 0.0839 0.2064 0.1832 0.1962 0.0353 0.0000 0.0000 0.0000 0.0000
2 13 0.0000 0.0000 0.0000 0.1957 0.0975 0.0796 0.2097 0.1822 0.2012 0.0340 0.0000 0.0000 0.0000 0.0000
2 14 0.0000 0.0000 0.0000 0.1964 0.0973 0.0677 0.2233 0.1823 0.1994 0.0335 0.0000 0.0000 0.0000 0.0000
2 15 0.0000 0.0000 0.0000 0.2014 0.0991 0.0617 0.2239 0.1833 0.1973 0.0333 0.0000 0.0000 0.0000 0.0000
2 16 0.0000 0.0000 0.0000 0.1996 0.0981 0.0606 0.2232 0.1858 0.1990 0.0337 0.0000 0.0000 0.0000 0.0000
2 17 0.0000 0.0000 0.0000 0.2021 0.0994 0.0614 0.2229 0.1828 0.1974 0.0340 0.0000 0.0000 0.0000 0.0000
2 18 0.0000 0.0000 0.0000 0.2150 0.1050 0.0601 0.2205 0.1773 0.1894 0.0327 0.0000 0.0000 0.0000 0.0000
2 19 0.0000 0.0000 0.0000 0.1978 0.0968 0.0575 0.2195 0.1888 0.2029 0.0368 0.0000 0.0000 0.0000 0.0000
2 20 0.0000 0.0000 0.0000 0.2011 0.0987 0.0600 0.2206 0.1831 0.2000 0.0365 0.0000 0.0000 0.0000 0.0000
2 21 0.0000 0.0000 0.0000 0.2312 0.1130 0.0644 0.2212 0.1610 0.1779 0.0313 0.0000 0.0000 0.0000 0.0000
2 22 0.0000 0.0000 0.0000 0.2073 0.1024 0.0657 0.2251 0.1734 0.1927 0.0333 0.0000 0.0000 0.0000 0.0000
2 23 0.0000 0.0000 0.0000 0.2060 0.1020 0.0665 0.2262 0.1733 0.1930 0.0330 0.0000 0.0000 0.0000 0.0000
2 24 0.0000 0.0000 0.0000 0.1992 0.0988 0.0654 0.2259 0.1784 0.1981 0.0343 0.0000 0.0000 0.0000 0.0000
```

2009 VMT by Facility (KYFVMT.D)

```
VMT BY FACILITY
    1 0.455 0.331 0.181 0.032
      0.476 0.312 0.182 0.030
      0.485 0.313 0.172 0.031
      0.460 0.326 0.181 0.033
      0.444 0.339 0.182 0.035
      0.443 0.347 0.175 0.036
      0.428 0.354 0.181 0.037
      0.430 0.353 0.181 0.037
      0.444 0.344 0.177 0.036
      0.446 0.337 0.183 0.035
      0.460 0.332 0.173 0.034
      0.485 0.325 0.157 0.034
      0.485 0.320 0.162 0.033
      0.469 0.328 0.170 0.033
      0.457 0.333 0.176 0.034
      0.473 0.325 0.169 0.033
      0.496 0.309 0.164 0.031
      0.523 0.285 0.163 0.029
      0.534 0.290 0.146 0.030
      0.511 0.301 0.157 0.031
      0.465 0.306 0.199 0.029
      0.448 0.332 0.187 0.033
      0.434 0.341 0.191 0.033
      0.432 0.348 0.185 0.035
...
Identical distribution for all veh. types with the exception of diesel
transit buses
   26 0.191 0.766 0.023 0.020
      0.191 0.766 0.023 0.020
      0.191 0.766 0.023 0.020
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
```

```
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.191 0.766 0.023 0.020
0.191 0.766 0.023 0.020
0.191 0.766 0.023 0.020
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
0.041 0.922 0.029 0.008
```

2009 MOBILE6.2 Input File (KY.SCN)

```
* Mobile6 file for Boone, Campbell and Kenton counties
* post 2005 analysis years, includes annual scenario
* created 4/9/07,AJR, post 2005
************************ Header Section *****************
MOBILE6 INPUT FILE :
POLLUTANTS         : HC NOx CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE
REPORT FILE        : KY.RPT
DATABASE OUTPUT    :
WITH FIELDNAMES    :
DATABASE EMISSIONS : 2211 1111 22
DAILY OUTPUT       :
EMISSIONS TABLE    : kyemiss.tb1
RUN DATA
************************ Run Section *******************
VMT BY HOUR        : KYHVMT.D
SPEED VMT          : KYSVMT.D
VMT BY FACILITY    : KYFVMT.D
STAGE II REFUELING :
99 2 86. 86.
EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.30
********************* Summer Scenario Section ****************
SCENARIO RECORD    : KY EMISSIONS - CY20xx
CALENDAR YEAR      : 2009
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
FUEL PROGRAM       : 2 N
PARTICLE SIZE      : 2.5
MIN/MAX TEMP       : 61.0 95.0
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
********************* Annual Scenario Section *****************
SCENARIO RECORD    : KY EMISSIONS - CY20xx
CALENDAR YEAR      : 2009
EVALUATION MONTH   : 7
FUEL RVP           : 9.0
FUEL PROGRAM       : 2 N
PARTICLE SIZE      : 2.5
MIN/MAX TEMP       : 47.0 64.0
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
************************************ END OF RUN *****************
END OF RUN
```

2009 MOBILE6.2 Output Report (KY.RPT)

```
*********************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                        *
* Input file: KY.SCN (file 2, run 1).                               *
*********************************************************************

* Reading Hourly VMT distribution from the following external
* data file: KYHVMT.D

* Reading Hourly, Roadway, and Speed VMT dist. from the following external
```

```
* data file: KYSVMT.D

* Reading Hourly Roadway VMT distribution from the following external
* data file: KYFVMT.D

  Reading User Supplied ROADWAY VMT Factors
  M601 Comment:
               User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* KY EMISSIONS - CY20xx

* File 2, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M616 Comment:
               User has supplied post-1999 sulfur levels.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.30.
  M111 Warning:
               The input dIesel sulfur level of  43.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2009
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  61.0 (F)
              Maximum Temperature:  95.0 (F)
                Absolute Humidity:   75. grains/lb
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
  ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.707     0.745     1.238     0.871     0.909     0.235     0.494     0.435      2.30     0.783
     Composite CO  :      8.67      9.90     13.35     10.78      9.63     1.056     0.871     2.226     17.58     9.260
     Composite NOX :      0.639     0.802     1.186     0.900     2.659     0.622     0.963     9.426      1.28     1.605
  ---------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
-----------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     3.715     0.344     0.640
     Composite CO  :    33.72      3.193     2.415
     Composite NOX :     7.832    13.064    11.880
-----------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* KY EMISSIONS - CY20xx

* File 2, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
  M616 Comment:
               User has supplied post-1999 sulfur levels.

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
```

```
 M 48 Warning:
            there are no sales for vehicle class HDGV8b
 M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2009
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  47.0 (F)
            Maximum Temperature:  64.0 (F)
              Absolute Humidity:   75. grains/lb
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      0.679     0.750     1.249     0.878     0.813     0.235     0.494     0.435      2.09     0.772
    Composite CO  :     11.38     13.40     17.72     14.51     10.53     1.056     0.871     2.226     14.96    12.153
    Composite NOX :      0.630     0.839     1.246     0.943     2.707     0.622     0.963     9.426      1.50     1.626
 ---------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0002    0.0009    0.0018
---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :     3.385     0.344     0.640
    Composite CO  :    36.87      3.193     2.415
    Composite NOX :     7.975    13.064    11.880
---------------------------------------------------------------------------------------------------------------------------
```

2009 MOBILE6.2 PM Output Report (KY.PM)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: KY.SCN (file 2, run 1).                                   *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* KY EMISSIONS - CY20xx

* File 2, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                            Calendar Year:  2009
                                    Month:  July
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   43. ppm
                     Particle Size Cutoff:  2.50 Microns
                         Reformulated Gas:  Yes

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3597    0.3800    0.1306              0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0038    0.0042    0.0039    0.0374    ------    ------    ------    0.0142    0.0047
           ECARBON:    ------    ------    ------    ------    ------    0.0463    0.0257    0.1141    ------    0.0099
           OCARBON:    ------    ------    ------    ------    ------    0.0131    0.0370    0.0578    ------    0.0050
               SO4:    0.0003    0.0005    0.0005    0.0005    0.0015    0.0004    0.0008    0.0027    0.0001    0.0007
  Total Exhaust PM:    0.0040    0.0043    0.0047    0.0044    0.0389    0.0598    0.0635    0.1745    0.0143    0.0203
             Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
              Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
          Total PM:    0.0114    0.0116    0.0120    0.0117    0.0464    0.0671    0.0708    0.1863    0.0206    0.0280
               SO2:    0.0068    0.0088    0.0114    0.0095    0.0167    0.0085    0.0160    0.0379    0.0033    0.0112
               NH3:    0.1017    0.1012    0.1002    0.1010    0.0451    0.0068    0.0068    0.0270    0.0113    0.0922
 ---------------------------------------------------------------------------------------------------------------------------
         Veh. Type:    GasBUS     URBAN    SCHOOL
                       ------    ------    ------
           VMT Mix:    0.0002    0.0009    0.0018
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    ------    ------
             GASPM:    0.0928    ------    ------
           ECARBON:    ------    0.1201    0.2930
           OCARBON:    ------    0.0944    0.2302
               SO4:    0.0005    0.0044    0.0031
  Total Exhaust PM:    0.0933    0.2189    0.5262
             Brake:    0.0053    0.0053    0.0053
              Tire:    0.0030    0.0030    0.0030
          Total PM:    0.1016    0.2272    0.5346
               SO2:    0.0262    0.0627    0.0439
               NH3:    0.0451    0.0270    0.0270
 ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* KY EMISSIONS - CY20xx
```

```
* File 2, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2009
                                      Month:  July
               Gasoline Fuel Sulfur Content:   30. ppm
                 Diesel Fuel Sulfur Content:   43. ppm
                       Particle Size Cutoff:  2.50 Microns
                           Reformulated Gas:  Yes

        Vehicle Type:    LDGV   LDGT12   LDGT34     LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
                GVWR:            <6000    >6000    (All)
                       ------   ------   ------   ------    ------    ------    ------    ------    ------    ------
    VMT Distribution:  0.3597   0.3800   0.1306             0.0360    0.0003    0.0019    0.0860    0.0055    1.0000
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
                Lead:  0.0000   0.0000   0.0000   0.0000    0.0000    ------    ------    ------    0.0000    0.0000
               GASPM:  0.0037   0.0038   0.0042   0.0039    0.0374    ------    ------    ------    0.0142    0.0047
             ECARBON:  ------   ------   ------   ------    ------    0.0463    0.0257    0.1141    ------    0.0099
             OCARBON:  ------   ------   ------   ------    ------    0.0131    0.0370    0.0578    ------    0.0050
                 SO4:  0.0003   0.0005   0.0005   0.0005    0.0015    0.0004    0.0008    0.0027    0.0001    0.0007
   Total Exhaust PM:   0.0040   0.0043   0.0047   0.0044    0.0389    0.0598    0.0635    0.1745    0.0143    0.0203
               Brake:  0.0053   0.0053   0.0053   0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
                Tire:  0.0020   0.0020   0.0020   0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
            Total PM:  0.0114   0.0116   0.0120   0.0117    0.0464    0.0671    0.0708    0.1863    0.0206    0.0280
                 SO2:  0.0068   0.0088   0.0114   0.0095    0.0167    0.0085    0.0160    0.0379    0.0033    0.0112
                 NH3:  0.1017   0.1012   0.1002   0.1010    0.0451    0.0068    0.0068    0.0270    0.0113    0.0922
 ----------------------------------------------------------------------------------------------------------------------
           Veh. Type:  GasBUS    URBAN   SCHOOL
                       ------   ------   ------
            VMT Mix:   0.0002   0.0009   0.0018
 ----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
                Lead:  0.0000   ------   ------
               GASPM:  0.0928   ------   ------
             ECARBON:  ------   0.1201   0.2930
             OCARBON:  ------   0.0944   0.2302
                 SO4:  0.0005   0.0044   0.0031
   Total Exhaust PM:   0.0933   0.2189   0.5262
               Brake:  0.0053   0.0053   0.0053
                Tire:  0.0030   0.0030   0.0030
            Total PM:  0.1016   0.2272   0.5346
                 SO2:  0.0262   0.0627   0.0439
                 NH3:  0.0451   0.0270   0.0270
 ----------------------------------------------------------------------------------------------------------------------
```

2009 MOBILE6.2 Input/Output Files for the OKI's Ohio Portion of Nonattainment Area

2009 VMT by Speed Bin (OHSVMT.D)

```
SPEED VMT
1  1 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0008 0.0171 0.0174 0.0442 0.0329 0.1009 0.0221 0.7647
1  2 0.0000 0.0000 0.0000 0.0000 0.0000 0.0015 0.0065 0.0100 0.0166 0.0438 0.0246 0.1021 0.0221 0.7728
1  3 0.0000 0.0000 0.0003 0.0026 0.0021 0.0028 0.0074 0.0116 0.0155 0.0403 0.0354 0.1151 0.0500 0.7168
1  4 0.0000 0.0000 0.0000 0.0014 0.0015 0.0032 0.0080 0.0108 0.0171 0.0430 0.0254 0.1051 0.0216 0.7628
1  5 0.0000 0.0000 0.0000 0.0000 0.0006 0.0021 0.0083 0.0135 0.0185 0.0475 0.0264 0.1022 0.0213 0.7596
1  6 0.0000 0.0000 0.0000 0.0000 0.0001 0.0021 0.0082 0.0130 0.0210 0.0485 0.0276 0.1017 0.0216 0.7561
1  7 0.0000 0.0000 0.0000 0.0003 0.0019 0.0027 0.0097 0.0134 0.0200 0.0498 0.0274 0.1018 0.0215 0.7514
1  8 0.0000 0.0000 0.0000 0.0003 0.0023 0.0029 0.0098 0.0136 0.0203 0.0475 0.0272 0.1023 0.0211 0.7527
1  9 0.0000 0.0000 0.0000 0.0000 0.0003 0.0022 0.0082 0.0138 0.0197 0.0470 0.0269 0.1023 0.0213 0.7584
1 10 0.0000 0.0000 0.0000 0.0000 0.0003 0.0021 0.0082 0.0131 0.0191 0.0456 0.0263 0.1023 0.0214 0.7616
1 11 0.0000 0.0000 0.0000 0.0003 0.0017 0.0024 0.0086 0.0117 0.0175 0.0440 0.0250 0.1026 0.0220 0.7643
1 12 0.0000 0.0000 0.0000 0.0003 0.0016 0.0023 0.0082 0.0112 0.0172 0.0414 0.0241 0.1027 0.0221 0.7690
1 13 0.0000 0.0000 0.0000 0.0000 0.0000 0.0004 0.0063 0.0118 0.0180 0.0417 0.0249 0.1021 0.0217 0.7731
1 14 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0005 0.0174 0.0175 0.0379 0.0326 0.1014 0.0224 0.7703
1 15 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0184 0.0186 0.0378 0.0343 0.1014 0.0223 0.7671
1 16 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0176 0.0178 0.0364 0.0332 0.1014 0.0224 0.7711
1 17 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0158 0.0159 0.0343 0.0310 0.1011 0.0227 0.7791
1 18 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0139 0.0140 0.0304 0.0283 0.1010 0.0231 0.7894
1 19 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0143 0.0144 0.0329 0.0293 0.1009 0.0229 0.7852
1 20 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0152 0.0153 0.0356 0.0308 0.1009 0.0226 0.7794
1 21 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0159 0.0160 0.0364 0.0316 0.1011 0.0225 0.7764
1 22 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0182 0.0183 0.0403 0.0348 0.1012 0.0221 0.7650
1 23 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0191 0.0193 0.0416 0.0360 0.1013 0.0220 0.7608
1 24 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0199 0.0200 0.0433 0.0371 0.1013 0.0219 0.7565
2  1 0.0000 0.0000 0.0000 0.1510 0.0601 0.0727 0.2718 0.2020 0.2243 0.0183 0.0000 0.0000 0.0000 0.0000
2  2 0.0000 0.0001 0.0009 0.1606 0.0726 0.1081 0.2488 0.1789 0.2121 0.0177 0.0000 0.0000 0.0000 0.0000
2  3 0.0000 0.0020 0.0046 0.1636 0.0841 0.1308 0.2333 0.1614 0.2030 0.0169 0.0000 0.0000 0.0000 0.0000
2  4 0.0000 0.0007 0.0023 0.1652 0.0778 0.1155 0.2500 0.1700 0.2002 0.0181 0.0000 0.0000 0.0000 0.0000
2  5 0.0000 0.0000 0.0006 0.1588 0.0689 0.0982 0.2676 0.1866 0.2005 0.0187 0.0000 0.0000 0.0000 0.0000
2  6 0.0000 0.0000 0.0001 0.1508 0.0636 0.0880 0.2773 0.1952 0.2059 0.0193 0.0000 0.0000 0.0000 0.0000
2  7 0.0000 0.0001 0.0014 0.1564 0.0681 0.1009 0.2706 0.1861 0.1975 0.0190 0.0000 0.0000 0.0000 0.0000
2  8 0.0000 0.0001 0.0014 0.1574 0.0695 0.1014 0.2718 0.1837 0.1958 0.0190 0.0000 0.0000 0.0000 0.0000
2  9 0.0000 0.0000 0.0004 0.1551 0.0655 0.0909 0.2773 0.1930 0.1986 0.0191 0.0000 0.0000 0.0000 0.0000
2 10 0.0000 0.0001 0.0004 0.1622 0.0695 0.0967 0.2711 0.1882 0.1932 0.0188 0.0000 0.0000 0.0000 0.0000
2 11 0.0000 0.0001 0.0014 0.1581 0.0697 0.1027 0.2697 0.1842 0.1954 0.0187 0.0000 0.0000 0.0000 0.0000
2 12 0.0000 0.0001 0.0014 0.1491 0.0643 0.0973 0.2774 0.1902 0.2011 0.0191 0.0000 0.0000 0.0000 0.0000
2 13 0.0000 0.0000 0.0000 0.1502 0.0611 0.0821 0.2816 0.2029 0.2030 0.0191 0.0000 0.0000 0.0000 0.0000
2 14 0.0000 0.0000 0.0000 0.1502 0.0594 0.0695 0.2815 0.2130 0.2077 0.0187 0.0000 0.0000 0.0000 0.0000
2 15 0.0000 0.0000 0.0000 0.1543 0.0608 0.0675 0.2842 0.2134 0.2011 0.0187 0.0000 0.0000 0.0000 0.0000
```

```
2 16 0.0000 0.0000 0.0000 0.1528 0.0602 0.0666 0.2848 0.2155 0.2011 0.0190 0.0000 0.0000 0.0000 0.0000
2 17 0.0000 0.0000 0.0000 0.1544 0.0608 0.0671 0.2825 0.2122 0.2042 0.0189 0.0000 0.0000 0.0000 0.0000
2 18 0.0000 0.0000 0.0000 0.1647 0.0646 0.0680 0.2826 0.2062 0.1956 0.0183 0.0000 0.0000 0.0000 0.0000
2 19 0.0000 0.0000 0.0000 0.1499 0.0589 0.0639 0.2812 0.2163 0.2100 0.0198 0.0000 0.0000 0.0000 0.0000
2 20 0.0000 0.0000 0.0000 0.1523 0.0599 0.0656 0.2785 0.2111 0.2131 0.0194 0.0000 0.0000 0.0000 0.0000
2 21 0.0000 0.0000 0.0000 0.1770 0.0695 0.0721 0.2767 0.1910 0.1966 0.0172 0.0000 0.0000 0.0000 0.0000
2 22 0.0000 0.0000 0.0000 0.1582 0.0625 0.0700 0.2785 0.2040 0.2088 0.0182 0.0000 0.0000 0.0000 0.0000
2 23 0.0000 0.0000 0.0000 0.1574 0.0622 0.0704 0.2789 0.2043 0.2087 0.0181 0.0000 0.0000 0.0000 0.0000
2 24 0.0000 0.0000 0.0000 0.1518 0.0600 0.0689 0.2793 0.2090 0.2124 0.0186 0.0000 0.0000 0.0000 0.0000
```

2009 VMT by Facility (OHFVMT.D)

```
VMT BY FACILITY
    1 0.353 0.452 0.175 0.020
      0.372 0.432 0.177 0.019
      0.385 0.428 0.167 0.020
      0.363 0.441 0.176 0.021
      0.348 0.454 0.176 0.022
      0.347 0.462 0.168 0.023
      0.334 0.468 0.174 0.024
      0.337 0.465 0.174 0.024
      0.350 0.456 0.171 0.023
      0.353 0.448 0.177 0.022
      0.367 0.443 0.168 0.022
      0.387 0.436 0.154 0.022
      0.388 0.431 0.159 0.021
      0.374 0.439 0.166 0.021
      0.366 0.442 0.170 0.022
      0.380 0.434 0.164 0.022
      0.404 0.416 0.160 0.020
      0.432 0.388 0.161 0.019
      0.438 0.398 0.145 0.020
      0.412 0.413 0.155 0.020
      0.369 0.419 0.193 0.019
      0.352 0.447 0.180 0.021
      0.339 0.456 0.183 0.021
      0.336 0.465 0.177 0.022
...
Identical distribution for all veh. types with the exception of diesel
transit buses
   26 0.191 0.766 0.023 0.020
      0.191 0.766 0.023 0.020
      0.191 0.766 0.023 0.020
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.191 0.766 0.023 0.020
      0.191 0.766 0.023 0.020
      0.191 0.766 0.023 0.020
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
      0.041 0.922 0.029 0.008
```

2009 MOBILE6.2 Input File (OH.SCN)

```
* Mobile6 input file for Butler, Clermont, Hamilton and Warren counties,
* low RVP beginning summer 2008
* created 4/9/07 by ajr, includes annual scenario,low RVP,post 2007
*******************  Header Section  ************************
MOBILE6 INPUT FILE :
POLLUTANTS         : HC NOx CO
PARTICULATES       :
* PARTICULATES REPORTED IN *.PM FILE
REPORT FILE        : oh.rpt
DATABASE OUTPUT    :
WITH FIELDNAMES    :
DATABASE EMISSIONS : 2211 1111 22
DAILY OUTPUT       :
EMISSIONS TABLE    : ohemiss.tb1

RUN DATA
*******************  Run Section  ***************************
VMT BY HOUR        : OHHVMT.D
SPEED VMT          : OHSVMT.D
VMT BY FACILITY    : OHFVMT.D
REG DIST           : OHREG.D
ANTI-TAMP PROG     : 96 78 50 22222 21111111 1 12 098. 12111112
FUEL PROGRAM       : 1
OXYGENATED FUELS   : .000 .420 .000 .036 2
STAGE II REFUELING :
93 3 86. 86.
EXPAND BUS EFS     :
REBUILD EFFECTS    : 0.30
*******************  Summer Scenario Section  ***************
SCENARIO RECORD    : Ohio Emissions - CY20xx
CALENDAR YEAR      : 2009
EVALUATION MONTH   : 7
FUEL RVP           : 7.8
SEASON             : 1
MIN/MAX TEMP       : 61.0 95.0
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  Annual Scenario Section  ***************
SCENARIO RECORD    : Ohio Emissions - CY20xx
CALENDAR YEAR      : 2009
EVALUATION MONTH   : 7
FUEL RVP           : 9.0
MIN/MAX TEMP       : 47.0 64.0
PARTICLE SIZE      : 2.5
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
DIESEL SULFUR      : 43
*******************  End of Run  ****************************
END OF RUN
```

2009 MOBILE6.2 Output Report (OH.RPT)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: OH.SCN (file 3, run 1).                                   *
*************************************************************************

* Reading Hourly VMT distribution from the following external
* data file: OHHVMT.D

* Reading Hourly, Roadway, and Speed VMT dist. from the following external
* data file: OHSVMT.D

* Reading Hourly Roadway VMT distribution from the following external
* data file: OHFVMT.D

  Reading User Supplied ROADWAY VMT Factors

* Reading Registration Distributions from the following external
* data file: OHREG.D
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M601 Comment:
               User has enabled STAGE II REFUELING.


* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
```

```
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
 HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.30.
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2009
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  61.0 (F)
            Maximum Temperature:  95.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   7.9 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  Yes
               Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
               GVWR:               <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3493    0.3797    0.1419              0.0358    0.0003    0.0021    0.0854    0.0054    1.0000
  ------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.836     0.712     0.901     0.763     1.092     0.262     0.447     0.445      2.94     0.784
     Composite CO  :      9.16      9.92     11.43     10.33     10.28      1.146     0.759     2.234     17.96      9.245
     Composite NOX :      0.681     0.863     1.228     0.962     2.638     0.653     0.931     9.012      1.24      1.612
  ------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     4.502     0.331     0.655
     Composite CO  :    36.23      3.047     2.425
     Composite NOX :     7.773    12.942    11.419
----------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M111 Warning:
             The input dIesel sulfur level of  43.0 ppm exceeds
             the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                  Calendar Year:  2009
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  47.0 (F)
            Maximum Temperature:  64.0 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:   9.0 psi
                  Weathered RVP:   9.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  Yes
               Reformulated Gas:  No
```

```
   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.420
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.036
                                          Alcohol Blend RVP Waiver: Yes

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3493    0.3797    0.1419              0.0358    0.0003    0.0021    0.0854    0.0054    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.775     0.713     0.920     0.769     0.925     0.262     0.447     0.445      2.13     0.756
     Composite CO  :      12.32     13.72     15.35     14.16     11.10     1.146     0.759     2.234     15.30    12.367
     Composite NOX :      0.673     0.907     1.291     1.011     2.649     0.653     0.931     9.012      1.46     1.637
 ---------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      3.862     0.331     0.655
     Composite CO  :     39.13     3.047     2.425
     Composite NOX :      7.802    12.942    11.419
---------------------------------------------------------------------------------------------------------------------------
```

2009 MOBILE6.2 PM Output File (OH.PM)

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: OH.SCN (file 3, run 1).                                   *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2009
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3493    0.3797    0.1419              0.0358    0.0003    0.0021    0.0854    0.0054    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
             GASPM:    0.0037    0.0037    0.0038    0.0037    0.0374    ------    ------    ------    0.0142    0.0047
            ECARBON:    ------    ------    ------    ------    ------    0.0543    0.0230    0.1140    ------    0.0098
            OCARBON:    ------    ------    ------    ------    ------    0.0153    0.0331    0.0577    ------    0.0050
                SO4:    0.0003    0.0005    0.0005    0.0005    0.0015    0.0004    0.0008    0.0027    0.0001    0.0006
   Total Exhaust PM:    0.0041    0.0042    0.0043    0.0042    0.0389    0.0701    0.0569    0.1744    0.0143    0.0201
              Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
               Tire:    0.0020    0.0020    0.0020    0.0020    0.0022    0.0020    0.0020    0.0065    0.0010    0.0024
           Total PM:    0.0114    0.0115    0.0116    0.0115    0.0464    0.0774    0.0643    0.1862    0.0206    0.0278
                SO2:    0.0068    0.0088    0.0115    0.0095    0.0167    0.0085    0.0161    0.0379    0.0033    0.0112
                NH3:    0.1017    0.1016    0.1013    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113    0.0925
 ---------------------------------------------------------------------------------------------------------------------------
          Veh. Type:    GasBUS     URBAN    SCHOOL
                        ------    ------    ------
            VMT Mix:    0.0002    0.0009    0.0018
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
               Lead:    0.0000    ------    ------
             GASPM:    0.0928    ------    ------
            ECARBON:    ------    0.1201    0.2929
            OCARBON:    ------    0.0944    0.2301
                SO4:    0.0005    0.0044    0.0031
   Total Exhaust PM:    0.0933    0.2189    0.5261
              Brake:    0.0053    0.0053    0.0053
               Tire:    0.0030    0.0030    0.0030
           Total PM:    0.1016    0.2272    0.5344
                SO2:    0.0262    0.0627    0.0439
                NH3:    0.0451    0.0270    0.0270
 ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Ohio Emissions - CY20xx

* File 3, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

                              Calendar Year:  2009
                                      Month:  July
                Gasoline Fuel Sulfur Content:   30. ppm
                  Diesel Fuel Sulfur Content:   43. ppm
                         Particle Size Cutoff:  2.50 Microns
                             Reformulated Gas:  No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.3493    0.3797    0.1419              0.0358    0.0003    0.0021    0.0854    0.0054    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0037	0.0038	0.0037	0.0374	------	------	------	0.0142	0.0047
ECARBON:	------	------	------	------	------	0.0543	0.0230	0.1140	------	0.0098
OCARBON:	------	------	------	------	------	0.0153	0.0331	0.0577	------	0.0050
SO4:	0.0003	0.0005	0.0005	0.0005	0.0015	0.0004	0.0008	0.0027	0.0001	0.0006
Total Exhaust PM:	0.0041	0.0042	0.0043	0.0042	0.0389	0.0701	0.0569	0.1744	0.0143	0.0201
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0022	0.0020	0.0020	0.0065	0.0010	0.0024
Total PM:	0.0114	0.0115	0.0116	0.0115	0.0464	0.0774	0.0643	0.1862	0.0206	0.0278
SO2:	0.0068	0.0088	0.0115	0.0095	0.0167	0.0085	0.0161	0.0379	0.0033	0.0112
NH3:	0.1017	0.1016	0.1013	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

Veh. Type:	GasBUS	URBAN	SCHOOL
	------	------	------
VMT Mix:	0.0002	0.0009	0.0018

Composite Emission Factors (g/mi):

Lead:	0.0000	------	------
GASPM:	0.0928	------	------
ECARBON:	------	0.1201	0.2929
OCARBON:	------	0.0944	0.2301
SO4:	0.0005	0.0044	0.0031
Total Exhaust PM:	0.0933	0.2189	0.5261
Brake:	0.0053	0.0053	0.0053
Tire:	0.0030	0.0030	0.0030
Total PM:	0.1016	0.2272	0.5344
SO2:	0.0262	0.0627	0.0439
NH3:	0.0451	0.0270	0.0270

2009 Air Quality Impact Summary for the OKI Portion of the Nonattainment Area and Emissions by State/County

2009 Output Report (R7803)

DAILY AIR QUALITY IMPACT FOR OKI REGION SUMMARY 11-DEC-07

County or Township	Network Road Miles	Network Lane Miles	Vehicle Miles	VOC (Tons/Day)	CO (Tons/Day)	NOX (Tons/Day)	PM (Tons/Day)	Summer VMT
Boone County	227.96	638.17	4207739	3.873	42.950	7.940	0.130	4487764
Butler County	572.20	1471.29	7786350	7.054	79.350	14.503	0.239	8162040
Campbell County	195.81	514.50	2359923	2.175	24.089	4.458	0.073	2519983
Clermont County	422.90	980.02	5232413	4.795	53.323	9.859	0.160	5548290
Dearborn County	144.53	342.91	1343408	1.694	15.179	2.445	0.041	1433852
Hamilton County	1028.77	3100.25	22160814	20.339	225.838	41.820	0.679	23534910
Kenton County	228.41	588.02	3990665	3.673	40.734	7.528	0.123	4255204
Warren County	384.61	994.91	6090925	5.602	62.072	11.518	0.187	6481888
Montgomery Cnty	0.00	0.00	0	0.000	0.000	0.000	0.000	0
Greene County	0.00	0.00	0	0.000	0.000	0.000	0.000	0
Miami County	0.00	0.00	0	0.000	0.000	0.000	0.000	0
Clark County	0.00	0.00	0	0.000	0.000	0.000	0.000	0
Preble County	0.00	0.00	0	0.000	0.000	0.000	0.000	0
Clinton County	0.00	0.00	0	0.000	0.000	0.000	0.000	0
Lawrenceburg Twp	24.19	68.70	594131	0.729	6.713	1.052	0.018	617159
State								
IN Not AQ Region	144.53	342.91	1343408	1.694	15.179	2.445	0.041	1433852
KY - OKI Only	652.18	1740.69	10558327	9.721	107.773	19.926	0.326	11262952
OH - OKI Only	2408.48	6546.47	41270500	37.790	420.582	77.700	1.265	43727128
OH - MVRPC Only	0.00	0.00	0	0.000	0.000	0.000	0.000	0
OH - Other	0.00	0.00	0	0.000	0.000	0.000	0.000	0
IN NonAttainment	24.19	68.70	594131	0.729	6.713	1.052	0.018	617159
Region	3229.38	8698.77	53766372	49.934	550.246	101.124	1.650	57041092
AQ Region	2432.67	6615.17	41864632	38.519	427.295	78.752	1.283	44344288

Intra-Zonal VMT

Boone County	26121	0.023	0.267	0.046	0.001
Butler County	30888	0.027	0.315	0.055	0.001
Campbell County	10026	0.009	0.102	0.018	0.000
Clermont County	32800	0.028	0.334	0.058	0.001
Dearborn County	17649	0.021	0.199	0.030	0.001
Hamilton County	46314	0.040	0.472	0.082	0.001
Kenton County	11242	0.010	0.115	0.020	0.000
Warren County	31874	0.028	0.325	0.057	0.001
Montgomery Cnty	0	0.000	0.000	0.000	0.000
Greene County	0	0.000	0.000	0.000	0.000
Miami County	0	0.000	0.000	0.000	0.000
Clark County	0	0.000	0.000	0.000	0.000
Preble County	0	0.000	0.000	0.000	0.000
Clinton County	0	0.000	0.000	0.000	0.000
Lawrenceburg Twp	3453	0.003	0.035	0.006	0.000
Total Intra-Zonal	210367	0.187	2.164	0.372	0.006
AQ Region Total Intra-Zonal	145329	0.126	1.481	0.258	0.004

* Note: VMT reflects yearly average daily VMT. Emissions for CO are based on yearly average daily VMT.
Emissions for VOC and NOX include a factor to represent summer travel.

Transit VMT

IN Not AQ Region	0	0.000	0.000	0.000	0.000
KY - OKI Only	8404	0.003	0.030	0.121	0.002
OH - OKI Only	29669	0.005	0.100	0.423	0.007
OH - MVRPC Only	0	0.000	0.000	0.000	0.000
OH - Other	0	0.000	0.000	0.000	0.000
IN NonAttainment	0	0.000	0.000	0.000	0.000
Total Transit	38073	0.008	0.129	0.544	0.010
AQ Region Total Transit	29669	0.005	0.100	0.423	0.007

* Note: VMT reflects yearly average daily VMT. Emissions for CO are based on yearly average daily VMT.
Emissions for VOC and NOX include a factor to represent summer travel.