ATTACHMENT B
SNOWMOBILE EMISSIONS

ATTACHMENT B
Snowmobile BAT Emissions - Yellowstone National Park
Averages for Modeling Purposes

8-Oct-10

Pollutant	Vehicle	Idle (mg/s)	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	Arctic Cat	66.0	237.6	21.0	13.0
	Ski Doo	46.0	165.6	53.0	15.0
	Average		**201.6**	**37.0**	**14.0**

Pollutant	Vehicle	Idle (mg/s)	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
HC	Arctic Cat	2.5	9.0	2.3	1.5
	Ski Doo	1.8	6.5	1.1	0.4
	Average		**7.7**	**1.7**	**1.0**

Pollutant	Vehicle	Idle (mg/s)	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
NOx	Arctic Cat	0.4	1.5	7.5	7.7
	Ski Doo	0.2	0.8	0.5	1.3
	Average		**1.2**	**4.0**	**4.5**

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
PM	**0.49**	**0.065**	**0.031**

Source: For CO, HC, & NOx, *Portable Emission Measurements of Snowmobiles and Snowcoaches in Yellowstone National Park* Bishop, Stadtmuller, and Stedman, University of Denver, January 2007

For PM, Test results: *Laboratory Testing of Snowmobile Emissions*, Lela & White, SwRI July 2002;
Based on 2002 4-stroke Arctic Cat Touring & Polaris Frontier Engine Dynamometer Test Results (Two Tests each with Reference Gasoline)

	4-Stroke Snowmobile						
	PM Engine Modal Test Data and Emissions Factors						
						14-Feb-06	
	Mode		**hp**	**mi/hr**		**PM**	
	Arctic Cat Test 1					**g/hr**	**g/mi**
	1		41.1	63.2		1.40	0.022
	2		17.9	33.6		0.79	0.024
	3		10.2	21.2		0.82	0.039
	4		4.9	11.8		0.74	0.063
	5		0	NA		0.47	NA
	Arctic Cat Test 2						
	1		41.3	63.4		1.42	0.022
	2		18	33.7		1.09	0.032
	3		10.3	21.3		1.00	0.047
	4		4.9	11.8		0.71	0.060
	5		0	NA		0.40	NA
	Polaris Test 1						
	1		43.6	65.8		3.84	0.058
	2		18.9	35.1		1.25	0.036
	3		10.8	22.2		0.96	0.043
	4		5.5	12.9		0.95	0.074
	5		0	NA		0.72	NA
	Polaris Test 2						
	1		44.3	66.5		2.61	0.039
	2		19.4	35.8		1.15	0.032
	3		9.5	20.0		0.94	0.047
	4		5.5	12.9		0.79	0.061
	5		0	NA		0.35	NA
	Average Mode 2, 35 mph			34.6			**0.031**
	Average Mode 4, 15 mph			12.3			**0.065**
	Average Mode 5, Idle					**0.49**	
Based on 2002 4-stroke Arctic Cat Touring & Polaris Frontier Engine Dynamometer Test Results (Two Tests each with Reference Gasoline)							
Source:	Test results: *Laboratory Testing of Snowmobile Emissions*, Lela & White, SwRI July 2002						

ATTACHMENT C
SNOWCOACH EMISSIONS

2011 DEIS ATTACHMENT C

Snowcoach BAT Emissions Summary - Yellowstone National Park

Newer Snowcoach Averages for Modeling Purposes

10-Jan-11

NON-DIESEL SNOWCOACH BAT

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	42.4	27.2	107.4
HC	11.2	1.3	1.4
NOx	2.1	3.8	5.8
PM-10*	0.07	0.03	0.03

DIESEL SNOWCOACH BAT*

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	14.0	24.0	5.7
HC**	4.9	1.4	0.8
NOx	43.2	50.5	30.0
PM-10	0.11	0.40	0.30

Note: Proposed BAT emissions are determined by averaging 8 gas non-carburated snowcoaches tested in 2006.
*Since only 1 diesel snowcoach was tested 2006, diesel BAT is determined based on this vehicle.
(Refer to attached table showing vehicles selected.)
*PM-10 emissions for non-diesel snowcoaches from MOBILE6 LDGT4.
**HC emissions for diesel snowcoaches from MOBILE6 HDDV5.

2011 DEIS APTTACHMENT C
Snowcoach BAT Emissions - Yellowstone National Park
"Newer" Snowcoach Averages for Modeling Purposes

5-Oct-10

NON-DIESEL SNOWCOACHES - Port Fuel Injected Gas

Pollutant	Vehicle	Idle (mg/s)	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	YEXP R250	44.0	158.4	47.0	84.0
	YEXP R350	39.0	140.4	41.0	44.0
	3BL Van2	5.2	18.7	100.0	270.0
	YSCT Van	1.0	3.6	9.3	330.0
	3BL Van5	2.4	8.6	3.8	12.0
	AG Cygnet	2.6	9.4	7.8	4.9
	BBC Van	0.0	0.0	0.1	67.0
	BBC Vanterra	0.0	0.0	8.8	47.0
	Average		**42.4**	**27.2**	**107.4**
HC	YEXP R250	2.7	9.7	1.8	1.8
	YEXP R350	20.0	72.0	4.3	2.3
	3BL Van2	0.6	2.2	1.7	2.5
	YSCT Van	0.1	0.4	0.3	1.5
	3BL Van5	0.4	1.4	0.7	0.3
	AG Cygnet	0.4	1.4	0.6	0.4
	BBC Van	0.3	1.1	0.7	1.4
	BBC Vanterra	0.3	1.1	0.5	0.9
	Average		**11.2**	**1.3**	**1.4**
NOx	YEXP R250	4.0	14.4	14.0	23.0
	YEXP R350	0.3	1.1	8.6	16.0
	3BL Van2	0.0	0.0	1.4	1.5
	YSCT Van	0.0	0.0	1.0	1.7
	3BL Van5	0.0	0.0	3.5	1.2
	AG Cygnet	0.0	0.0	1.4	2.9
	BBC Van	0.1	0.4	0.0	0.3
	BBC Vanterra	0.2	0.7	0.1	0.1
	Average		**2.1**	**3.8**	**5.8**

DIESEL SNOWCOACHES - NPS Bus*

Test Year	Pollutant	Idle (mg/s)	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
2006	**CO**	3.9	14.0	24.0	5.7
2006	**NOx**	12	43.2	50.5	30.0
2006	**PM-10**	0.03	0.11	0.40	0.30

Note: Proposed BAT emissions are determined by averaging 8 gas non-carburated snowcoaches tested in 2006.
*Since only 1 diesel snowcoach was tested 2006, diesel BAT is determined based on this vehicle.

Source: *Portable Emission Measurements of Snowmobiles and Snowcoaches in Yellowstone National Park*
Bishop, Stadtmuller, and Stedman, University of Denver, January 2007

2011 DEIS ATTACHMENT C

Snowcoach Emissions Summary - Yellowstone National Park

"Current Conditions" Snowcoach Mix for Modeling Purposes

10-Jan-10

PORT FUEL INJECTED GAS SNOWCOACH

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	42.4	27.2	107.4
HC	11.2	1.3	1.4
NOx	2.1	3.8	5.8
PM-10*	0.07	0.03	0.03

CARBURETED GAS SNOWCOACH - AG Kitty*

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)	Idle (mg/s)
CO	1440.0	240.0	310.0	400.0
HC	46.8	6.1	3.3	13.0
NOx	0.4	35.0	36.0	0.1
PM-10***	0.07	0.03	0.03	0.02

CURRENT CONDITIONS NON-BAT GAS SNOWCOACH AVERAGE

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	741.2	133.6	208.7
HC	29.0	3.7	2.3
NOx	1.2	19.4	20.9
PM-10***	0.07	0.03	0.03

DIESEL SNOWCOACH**

Pollutant	Idle (g/hr)	Low Speed (g/mile)	Cruise Speed (g/mile)
CO	14.0	24.0	5.7
HC****	4.9	1.4	0.8
NOx	43.2	50.5	30.0
PM-10	0.11	0.40	0.30

Note: Proposed emissions are determined by averaging 8 gas non-carbureted snowcoaches tested in 2006 equally with 1 gas carburated snowcoach tested (50/50 split).

(Refer to attached table showing vehicles selected.)

*Only 1 carbureted snowcoach was tested in 2006.

**Since only 1 diesel snowcoach was tested 2006, diesel is determined based on this vehicle.

***PM-10 emissions for non-diesel snowcoaches from MOBILE6 LDGT4.

****HC emissions for diesel snowcoaches from MOBILE6 HDDV5.

ATTACHMENT D
MOBILE6 EMISSIONS FILES

Summary of MOBILE6.2 Emission Factors for Modeling

1/10/2011
Revised for HAPs
1/19/2011
1/31/2011

Yellowstone National Park Winter Use Plan

ONROAD VEHICLES (Alternative 4 Mixed Use Only)

2015 Calendar Year

Onroad Vehicle Criteria Pollutant Emission Factors for Modeling

	CO			PM10			HC			NOx		
	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)
2015 Composite Emissions	116.3	25.8	14.7	0.54	0.065	0.065	8.3	1.49	0.88	13.5	4.13	2.96

Onroad Vehicle HAPs Emission Factors

	Benzene			1-3 Butadiene			Formaldehyde			Acetaldehyde		
	Idle (mg/hr)	Low (mg/mi)	Cruise (mg/mi)	Idle (mg/hr)	Low (mg/mi)	Cruise (mg/mi)	Idle (mg/hr)	Low (mg/mi)	Cruise (mg/mi)	Idle (mg/hr)	Low (mg/mi)	Cruise (mg/mi)
2015 Composite Emissions	236.7	47.2	28.6	39.0	9.1	5.7	195.6	52.8	29.4	73.5	19.7	11.1

Onroad Vehicle HAPs Emissions as Percent of HC

	Benzene			1-3 Butadiene			Formaldehyde			Acetaldehyde		
	Idle	Low	Cruise	Idle	Low	Cruise	Idle	Low	Cruise	Idle	Low	Cruise
Percent of HC	2.84%	3.17%	3.26%	0.47%	0.61%	0.64%	2.35%	3.54%	3.35%	0.88%	1.32%	1.27%

Note:
Low speed for M6 is 8.8 mph, cruise speed is 23.7 mph
Shaded values selected for determining HAPs emission inventories.

SNOWCOACHES

Gasoline PM10 (for all Alternatives)

2006 (and Later) Calendar Year

MOBILE6.2 for Gasoline Light-Duty Trucks4

	PM10		
	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)
LDGT4 Emissions	0.074	0.029	0.029

Diesel HC (for all Alternatives)

2006 (and Later) Calendar Year

MOBILE6.2 for Diesel Heavy-Duty Vehicles5

	HC		
	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)
HDDV5 Emissions	4.85	1.39	0.77

HAPs (for all Alternatives)

2006 Calendar Year

50/50 gas/diesel snowcoaches mix (all Alternatives except 5a)

Snowcoach HAPs Emission Factors Based on MOBILE6.2 for Light- and Heavy-Duty Trucks

	Benzene			1-3 Butadiene			Formaldehyde			Acetaldehyde		
	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)
2006 Composite Emissions	485.5	96.8	51.3	76.9	17.7	9.9	318.5	79.8	41.5	101.9	25.7	13.9

Snowcoach HAPs Emissions as Percent of HC

	Benzene			1-3 Butadiene			Formaldehyde			Acetaldehyde		
	Idle	Low	Cruise	Idle	Low	Cruise	Idle	Low	Cruise	Idle	Low	Cruise
Percent of HC	2.84%	3.19%	3.11%	0.45%	0.58%	0.60%	1.86%	2.63%	2.51%	0.60%	0.85%	0.84%

83/17 gas/diesel snowcoaches mix (Alternatives 5a Only)

Snowcoach HAPs Emission Factors Based on MOBILE6.2 for Light- and Heavy-Duty Trucks

	Benzene			1-3 Butadiene			Formaldehyde			Acetaldehyde		
	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)	Idle (g/hr)	Low (g/mi)	Cruise (g/mi)
2006 Composite Emissions	815.2	158.0	82.1	112.2	24.2	13.2	368.3	84.1	40.0	109.9	25.1	12.7

Snowcoach HAPs Emissions as Percent of HC

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: 2015-HAP.IN (file 1, run 1).                              *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 2.5mph

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2015
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV         MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.3351              0.1254    0.0000
0.0049    0.5346    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     5.721     5.721     5.418    0.000
0.728     1.369      0.00     3.332

-------------------------------------------------------------------------------------
----------------------------------
Exhaust emissions (g/mi):
        VOC   Start:     0.000     0.000     0.678     0.678               0.000
0.118                0.000
      VOC   Running:     0.000     0.000     2.357     2.357               0.000
```

```
0.610                 0.000
  VOC Total Exhaust:     0.000     0.000     3.035     3.035     3.016     0.000
0.728     1.369      0.00     2.130

-------------------------------------------------------------------------------
---------------------------------
*********************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                        *
* Input file: 2015-HAP.IN (file 1, run 2).                          *
*********************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 8.8mph

* File 1, Run 2, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  8.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2015
                           Month:  Jan.
                        Altitude:  High
             Minimum Temperature:   0.0 (F)
             Maximum Temperature:  30.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  13.5 psi
                   Weathered RVP:  13.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.3351              0.1254    0.0000
0.0049    0.5346    0.0000    1.0000

-------------------------------------------------------------------------------
---------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     2.053     2.053     2.197    0.000
0.554     0.979      0.00     1.490
```

```
--------------------------------------------------------------------------------
----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: 2015-HAP.IN (file 1, run 3).                              *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 23.7mph

* File 1, Run 3, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of 23.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2015
                           Month:  Jan.
                        Altitude:  High
             Minimum Temperature:   0.0 (F)
             Maximum Temperature:  30.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  13.5 psi
                   Weathered RVP:  13.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.3351              0.1254    0.0000
0.0049    0.5346    0.0000    1.0000

--------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     1.387     1.387     0.965    0.000
0.360     0.543      0.00     0.878

--------------------------------------------------------------------------------
----------------------------------
```

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: 2015-P10.IN (file 1, run 1).                                  *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 2.5mph

* File 1, 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
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

* 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

                     Calendar Year:  2015
                             Month:  Jan.
                          Altitude:  High
               Minimum Temperature:   0.0 (F)
               Maximum Temperature:  30.0 (F)
                 Absolute Humidity:   75. grains/lb
                  Nominal Fuel RVP:  13.5 psi
                     Weathered RVP:  13.5 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:    0.0000    0.0000    0.3351              0.1254    0.0000
0.0049    0.5346    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     5.721     5.721     5.418    0.000
0.728     1.369      0.00     3.332
     Composite CO  :      0.00      0.00     60.53     60.53    156.76     0.000
1.869    12.305      0.00    46.534
     Composite NOX :      0.000     0.000     2.360     2.360     0.754    0.000
0.708     8.416      0.00     5.388

-------------------------------------------------------------------------------------
----------------------------------
Exhaust emissions (g/mi):
        VOC   Start:     0.000     0.000     0.678     0.678               0.000
0.118                 0.000
      VOC   Running:     0.000     0.000     2.357     2.357               0.000
0.610                 0.000
  VOC Total Exhaust:     0.000     0.000     3.035     3.035     3.016     0.000
0.728     1.369      0.00     2.130

           CO Start:      0.00      0.00     13.75      0.00               0.000
0.272                 0.000
         CO Running:      0.00      0.00     46.78      0.00               0.000
1.598                 0.000
   CO Total Exhaust:      0.00      0.00     60.53      0.00    156.76     0.000
1.869    12.305      0.00    46.534

          NOx Start:     0.000     0.000     0.304     0.000               0.000
0.020                 0.000
        NOx Running:     0.000     0.000     2.056     0.000               0.000
0.689                 0.000
  NOx Total Exhaust:     0.000     0.000     2.360     0.000     0.754     0.000
0.708     8.416      0.00     5.388

-------------------------------------------------------------------------------------
----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: 2015-P10.IN (file 1, run 2).                              *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 8.8mph

* File 1, Run 2, 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
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  8.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2015
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 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:    0.0000    0.0000    0.3351              0.1254    0.0000
0.0049    0.5346    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     2.053     2.053     2.197    0.000
0.554     0.979      0.00     1.490
     Composite CO  :      0.00      0.00     31.94     31.94     89.05     0.000
1.226     7.351      0.00    25.808
     Composite NOX :      0.000     0.000     1.781     1.781     0.807    0.000
0.548     6.418      0.00     4.132

-------------------------------------------------------------------------------------
----------------------------------
************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                           *
* Input file: 2015-P10.IN (file 1, run 3).                             *
************************************************************************
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 23.7mph

* File 1, Run 3, 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
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of 23.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2015
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 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:    0.0000    0.0000    0.3351              0.1254    0.0000
0.0049    0.5346    0.0000    1.0000

-------------------------------------------------------------------------------------
-----------------------------------
 Composite Emission Factors (g/mi):
```

```
     Composite VOC :      0.000     0.000     1.387     1.387     0.965    0.000
0.360     0.543      0.00     0.878
     Composite CO  :      0.00      0.00     25.32     25.32     36.19     0.000
0.681     3.157      0.00    14.715
     Composite NOX :      0.000     0.000     1.387     1.387     0.921    0.000
0.389     4.450      0.00     2.961

-------------------------------------------------------------------------------------
----------------------------------
```

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

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter 2.5mph

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2006
                           Month:  Jan.
                        Altitude:  High
             Minimum Temperature:   0.0 (F)
             Maximum Temperature:  30.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  13.5 psi
                   Weathered RVP:  13.5 psi
             Fuel Sulfur Content:  160. 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:    0.4091    0.3449    0.1176              0.0356    0.0005
0.0019    0.0847    0.0056    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      7.202     7.419    12.010     8.587    14.229    1.124
2.024     3.279      9.89     7.763

-------------------------------------------------------------------------------------
----------------------------------
          Veh. Type:    HDDV2B    HDDV3     HDDV4     HDDV5     HDDV6     HDDV7
HDDV8A    HDDV8B
                        ------    ------    ------    ------    ------    ------
------    ------
            VMT Mix:    0.0093    0.0028    0.0027    0.0012    0.0063    0.0092
0.0111    0.0396
-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     1.434     1.562     1.912     1.941     2.770     3.484
3.323     3.938
-------------------------------------------------------------------------------------
```

```
-----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: SCD-HC.IN (file 1, run 2).                                *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter 8.8mph

* File 1, Run 2, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  8.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                  Calendar Year:  2006
                          Month:  Jan.
                       Altitude:  High
             Minimum Temperature:   0.0 (F)
             Maximum Temperature:  30.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  13.5 psi
                   Weathered RVP:  13.5 psi
             Fuel Sulfur Content:  160. 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:    0.4091    0.3449    0.1176              0.0356    0.0005
0.0019    0.0847    0.0056    1.0000

-------------------------------------------------------------------------------------
-----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      2.091     2.576     4.318     3.019     6.090    0.866
1.570     2.346      4.48     2.696

-------------------------------------------------------------------------------------
-----------------------------------
          Veh. Type:    HDDV2B    HDDV3     HDDV4     HDDV5     HDDV6     HDDV7
HDDV8A    HDDV8B
                        ------    ------    ------    ------    ------    ------
------    ------
            VMT Mix:    0.0093    0.0028    0.0027    0.0012    0.0063    0.0092
0.0111    0.0396
-------------------------------------------------------------------------------------
-----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     1.026     1.118     1.368     1.389     1.982     2.493
2.378     2.818
```

```
--------------------------------------------------------------------------------
----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: SCD-HC.IN (file 1, run 3).                                *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter 23.7mph

* File 1, Run 3, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 23.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                  Calendar Year:  2006
                          Month:  Jan.
                       Altitude:  High
             Minimum Temperature:   0.0 (F)
             Maximum Temperature:  30.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  13.5 psi
                   Weathered RVP:  13.5 psi
             Fuel Sulfur Content:  160. 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:    0.4091    0.3449    0.1176              0.0356    0.0005
0.0019    0.0847    0.0056    1.0000

--------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.320     1.714     2.946     2.027     2.502    0.577
1.062     1.301      2.81     1.695

--------------------------------------------------------------------------------
----------------------------------
          Veh. Type:    HDDV2B    HDDV3     HDDV4     HDDV5     HDDV6     HDDV7
HDDV8A    HDDV8B
                        ------    ------    ------    ------    ------    ------
------    ------
            VMT Mix:    0.0093    0.0028    0.0027    0.0012    0.0063    0.0092
0.0111    0.0396
--------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     0.569     0.620     0.759     0.771     1.099     1.383
```

1.319 1.563

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: SCG-P10.IN (file 1, run 1).                               *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter 2.5mph

* File 1, 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
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

* 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

                     Calendar Year:  2006
                             Month:  Jan.
                          Altitude:  High
               Minimum Temperature:   0.0 (F)
               Maximum Temperature:  30.0 (F)
                 Absolute Humidity:   75. grains/lb
                  Nominal Fuel RVP:  13.5 psi
                     Weathered RVP:  13.5 psi
               Fuel Sulfur Content:  160. 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:    0.4091    0.3449    0.1176              0.0356    0.0005
0.0019    0.0847    0.0056    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      7.202     7.419    12.010     8.587    14.229    1.124
2.024     3.279      9.89     7.763
     Composite CO  :     75.75     84.62    120.97     93.87    246.22     4.615
5.778    32.311    116.85    86.584
     Composite NOX :      2.191     2.802     3.672     3.023     2.699    1.831
2.177    17.358      1.07     3.873

-------------------------------------------------------------------------------------
----------------------------------
          Veh. Type:     LDGT1     LDGT2     LDGT3     LDGT4    LDDT12    LDDT34
                         ------    ------    ------    ------    ------    ------
            VMT Mix:    0.0797    0.2652    0.0806    0.0371    0.0002    0.0017
-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     7.165     7.495    11.889    12.275     5.920     1.613
     Composite CO  :    85.21     84.44    120.80    121.36    21.169     4.156
     Composite NOX :     2.328     2.944     3.395     4.275     4.230     1.961
-------------------------------------------------------------------------------------
----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: SCG-P10.IN (file 1, run 2).                               *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter 8.8 mph

* File 1, Run 2, 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
  M583 Warning:
            The user supplied arterial average speed of  8.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
```

```
there are no sales for vehicle class HDGV8b

      Calendar Year:  2006
              Month:  Jan.
           Altitude:  High
Minimum Temperature:   0.0 (F)
Maximum Temperature:  30.0 (F)
  Absolute Humidity:   75. grains/lb
   Nominal Fuel RVP:  13.5 psi
      Weathered RVP:  13.5 psi
Fuel Sulfur Content:  160. 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:    0.4091    0.3449    0.1176              0.0356    0.0005
0.0019    0.0847    0.0056    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      2.091     2.576     4.318     3.019     6.090    0.866
1.570     2.346      4.48     2.696
     Composite CO  :     37.49     42.49     53.98     45.42    139.87     3.076
3.995    19.304     53.71    43.274
     Composite NOX :      1.633     2.087     2.736     2.252     2.890    1.417
1.685    13.453      0.89     2.961

-------------------------------------------------------------------------------------
----------------------------------
          Veh. Type:     LDGT1     LDGT2     LDGT3     LDGT4    LDDT12    LDDT34
                         ------    ------    ------    ------    ------    ------
            VMT Mix:    0.0797    0.2652    0.0806    0.0371    0.0002    0.0017
-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     2.455     2.612     4.259     4.447     4.896     1.220
     Composite CO  :    43.12     42.31     53.88     54.22    15.922     2.738
     Composite NOX :     1.735     2.193     2.530     3.183     3.325     1.513
-------------------------------------------------------------------------------------
----------------------------------
**********************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                         *
* Input file: SCG-P10.IN (file 1, run 3).                            *
**********************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter 23.7 mph

* File 1, Run 3, 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
  M583 Warning:
            The user supplied arterial average speed of 23.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b

                   Calendar Year:  2006
                           Month:  Jan.
                        Altitude:  High
             Minimum Temperature:   0.0 (F)
             Maximum Temperature:  30.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  13.5 psi
                   Weathered RVP:  13.5 psi
             Fuel Sulfur Content:  160. 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:    0.4091    0.3449    0.1176              0.0356    0.0005
0.0019    0.0847    0.0056    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.320     1.714     2.946     2.027     2.502    0.577
1.062     1.301      2.81     1.695
     Composite CO  :     29.70     33.72     41.09     35.59     56.85     1.772
2.485     8.290     34.48    31.538
     Composite NOX :      1.202     1.550     2.069     1.682     3.300    1.009
1.201     9.604      1.04     2.210

-------------------------------------------------------------------------------------
----------------------------------
          Veh. Type:     LDGT1     LDGT2     LDGT3     LDGT4    LDDT12    LDDT34
                         ------    ------    ------    ------    ------    ------
            VMT Mix:    0.0797    0.2652    0.0806    0.0371    0.0002    0.0017
-------------------------------------------------------------------------------------
----------------------------------
```

```
 Composite Emission Factors (g/mi):
     Composite VOC :     1.639     1.737     2.908     3.028     3.749     0.779
     Composite CO  :    34.26     33.55     40.99     41.29     11.479     1.538
     Composite NOX :     1.274     1.633     1.907     2.420     2.433     1.071
-------------------------------------------------------------------------------------
-----------------------------------
```

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

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 2.5mph

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M614 Comment:
               User supplied diesel sale fractions.
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.

                    Calendar Year:  2006
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:  160. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.2322              0.2161    0.0000
0.2678    0.2839    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000    12.296    12.296    14.169    0.000
1.543     1.786      0.00     6.838

-------------------------------------------------------------------------------------
----------------------------------
Exhaust emissions (g/mi):
        VOC   Start:     0.000     0.000     1.539     1.539               0.000
0.202                0.000
      VOC   Running:     0.000     0.000     5.516     5.516               0.000
1.341                0.000
  VOC Total Exhaust:     0.000     0.000     7.055     7.055     9.121     0.000
```

```
1.543     1.786      0.00     4.530

-------------------------------------------------------------------------------
----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: SC-HAP.IN (file 1, run 2).                                *
*************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 8.8mph

* File 1, Run 2, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M614 Comment:
               User supplied diesel sale fractions.
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  8.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.

                    Calendar Year:  2006
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:  160. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.2322              0.2161    0.0000
0.2678    0.2839    0.0000    1.0000

-------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     4.457     4.457     6.106    0.000
1.162     1.278      0.00     3.029

-------------------------------------------------------------------------------
----------------------------------
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
```

```
* Input file: SC-HAP.IN (file 1, run 3).                                  *
****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 23.7mph

* File 1, Run 3, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M614 Comment:
               User supplied diesel sale fractions.
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of 23.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.

                    Calendar Year:  2006
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:  160. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                       ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.2322              0.2161    0.0000
0.2678    0.2839    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     3.035     3.035     2.520    0.000
0.734     0.709      0.00     1.647

-------------------------------------------------------------------------------------
----------------------------------
```

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

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 2.5mph

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M614 Comment:
               User supplied diesel sale fractions.
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.

                    Calendar Year:  2006
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:  160. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.4045              0.3935    0.0000
0.0955    0.1065    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000    12.296    12.296    14.197    0.000
1.543     1.808      0.00    10.900

-------------------------------------------------------------------------------------
----------------------------------
Exhaust emissions (g/mi):
        VOC   Start:     0.000     0.000     1.539     1.539               0.000
0.202                0.000
      VOC   Running:     0.000     0.000     5.516     5.516               0.000
1.341                0.000
  VOC Total Exhaust:     0.000     0.000     7.055     7.055     9.141     0.000
```

```
1.543     1.808      0.00     6.790

-------------------------------------------------------------------------------
----------------------------------
**************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                             *
* Input file: SC-HAPC.IN (file 1, run 2).                                *
**************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 8.8mph

* File 1, Run 2, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M614 Comment:
               User supplied diesel sale fractions.
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of  8.8
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.

                    Calendar Year:  2006
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:  160. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.4045              0.3935    0.0000
0.0955    0.1065    0.0000    1.0000

-------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     4.457     4.457     6.120    0.000
1.162     1.294      0.00     4.460

-------------------------------------------------------------------------------
----------------------------------
**************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                             *
```

```
* Input file: SC-HAPC.IN (file 1, run 3).                                  *
****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # #
* Yellowstone Winter Commercial Mix 23.7mph

* File 1, Run 3, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # #
  M614 Comment:
               User supplied diesel sale fractions.
  M615 Comment:
               User supplied VMT mix.
  M583 Warning:
            The user supplied arterial average speed of 23.7
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M616 Comment:
               User has supplied post-1999 sulfur levels.

                    Calendar Year:  2006
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:   0.0 (F)
              Maximum Temperature:  30.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  13.5 psi
                    Weathered RVP:  13.5 psi
              Fuel Sulfur Content:  160. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 0.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.000
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV
 LDDT      HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                         ------    ------    ------    ------    ------    ------
------    ------    ------    ------
   VMT Distribution:    0.0000    0.0000    0.4045              0.3935    0.0000
0.0955    0.1065    0.0000    1.0000

-------------------------------------------------------------------------------------
----------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      0.000     0.000     3.035     3.035     2.526    0.000
0.734     0.718      0.00     2.368

-------------------------------------------------------------------------------------
----------------------------------
```

ATTACHMENT E
CAL3QHCR MODELING FILES

Due to file size, modeling data is available for review at the park upon request.

ATTACHMENT F
AERMOD MODELING FILES

Due to file size, modeling data is available for review at the park upon request.

ATTACHMENT G
PSD CALCULATIONS

ATTACHMENT G PSD Analysis
Maximum Predicted 24- hour PM_{10} (µg/m^3) without Background / Increment Consumption
CAL3QHCR and AERMOD Modeling
Yellowstone National Park

Scenario	Description	Site 1: West Entrance	Site 2: West Entrance to Madison	Site 3: Canyon to Fishing Bridge	Site 4: Old Faithful Staging Area
		24-hour (ug/m^3)	24-hour (ug/m^3)	24-hour (ug/m^3)	24-hour (ug/m^3)
Alternative 2	2008 Plan Limits	0.5	0.1	0.0	0.1
Alternative 3	2004 Plan Limits	1.1	0.1	0.1	0.1
Alternative 4	Mixed Use	0.7	1.0	0.0	0.1
Alternative 5a START	Transition to BAT Snowcoaches Only	0.5	0.0	0.0	0.1
Alternative 5B FINAL	Transition to BAT Snowcoaches Only	0.0	0.1	0.0	0.0
Alternative 6	Implement Variable Management	0.8	0.1	0.0	0.1
Alternative 7a	Provide Variety of Use Levels - Max	0.5	0.1	0.0	0.1
Alternative 7b	Provide Variety of Use Levels - Mid	0.2	0.0	0.0	0.0
Alternative 7c	Provide Variety of Use Levels - Low	0.1	0.0	0.0	0.0
1999 Historical	Historical Unregulated Scenario	191.5	40.2	5.9	3.8
PSD Baseline Year	1979 Historical Conditions	42.5	8.9	1.1	0.7

Note:
Baseline Year concentrations are based on the ratio of 1979 to 1999 snowmobile levels at the modeling locations.
Class I PSD Increment for 24-hour average PM_{10} is 8 µg/m^3
As the methodology employed in this study is a screening-level analysis, it is not intended for regulatory purposes and does not constitute a regulatory PSD increment consumption analysis.

Peak Hour Snowmobile Volume Comparison
Dispersion Modeling Input Volumes

Modeling Year	Site 1: West Entrance	Site 2: West Entrance to Madison	Site 3: Canyon to Fishing Bridge	Site 4: Old Faithful Staging Area
1979	74	74	46	121
1999	331	331	238	633
1979 to 1999 Ratio	22%	22%	19%	19%

	West Entrance Daily Entry Limit	West Entrance to Madison Trips	Canyon to Fishing Bridge Trips	Daily One-way Trips on Road Segments to Old Faithful
1979	210	Same as WE	115	220
1999	947	Same as WE	595	1,152
Peak Hour (% of Daily Trips)	35.0%		40.0%	55.0%

1979 Baseline Year - Historical Unregulated Conditions

Snowmobiles	West Entrance		South Entrance		East Entrance		North Entrance		Old Faithful		Total
	210		37		16		13		0		276
YELL Road Segment	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	
Mammoth to Norris	0.05	10.5	0.03	1.11	0.1	1.6	1.8	23.4	0.3	0	37
West Entrance to Madison	1.8	378	0.05	1.85	0.1	1.6	0.15	1.95	0.15	0	383
Madison to Norris	0.59	123.9	0.08	2.96	0.1	1.6	1.2	15.6	1	0	144
Norris to Canyon Village	0.44	92.4	0.05	1.85	0.2	3.2	0.56	7.28	0.7	0	105
Canyon Village to Fishing Bridge	0.34	71.4	0.45	16.65	1.4	22.4	0.36	4.68	0.7	0	115
Fishing Bridge to East Entrance	0.02	4.2	0.05	1.85	1.6	25.6	0.02	0.26	0.02	0	32
Fishing Bridge to West Thumb	0.08	16.8	0.46	17.02	0.3	4.8	0.02	0.26	0.7	0	39
Madison to Old Faithful*	1.41	296.1	0.47	17.39	0.1	1.6	1.15	14.95	1.05	0	330
Old Faithful to West Thumb*	0.27	56.7	1.35	49.95	0.2	3.2	0.05	0.65	0.75	0	111
West Thumb to Flagg Ranch	0.05	10.5	1.75	64.75	0.1	1.6	0.05	0.65	0.05	0	78

* Used to determine Old Faithful visits

Snowcoaches	West Entrance		South Entrance		East Entrance		North Entrance		Old Faithful		Total
	7		5		0		0		0		12
YELL Road Segment	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	
Mammoth to Norris	0.05	0.36556	0.03	0.143	0.1	0	1.8	0	0	0	1
West Entrance to Madison	1.8	13.16	0.05	0.23833	0.1	0	0.15	0	0.48	0	13
Madison to Norris	0.59	4.31356	0.08	0.38133	0.1	0	1.2	0	0.06	0	5
Norris to Canyon Village	0.44	3.21689	0.05	0.23833	0.2	0	0.56	0	0.06	0	3
Canyon Village to Fishing Bridge	0.34	2.48578	0.45	2.145	1.4	0	0.36	0	0.06	0	5
Fishing Bridge to East Entrance	0.02	0.14622	0.05	0.23833	1.6	0	0.02	0	0	0	0
Fishing Bridge to West Thumb	0.08	0.58489	0.46	2.19267	0.3	0	0.02	0	0.06	0	3
Madison to Old Faithful	1.41	10.3087	0.47	2.24033	0.1	0	1.15	0	0.6	0	13
Old Faithful to West Thumb	0.27	1.974	1.35	6.435	0.2	0	0.05	0	1.3	0	8
West Thumb to Flagg Ranch	0.05	0.36556	1.75	8.34167	0.1	0	0.05	0	1.18	0	9

Snowmobiles	CDST		Grassy Lake Rd		Jackson Lake		Totals
	N/A		N/A		N/A		0
GRTE Road Segment	**Factor**	**Results**	**Factor**	**Results**	**Factor**	**Results**	
Moran Junction to Flagg Ranch	2	N/A	0	0	0	0	N/A
Flagg Ranch west to boundary	0	0	1.9	N/A	0	0	N/A
Jackson Lake fishing access	0	0	0	0	2	N/A	N/A

NOTES:
CDST did not exist in 1979 and no GRTE or Grassy Lake statistics available.

ATTACHMENT H
EMISSIONS INVENTORY FILES

Maximum Predicted 1- and 8-hour CO Concentrations (parts per million) - CAL3QHCR and AERMOD Modeling
Yellowstone National Park

DRAFT

Scenario	Description	Site 1: West Entrance		Site 2: West Entrance to Madison		Site 3: Canyon to Fishing Bridge		Site 4: Old Faithful Staging Area	
		1-hour (ppm)	8-hour (ppm)	1-hour (ppm)	8-hour (ppm)	1-hour (ppm)	8-hour (ppm)	1-hour (ppm)	8-hour (ppm)
Alternative 2	2008 Plan Limits	1.0	0.4	0.4	0.2	0.3	0.3	0.3	0.2
Alternative 3	2004 Plan Limits	1.8	0.6	0.7	0.3	0.3	0.2	0.4	0.2
Alternative 4	Mixed Use	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Alternative 5a START	Transition to BAT Snowcoaches Only	1.2	0.5	0.5	0.3	0.3	0.2	0.4	0.2
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2
Alternative 6	Implement Variable Management	1.5	0.5	0.4	0.3	0.3	0.2	0.4	0.2
Alternative 7a	Provide Variety of Use Levels - Max	1.5	0.4	0.4	0.2	0.3	0.2	0.3	0.2
Alternative 7b	Provide Variety of Use Levels - Mid	0.7	0.3	0.3	0.2	0.3	0.2	0.3	0.2
Alternative 7c	Provide Variety of Use Levels - Low	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.2

Note:
NAAQS for CO are 35 and 9 parts per million (ppm), for the 1-hour and 8-hour averaging periods, respectively.

Location	CO Backgrounds (ppm)	
	1-hr	8-hr
West Entrance	0.17	0.15
Old Faithful	0.17	0.15

Maximum Predicted 1-hour NO_2 Concentrations (parts per billion) - CAL3QHCR and AERMOD Modeling
Yellowstone National Park

DRAFT

Scenario	Description	Site 1: West Entrance	Site 2: West Entrance to Madison	Site 3: Canyon to Fishing Bridge	Site 4: Old Faithful Staging Area
		1-hour (ppb)	1-hour (ppb)	1-hour (ppb)	1-hour (ppb)
Alternative 2	2008 Plan Limits	27	17	16	1
Alternative 3	2004 Plan Limits	27	30	17	1
Alternative 4	Mixed Use	10	5	7	2
Alternative 5a START	Transition to BAT Snowcoaches Only	20	18	11	1
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	19	10	10	1
Alternative 6	Implement Variable Management	32	24	14	1
Alternative 7a	Provide Variety of Use Levels - Max	32	18	11	1
Alternative 7b	Provide Variety of Use Levels - Mid	29	12	8	1
Alternative 7c	Provide Variety of Use Levels - Low	8	7	5	1

Note:
NAAQS for NO_2 is 100 parts per billion (ppb), for the 1-hour averaging period.

NO_2 Background (ppb)
1-hr
0.3000

Maximum Predicted 24- hour $PM_{2.5}$ Concentrations (µg/m^3) - CAL3QHCR and AERMOD Modeling
Yellowstone National Park

DRAFT

Scenario	Description	Site 1: West Entrance	Site 2: West Entrance to Madison	Site 3: Canyon to Fishing Bridge	Site 4: Old Faithful Staging Area
		24-hour (ug/m^3)	24-hour (ug/m^3)	24-hour (ug/m^3)	24-hour (ug/m^3)
Alternative 2	2008 Plan Limits	1.9	1.5	1.4	1.5
Alternative 3	2004 Plan Limits	2.5	1.5	1.5	1.5
Alternative 4	Mixed Use	2.1	2.4	1.4	1.5
Alternative 5a START	Transition to BAT Snowcoaches Only	1.9	1.4	1.4	1.5
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	1.4	1.5	1.4	1.4
Alternative 6	Implement Variable Management	2.2	1.5	1.4	1.5
Alternative 7a	Provide Variety of Use Levels - Max	1.9	1.5	1.4	1.5
Alternative 7b	Provide Variety of Use Levels - Mid	1.6	1.4	1.4	1.4
Alternative 7c	Provide Variety of Use Levels - Low	1.5	1.4	1.4	1.4

Note:
NAAQS for PM_{10} is 150 µg/m^3 and for $PM_{2.5}$ is 35 µg/m3, for the 24-hour averaging period.

Location	$PM_{2.5}$ Backgrounds (ug/m^3) 24-hr
WEST ENTRANCE	1.4
OLD FAITHFUL	1.4

VISCREEN Visibility Analysis Results

DRAFT

Scenario	Description	Screening Criteria Exceedance			
		Site 1: West Entrance	Site 2: West Entrance to Madison	Site 3: Canyon to Fishing Bridge	Site 4: Old Faithful Staging Area
Alternative 2	2008 Plan Limits	No	No	No	No
Alternative 3	2004 Plan Limits	No	No	No	No
Alternative 4	Mixed Use	No	No	No	No
Alternative 5a START	Transition to BAT Snowcoaches Only	No	No	No	No
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	No	No	No	No
Alternative 6	Implement Variable Management	No	No	No	No
Alternative 7a	Provide Variety of Use Levels - Max	No	No	No	No
Alternative 7b	Provide Variety of Use Levels - Mid	No	No	No	No
Alternative 7c	Provide Variety of Use Levels - Low	No	No	No	No

Table 6-1: Summary of Parkwide Total Winter Season Mobile Source Emissions
Yellowstone National Park

Scenario	Description	CO		HC		NOx		PM	
		lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy
Alternative 2	2008 Plan Limits	1,952	88	93	4.16	619	28	5	0.2
Alternative 3	2004 Plan Limits	2,992	135	166	7.48	947	43	7	0.3
Alternative 4	Mixed Use	1,177	53	64	2.90	345	16	201	9.0
Alternative 5a START	Transition to BAT Snowcoaches Only	3,809	171	108	4.85	690	31	4	0.2
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	1,540	69	41	1.86	489	22	4	0.2
Alternative 6	Implement Variable Management	1,663	75	88	3.94	527	24	4	0.2
Alternative 7*	Provide Variety of Use Levels	1,998	73	95	3.53	633	23	5	0.2

Note:

All Alternatives assume snowmobile and snowcoach BAT, except Alternative 5a Start, which assumes only snowmobile BAT.

* Daily estimates (lb/day) for Alternative 7 are based on the maximum use levels for a given day.

Summary of Emissions

Summary of Emissions By Scenario and Link (lb/day)

CO

Link	Alternative 2 (lb/day)	Alternative 3 (lb/day)	Alternative 4 (lb/day)	Alternative 5a START	Alternative 5b FINAL	Alternative 6 (lb/day)	Alternative 7a (lb/day)	Alternative 7b (lb/day)	Alternative 7c (lb/day)
						Ave. Use Day			
West	7.03	15.34	2.52	10.11	1.97	7.84	7.63	5.03	3.29
Mammoth to Norris	140.27	175.87	97.36	309.99	124.75	111.76	135.11	110.98	96.30
West Entrance to Madison	285.82	477.80	104.14	565.80	230.93	262.64	304.23	201.45	130.05
Madison to Norris	148.95	231.70	64.51	302.62	119.38	131.67	152.13	109.56	81.12
Norris to Canyon Village	83.88	134.79	47.91	167.37	66.33	75.65	86.65	61.54	42.99
Canyon Village to Fishing Bridge	153.76	240.79	111.44	283.32	118.65	135.31	157.95	118.66	75.13
Fishing Bridge to East Entrance	69.44	105.09	18.88	116.25	59.91	66.23	72.41	67.26	24.40
Fishing Bridge to West Thumb	128.24	184.53	157.45	221.40	98.17	101.62	129.37	101.54	81.64
Madison to Old Faithful	352.56	564.63	121.46	708.69	280.80	312.60	366.04	248.62	172.08
Old Faithful to West Thumb	251.19	369.82	207.89	491.62	197.57	199.45	254.31	171.74	124.13
West Thumb to Flagg Ranch	318.74	467.72	236.54	612.77	239.09	246.17	319.61	204.93	146.22
Old Faithful Staging Area	11.90	23.99	6.45	19.47	2.53	12.02	12.23	8.58	6.28
Total	**1951.79**	**2992.09**	**1176.54**	**3809.40**	**1540.07**	**1662.97**	**1997.66**	**1409.90**	**983.62**

HC

Link	Alternative 2 (lb/day)	Alternative 3 (lb/day)	Alternative 4 (lb/day)	Alternative 5a START	Alternative 5b FINAL	Alternative 6 (lb/day)	Alternative 7a (lb/day)	Alternative 7b (lb/day)	Alternative 7c (lb/day)
						Ave. Use Day			
West	0.33	0.70	0.17	0.40	0.11	0.36	0.35	0.23	0.15
Mammoth to Norris	5.76	8.30	6.77	7.13	4.15	5.17	5.62	5.00	4.54
West Entrance to Madison	13.38	27.10	7.78	15.66	5.58	14.12	14.38	9.68	6.45
Madison to Norris	6.78	12.69	4.64	8.03	3.24	6.86	7.00	5.23	4.01
Norris to Canyon Village	3.89	7.53	2.47	4.57	1.72	4.02	4.06	2.98	2.14
Canyon Village to Fishing Bridge	7.73	13.95	5.13	8.78	3.28	7.52	7.95	6.11	3.84
Fishing Bridge to East Entrance	3.78	6.33	1.01	4.16	1.80	3.95	3.98	3.73	1.29
Fishing Bridge to West Thumb	6.82	10.84	7.28	7.58	3.54	5.71	6.82	5.42	4.36
Madison to Old Faithful	16.24	31.39	8.84	19.13	6.93	16.43	16.98	11.79	8.40
Old Faithful to West Thumb	11.90	20.38	9.34	13.86	5.11	10.26	11.92	8.22	6.05
West Thumb to Flagg Ranch	15.38	26.02	10.51	17.77	5.71	12.71	15.16	9.86	7.07
Old Faithful Staging Area	0.54	1.01	0.42	0.76	0.23	0.52	0.56	0.39	0.28
Total	**92.55**	**166.24**	**64.37**	**107.83**	**41.39**	**87.63**	**94.80**	**68.64**	**48.59**

Summary of Emissions

NOx

Link	Alternative 2 (lb/day)	Alternative 3 (lb/day)	Alternative 4 (lb/day)	Alternative 5a START	Alternative 5b FINAL	Alternative 6 (lb/day)	Alternative 7a (lb/day)	Alternative 7b (lb/day)	Alternative 7c (lb/day)
	Ave. Use Day								
West	1.44	2.25	0.39	1.36	1.41	1.26	1.54	0.99	0.61
Mammoth to Norris	44.69	56.13	25.30	51.25	39.65	35.66	43.05	35.40	30.74
West Entrance to Madison	91.21	152.92	24.72	102.03	73.20	83.98	97.10	64.31	41.54
Madison to Norris	47.52	74.12	16.07	53.46	37.88	42.08	48.54	34.97	25.91
Norris to Canyon Village	26.76	43.13	15.31	29.99	21.04	24.19	27.65	19.65	13.73
Canyon Village to Fishing Bridge	49.12	77.09	35.56	54.13	37.65	43.29	50.46	37.92	24.01
Fishing Bridge to East Entrance	22.21	33.67	6.04	24.02	19.02	21.22	23.16	21.52	7.80
Fishing Bridge to West Thumb	41.00	59.09	50.24	44.60	31.23	32.52	41.36	32.47	26.10
Madison to Old Faithful	112.48	180.65	29.64	126.25	89.03	99.93	116.80	79.35	54.95
Old Faithful to West Thumb	80.17	118.31	66.30	89.47	62.66	63.74	81.16	54.82	39.63
West Thumb to Flagg Ranch	101.76	149.65	75.43	113.12	75.79	78.67	102.01	65.42	46.68
Old Faithful Staging Area	0.36	0.43	0.33	0.18	0.44	0.26	0.37	0.24	0.17
Total	**618.73**	**947.43**	**345.33**	**689.85**	**489.00**	**526.80**	**633.19**	**447.07**	**311.86**

PM-10

Link	Alternative 2 (lb/day)	Alternative 3 (lb/day)	Alternative 4 (lb/day)	Alternative 5a START	Alternative 5b FINAL	Alternative 6 (lb/day)	Alternative 7a (lb/day)	Alternative 7b (lb/day)	Alternative 7c (lb/day)
	Ave. Use Day								
West	0.02	0.03	0.77	0.01	0.01	0.02	0.02	0.01	0.01
Mammoth to Norris	0.37	0.45	41.00	0.24	0.34	0.28	0.35	0.28	0.24
West Entrance to Madison	0.73	1.15	60.23	0.51	0.66	0.64	0.77	0.51	0.33
Madison to Norris	0.38	0.56	32.02	0.26	0.33	0.33	0.39	0.28	0.20
Norris to Canyon Village	0.21	0.33	0.12	0.15	0.19	0.19	0.22	0.16	0.11
Canyon Village to Fishing Bridge	0.38	0.58	0.28	0.29	0.33	0.33	0.39	0.29	0.19
Fishing Bridge to East Entrance	0.17	0.25	0.05	0.13	0.17	0.16	0.18	0.16	0.06
Fishing Bridge to West Thumb	0.32	0.44	0.40	0.24	0.26	0.25	0.32	0.25	0.20
Madison to Old Faithful	0.90	1.37	64.56	0.63	0.80	0.77	0.93	0.63	0.43
Old Faithful to West Thumb	0.64	0.90	0.53	0.45	0.56	0.49	0.65	0.43	0.31
West Thumb to Flagg Ranch	0.80	1.13	0.61	0.58	0.68	0.61	0.81	0.52	0.37
Old Faithful Staging Area	0.03	0.06	0.20	0.03	0.01	0.03	0.03	0.02	0.02
Total	**4.94**	**7.25**	**200.78**	**3.54**	**4.33**	**4.09**	**5.06**	**3.55**	**2.47**

Percent Contribution by Vehicle Type to Total Scenario Emissions

Scenario	Description	CO			HC			NOx			PM		
		Snowmobile	Snowcoach	On-road Vehicle	Snowmobile	Snowcoach	On-road Vehicle	Snowmobile	Snowcoach	On-road Vehicle	Snowmobile	Snowcoach	On-road Vehicle
Alternative 2	2008 Plan Limits	54%	46%	na	81%	19%	na	54%	46%	na	48%	52%	na
Alternative 3	2004 Plan Limits	70%	30%	na	90%	10%	na	70%	30%	na	64%	36%	na
Alternative 4	Mixed Use	43%	36%	21%	56%	13%	31%	47%	39%	14%	0.6%	0.6%	98.8%
Alternative 5a START	Transition to BAT Snowcoaches Only	28%	72%	na	70%	30%	na	49%	51%	na	67%	33%	na
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	15%	85%	na	39%	61%	na	15%	85%	na	11%	89%	na
Alternative 6	Implement Variable Management	65%	35%	na	87%	13%	na	65%	35%	na	58%	42%	na
Alternative 7	Provide Variety of Use Levels	56%	44%	na	82%	18%	na	56%	44%	na	56%	44%	na

Summary of Parkwide Total Winter Season HAPs Mobile Source Emissions (Tons per Year)
Yellowstone National Park

DRAFT

Scenario	Description	Benzene (tpy)	1-3 Butadiene (tpy)	Formaldehyde (tpy)	Acetaldehyde (tpy)
Alternative 2	2008 Plan Limits	0.11	0.00	0.12	0.04
Alternative 3	2004 Plan Limits	0.20	0.00	0.21	0.08
Alternative 4	Mixed Use	0.08	0.01	0.09	0.03
Alternative 5a START	Transition to BAT Snowcoaches Only	0.14	0.01	0.12	0.04
Alternative 5b FINAL	Transition to BAT Snowcoaches Only	0.06	0.01	0.05	0.02
Alternative 6	Implement Variable Management	0.11	0.00	0.11	0.04
Alternative 7	Provide Variety of Use Levels	0.10	0.00	0.10	0.04

Note:

4-stroke snowmobile HAPs estimated as a fraction of measured HC emissions based on data reported in SwRI's *Laboratory Testing of Snowmobile Emissions* , Lela and White, July 2002.

Snowcoach and on-road vehicle HAPs estimated as a fraction of HC emissions based on MOBILE6 modeling of HC and air toxics emission factors for light- and heavy-duty vehicles.

Summary of Daily Snowmobile, Snowcoach, and Wheeled Vehicles Use Numbers from Yellowstone Sept30 2010 Travel Factors Spreadshee

Alt 7 added Jan 2011 - revised draft Travel Factors Dec10 2010

Snowmobiles

Link	Alternative 2	Alternative 3	Alternative 4	Alternative 5a START	Alternative 5b FINAL	Alternative 6 Max Day	Alternative 7a Max Day	Alternative 7b Mid Day	Alternative 7c Low Day	Administrative Travel
West Entrance	160	400	0	160	0	300	176	110	66	20
Mammoth to Norris	38.62	93.6	0	38.62	0.00	83.5	37.4	32.78	27.72	52
West Entrance to Madison	299.3	744	0	299.3	0	559	327.8	206.8	124.3	51
Madison to Norris	131.92	323.6	0	131.92	0	249	139.04	96.58	66.66	42
Norris to Canyon Village	95.22	232.8	57	95.22	0	178.3	101.2	69.96	45.1	23
Canyon Village to Fishing Bridge	146.42	322.8	77	146.42	0	250.3	151.8	109.56	53.9	39
Fishing Bridge to East Entrance	41.38	84.2	0	41.38	0	78.5	44.66	41.14	3.96	15
Fishing Bridge to West Thumb	79.88	166.8	77	79.88	0	119.6	79.2	53.68	33.44	49
Madison to Old Faithful	307.58	737.4	0	307.58	0	553	326.26	212.52	137.94	60
Old Faithful to West Thumb	210.7	437	147	210.7	0	308	209.22	132	86.02	48
West Thumb to Flagg Ranch	210.7	412	125	210.7	0	284	204.6	124.3	81.4	29
Old Faithful	259.14	587.2	73.7	259.14	0	430.5	267.74	172.26	111.98	54

Snowcoaches

Link	Alternative 2	Alternative 3	Alternative 4	Alternative 5a START	Alternative 5b FINAL	Alternative 6 Max Day	Alternative 7a Max Day	Alternative 7b Mid Day	Alternative 7c Low Day	Administrative Travel
West Entrance	34	34	0	34	56	34	36	22	12	2
Mammoth to Norris	25.69	25.69	0	25.69	29.32	25.69	24.02	15.94	11.58	5.5
West Entrance to Madison	71.68	71.68	0	71.68	114.3	71.68	75.18	46.2	25.68	5.5
Madison to Norris	37.86	37.86	0	37.86	53.56	37.86	37.92	24.02	15.12	4.5
Norris to Canyon Village	24.25	24.25	9.6	24.25	36.08	24.25	24.62	15.56	9.3	2.6
Canyon Village to Fishing Bridge	25.85	25.85	21.8	25.85	44.48	25.85	26.62	17.36	9.3	5.4
Fishing Bridge to East Entrance	4.79	4.79	0	4.79	12.2	4.79	4.86	4.2	0.66	1.9
Fishing Bridge to West Thumb	10.52	10.52	22.4	10.52	18.8	10.52	11.12	6.8	4.2	6.6
Madison to Old Faithful	78.8	78.8	0	78.8	118.94	78.8	80.94	50.18	30.24	7.1
Old Faithful to West Thumb	48.58	48.58	43.8	48.58	75.42	48.58	50.42	30.54	19.44	6
West Thumb to Flagg Ranch	44.18	44.18	37.8	44.18	69.7	44.18	45.98	27.5	18.48	3.1
Old Faithful	63.69	63.69	21.9	63.69	97.18	63.69	65.68	40.36	24.84	6.55

Note: West Entrance numbers are based on total daily admission--no factors applied.

For Alternative 4, ONLY

Wheeled Vehicles

Link	Alternative 4
West Entrance	75
Mammoth to Norris	72.5
West Entrance to Madison	160
Madison to Norris	85
Norris to Canyon Village	0
Canyon Village to Fishing Bridge	0
Fishing Bridge to East Entrance	0
Fishing Bridge to West Thumb	0
Madison to Old Faithful	150
Old Faithful to West Thumb	0
West Thumb to Flagg Ranch	0
Old Faithful	75

Alternative 2

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	5.54	0.69	0.40	0.35	0.04	7.03
Mammoth to Norris	21	294	2255.4	119.7	25.01	33.67	63.81	3.39	14.39	140.27
West Entrance to Madison	14	196	1503.6	79.8	129.21	22.02	118.70	6.30	9.59	285.82
Madison to Norris	14	196	1503.6	79.8	56.95	18.13	62.69	3.33	7.85	148.95
Norris to Canyon Village	12	168	1288.8	68.4	35.24	8.51	34.42	1.83	3.89	83.88
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	72.24	19.24	48.92	2.60	10.76	153.76
Fishing Bridge to East Entrance	27	378	2899.8	153.9	34.45	12.49	15.30	0.81	6.39	69.44
Fishing Bridge to West Thumb	21	294	2255.4	119.7	51.73	31.73	26.13	1.39	17.26	128.24
Madison to Old Faithful	16	224	1718.4	91.2	151.76	29.60	149.13	7.91	14.15	352.56
Old Faithful to West Thumb	17	238	1825.8	96.9	110.46	25.16	97.68	5.18	12.71	251.19
West Thumb to Flagg Ranch	24	336	2577.6	136.8	155.94	21.46	125.42	6.66	9.27	318.74
Old Faithful Staging Area	NA	16.73	3.52	1.16	9.55	1.99	0.25	0.08	0.03	11.90
Total					838.08	224.71	742.85	39.82	106.33	**1951.79**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.25	0.03	0.02	0.02	0.00	0.33
Mammoth to Norris	21	21	29.4	16.17	1.79	2.41	0.83	0.46	0.28	5.76
West Entrance to Madison	14	14	19.6	10.78	9.23	1.57	1.55	0.85	0.18	13.38
Madison to Norris	14	14	19.6	10.78	4.07	1.30	0.82	0.45	0.15	6.78
Norris to Canyon Village	12	12	16.8	9.24	2.52	0.61	0.45	0.25	0.07	3.89
Canyon Village to Fishing Bridge	16	16	22.4	12.32	5.16	1.37	0.64	0.35	0.21	7.73
Fishing Bridge to East Entrance	27	27	37.8	20.79	2.46	0.89	0.20	0.11	0.12	3.78
Fishing Bridge to West Thumb	21	21	29.4	16.17	3.69	2.27	0.34	0.19	0.33	6.82
Madison to Old Faithful	16	16	22.4	12.32	10.84	2.11	1.94	1.07	0.27	16.24
Old Faithful to West Thumb	17	17	23.8	13.09	7.89	1.80	1.27	0.70	0.24	11.90
West Thumb to Flagg Ranch	24	24	33.6	18.48	11.14	1.53	1.63	0.90	0.18	15.38
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.36	0.08	0.07	0.03	0.01	0.54
Total					59.40	15.97	9.76	5.37	2.05	**92.55**

Alternative 2 continued

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	0.54	0.07	0.05	0.73	0.05	1.44
Mammoth to Norris	21	94.5	121.8	630	8.04	10.82	3.45	17.82	4.55	44.69
West Entrance to Madison	14	63	81.2	420	41.53	7.08	6.41	33.16	3.04	91.21
Madison to Norris	14	63	81.2	420	18.31	5.83	3.39	17.51	2.48	47.52
Norris to Canyon Village	12	54	69.6	360	11.33	2.74	1.86	9.61	1.23	26.76
Canyon Village to Fishing Bridge	16	72	92.8	480	23.22	6.19	2.64	13.67	3.41	49.12
Fishing Bridge to East Entrance	27	121.5	156.6	810	11.07	4.01	0.83	4.27	2.02	22.21
Fishing Bridge to West Thumb	21	94.5	121.8	630	16.63	10.20	1.41	7.30	5.46	41.00
Madison to Old Faithful	16	72	92.8	480	48.78	9.52	8.05	41.66	4.48	112.48
Old Faithful to West Thumb	17	76.5	98.6	510	35.50	8.09	5.28	27.29	4.02	80.17
West Thumb to Flagg Ranch	24	108	139.2	720	50.12	6.90	6.77	35.03	2.93	101.76
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.06	0.01	0.01	0.25	0.03	0.36
Total					265.13	71.44	40.15	208.30	33.70	**618.73**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.01	0.00	0.00	0.01	0.00	0.02
Mammoth to Norris	21	0.651	0.609	6.3	0.06	0.07	0.02	0.18	0.04	0.37
West Entrance to Madison	14	0.434	0.406	4.2	0.29	0.05	0.03	0.33	0.03	0.73
Madison to Norris	14	0.434	0.406	4.2	0.13	0.04	0.02	0.18	0.02	0.38
Norris to Canyon Village	12	0.372	0.348	3.6	0.08	0.02	0.01	0.10	0.01	0.21
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.16	0.04	0.01	0.14	0.03	0.38
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.08	0.03	0.00	0.04	0.02	0.17
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.11	0.07	0.01	0.07	0.05	0.32
Madison to Old Faithful	16	0.496	0.464	4.8	0.34	0.07	0.04	0.42	0.04	0.90
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.24	0.06	0.03	0.27	0.04	0.64
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.35	0.05	0.03	0.35	0.03	0.80
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.02	0.00	0.00	0.00	0.00	0.029
Total					1.86	0.50	0.20	2.08	0.31	**4.94**

Alternative 3

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	13.86	0.69	0.40	0.35	0.04	15.34
Mammoth to Norris	21	294	2255.4	119.7	60.61	33.67	63.81	3.39	14.39	175.87
West Entrance to Madison	14	196	1503.6	79.8	321.20	22.02	118.70	6.30	9.59	477.80
Madison to Norris	14	196	1503.6	79.8	139.70	18.13	62.69	3.33	7.85	231.70
Norris to Canyon Village	12	168	1288.8	68.4	86.15	8.51	34.42	1.83	3.89	134.79
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	159.27	19.24	48.92	2.60	10.76	240.79
Fishing Bridge to East Entrance	27	378	2899.8	153.9	70.10	12.49	15.30	0.81	6.39	105.09
Fishing Bridge to West Thumb	21	294	2255.4	119.7	108.02	31.73	26.13	1.39	17.26	184.53
Madison to Old Faithful	16	224	1718.4	91.2	363.83	29.60	149.13	7.91	14.15	564.63
Old Faithful to West Thumb	17	238	1825.8	96.9	229.09	25.16	97.68	5.18	12.71	369.82
West Thumb to Flagg Ranch	24	336	2577.6	136.8	304.92	21.46	125.42	6.66	9.27	467.72
Old Faithful Staging Area	NA	16.73	3.52	1.16	21.64	1.99	0.25	0.08	0.03	23.99
Total					1878.39	224.71	742.85	39.82	106.33	**2992.09**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.63	0.03	0.02	0.02	0.00	0.70
Mammoth to Norris	21	21	29.4	16.17	4.33	2.41	0.83	0.46	0.28	8.30
West Entrance to Madison	14	14	19.6	10.78	22.94	1.57	1.55	0.85	0.18	27.10
Madison to Norris	14	14	19.6	10.78	9.98	1.30	0.82	0.45	0.15	12.69
Norris to Canyon Village	12	12	16.8	9.24	6.15	0.61	0.45	0.25	0.07	7.53
Canyon Village to Fishing Bridge	16	16	22.4	12.32	11.38	1.37	0.64	0.35	0.21	13.95
Fishing Bridge to East Entrance	27	27	37.8	20.79	5.01	0.89	0.20	0.11	0.12	6.33
Fishing Bridge to West Thumb	21	21	29.4	16.17	7.72	2.27	0.34	0.19	0.33	10.84
Madison to Old Faithful	16	16	22.4	12.32	25.99	2.11	1.94	1.07	0.27	31.39
Old Faithful to West Thumb	17	17	23.8	13.09	16.36	1.80	1.27	0.70	0.24	20.38
West Thumb to Flagg Ranch	24	24	33.6	18.48	21.78	1.53	1.63	0.90	0.18	26.02
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.83	0.08	0.07	0.03	0.01	1.01
Total					133.09	15.97	9.76	5.37	2.05	**166.24**

Alternative 3 continued

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	1.35	0.07	0.05	0.73	0.05	2.25
Mammoth to Norris	21	94.5	121.8	630	19.48	10.82	3.45	17.82	4.55	56.13
West Entrance to Madison	14	63	81.2	420	103.24	7.08	6.41	33.16	3.04	152.92
Madison to Norris	14	63	81.2	420	44.90	5.83	3.39	17.51	2.48	74.12
Norris to Canyon Village	12	54	69.6	360	27.69	2.74	1.86	9.61	1.23	43.13
Canyon Village to Fishing Bridge	16	72	92.8	480	51.19	6.19	2.64	13.67	3.41	77.09
Fishing Bridge to East Entrance	27	121.5	156.6	810	22.53	4.01	0.83	4.27	2.02	33.67
Fishing Bridge to West Thumb	21	94.5	121.8	630	34.72	10.20	1.41	7.30	5.46	59.09
Madison to Old Faithful	16	72	92.8	480	116.94	9.52	8.05	41.66	4.48	180.65
Old Faithful to West Thumb	17	76.5	98.6	510	73.64	8.09	5.28	27.29	4.02	118.31
West Thumb to Flagg Ranch	24	108	139.2	720	98.01	6.90	6.77	35.03	2.93	149.65
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.13	0.01	0.01	0.25	0.03	0.43
Total					593.83	71.44	40.15	208.30	33.70	**947.43**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.03	0.00	0.00	0.01	0.00	0.03
Mammoth to Norris	21	0.651	0.609	6.3	0.13	0.07	0.02	0.18	0.04	0.45
West Entrance to Madison	14	0.434	0.406	4.2	0.71	0.05	0.03	0.33	0.03	1.15
Madison to Norris	14	0.434	0.406	4.2	0.31	0.04	0.02	0.18	0.02	0.56
Norris to Canyon Village	12	0.372	0.348	3.6	0.19	0.02	0.01	0.10	0.01	0.33
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.35	0.04	0.01	0.14	0.03	0.58
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.16	0.03	0.00	0.04	0.02	0.25
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.24	0.07	0.01	0.07	0.05	0.44
Madison to Old Faithful	16	0.496	0.464	4.8	0.81	0.07	0.04	0.42	0.04	1.37
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.51	0.06	0.03	0.27	0.04	0.90
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.68	0.05	0.03	0.35	0.03	1.13
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.05	0.00	0.00	0.00	0.00	0.059
Total					4.16	0.50	0.20	2.08	0.31	**7.25**

Alternative 4 Mixed Use

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time (min.)	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
(50/50 gas/diesel snowcoaches)	Diesel BAT	24.0	5.7	14.0		
Wheeled Vehicles		25.8	14.7	116.3		

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	10.76929	0.00	0.69	0.00	0.00	0.04	1.78	2.52
Mammoth to Norris	21	294	2255.4	119.7	308.7	0.00	33.67	0.00	0.00	14.39	49.30	97.36
West Entrance to Madison	14	196	1503.6	79.8	205.8	0.00	22.02	0.00	0.00	9.59	72.53	104.14
Madison to Norris	14	196	1503.6	79.8	205.8	0.00	18.13	0.00	0.00	7.85	38.53	64.51
Norris to Canyon Village	12	168	1288.8	68.4	176.4	21.17	8.51	13.63	0.72	3.89	0.00	47.91
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	235.2	37.99	19.24	41.26	2.19	10.76	0.00	111.44
Fishing Bridge to East Entrance	27	378	2899.8	153.9	396.9	0.00	12.49	0.00	0.00	6.39	0.00	18.88
Fishing Bridge to West Thumb	21	294	2255.4	119.7	308.7	49.86	31.73	55.64	2.95	17.26	0.00	157.45
Madison to Old Faithful	16	224	1718.4	91.2	235.2	0.00	29.60	0.00	0.00	14.15	77.71	121.46
Old Faithful to West Thumb	17	238	1825.8	96.9	249.9	77.27	25.16	88.07	4.67	12.71	0.00	207.89
West Thumb to Flagg Ranch	24	336	2577.6	136.8	352.8	92.81	21.46	107.31	5.69	9.27	0.00	236.54
Old Faithful Staging Area	NA	16.73	3.52	1.16	9.65	2.72	1.99	0.08	0.03	0.03	1.59	6.45
Total						281.82	224.71	305.99	16.26	106.33	241.44	**1176.54**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time (min.)	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		
Wheeled Vehicles		1.93	1.22	14.6		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.85458	0.00	0.03	0.00	0.00	0.00	0.14	0.17
Mammoth to Norris	21	21	29.4	16.17	25.62	0.00	2.41	0.00	0.00	0.28	4.09	6.77
West Entrance to Madison	14	14	19.6	10.78	17.08	0.00	1.57	0.00	0.00	0.18	6.02	7.78
Madison to Norris	14	14	19.6	10.78	17.08	0.00	1.30	0.00	0.00	0.15	3.20	4.64
Norris to Canyon Village	12	12	16.8	9.24	14.64	1.51	0.61	0.18	0.10	0.07	0.00	2.47
Canyon Village to Fishing Bridge	16	16	22.4	12.32	19.52	2.71	1.37	0.54	0.30	0.21	0.00	5.13
Fishing Bridge to East Entrance	27	27	37.8	20.79	32.94	0.00	0.89	0.00	0.00	0.12	0.00	1.01
Fishing Bridge to West Thumb	21	21	29.4	16.17	25.62	3.56	2.27	0.73	0.40	0.33	0.00	7.28
Madison to Old Faithful	16	16	22.4	12.32	19.52	0.00	2.11	0.00	0.00	0.27	6.45	8.84
Old Faithful to West Thumb	17	17	23.8	13.09	20.74	5.52	1.80	1.15	0.63	0.24	0.00	9.34
West Thumb to Flagg Ranch	24	24	33.6	18.48	29.28	6.63	1.53	1.40	0.77	0.18	0.00	10.51
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	1.2118	0.10	0.08	0.02	0.01	0.01	0.20	0.42
Total						20.04	15.97	4.01	2.20	2.05	20.10	**64.37**

Alternative 4 Mixed Use continued

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) / Idle Time (min.)	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		
Wheeled Vehicles		4.13	2.96	13.5		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	1.68145	0.00	0.07	0.00	0.00	0.05	0.28	0.39
Mammoth to Norris	21	94.5	121.8	630	62.16	0.00	10.82	0.00	0.00	4.55	9.93	25.30
West Entrance to Madison	14	63	81.2	420	41.44	0.00	7.08	0.00	0.00	3.04	14.60	24.72
Madison to Norris	14	63	81.2	420	41.44	0.00	5.83	0.00	0.00	2.48	7.76	16.07
Norris to Canyon Village	12	54	69.6	360	35.52	6.80	2.74	0.74	3.81	1.23	0.00	15.31
Canyon Village to Fishing Bridge	16	72	92.8	480	47.36	12.21	6.19	2.23	11.52	3.41	0.00	35.56
Fishing Bridge to East Entrance	27	121.5	156.6	810	79.92	0.00	4.01	0.00	0.00	2.02	0.00	6.04
Fishing Bridge to West Thumb	21	94.5	121.8	630	62.16	16.03	10.20	3.00	15.54	5.46	0.00	50.24
Madison to Old Faithful	16	72	92.8	480	47.36	0.00	9.52	0.00	0.00	4.48	15.65	29.64
Old Faithful to West Thumb	17	76.5	98.6	510	50.32	24.84	8.09	4.76	24.60	4.02	0.00	66.30
West Thumb to Flagg Ranch	24	108	139.2	720	71.04	29.83	6.90	5.79	29.97	2.93	0.00	75.43
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	1.1205	0.02	0.01	0.00	0.09	0.03	0.19	0.33
Total						89.73	71.44	16.52	85.53	33.70	48.40	**345.33**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) / Idle Time (min.)	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		
Wheeled Vehicles		0.065	0.065	0.54		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	Fugitive Road Emissions PM-10 (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.029182	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.77
Mammoth to Norris	21	0.651	0.609	6.3	1.365	0.00	0.07	0.00	0.00	0.04	0.22	40.67	41.00
West Entrance to Madison	14	0.434	0.406	4.2	0.91	0.00	0.05	0.00	0.00	0.03	0.32	59.84	60.23
Madison to Norris	14	0.434	0.406	4.2	0.91	0.00	0.04	0.00	0.00	0.02	0.17	31.79	32.02
Norris to Canyon Village	12	0.372	0.348	3.6	0.78	0.05	0.02	0.00	0.04	0.01	0.00	0.00	0.12
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	1.04	0.08	0.04	0.01	0.12	0.03	0.00	0.00	0.28
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	1.755	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.05
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	1.365	0.11	0.07	0.02	0.16	0.05	0.00	0.00	0.40
Madison to Old Faithful	16	0.496	0.464	4.8	1.04	0.00	0.07	0.00	0.00	0.04	0.34	64.11	64.56
Old Faithful to West Thumb	17	0.527	0.493	5.1	1.105	0.17	0.06	0.02	0.25	0.04	0.00	0.00	0.53
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	1.56	0.21	0.05	0.03	0.30	0.03	0.00	0.00	0.61
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.04482	0.01	0.00	0.00	0.00	0.00	0.01	0.18	0.20
Total						0.62	0.50	0.08	0.85	0.31	1.06	197.34	**200.78**
									Old Faithful PM2.5 Total (lb/day)			0.04	0.06

Alternative 5a START

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas (Current)	133.6	208.7	741.2	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

83/17 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	56.91996	9.2362	5.54	0.69	3.54	0.12	0.22	10.11
Mammoth to Norris	21	294	4382.7	119.7	25.01	33.67	205.84	1.15	44.31	309.99
West Entrance to Madison	14	196	2921.8	79.8	129.21	22.02	382.89	2.14	29.54	565.80
Madison to Norris	14	196	2921.8	79.8	56.95	18.13	202.23	1.13	24.17	302.62
Norris to Canyon Village	12	168	2504.4	68.4	35.24	8.51	111.03	0.62	11.97	167.37
Canyon Village to Fishing Bridge	16	224	3339.2	91.2	72.24	19.24	157.81	0.88	33.15	283.32
Fishing Bridge to East Entrance	27	378	5634.9	153.9	34.45	12.49	49.35	0.28	19.68	116.25
Fishing Bridge to West Thumb	21	294	4382.7	119.7	51.73	31.73	84.29	0.47	53.18	221.40
Madison to Old Faithful	16	224	3339.2	91.2	151.76	29.60	481.05	2.69	43.59	708.69
Old Faithful to West Thumb	17	238	3547.9	96.9	110.46	25.16	315.10	1.76	39.14	491.62
West Thumb to Flagg Ranch	24	336	5008.8	136.8	155.94	21.46	404.56	2.26	28.55	612.77
Old Faithful Staging Area	NA	16.73	61.52	1.16	9.55	1.99	7.16	0.03	0.74	19.47
Total					838.08	224.71	2404.84	13.54	328.23	**3809.40**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas (Current)	3.7	2.3	29.0	0.083	Old Faithful
83/17 gas/diesel snowcoaches	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	1.65	0.57	0.25	0.03	0.10	0.01	0.01	0.40
Mammoth to Norris	21	21	48.3	16.17	1.79	2.41	2.27	0.16	0.52	7.13
West Entrance to Madison	14	14	32.2	10.78	9.23	1.57	4.22	0.29	0.35	15.66
Madison to Norris	14	14	32.2	10.78	4.07	1.30	2.23	0.15	0.28	8.03
Norris to Canyon Village	12	12	27.6	9.24	2.52	0.61	1.22	0.08	0.14	4.57
Canyon Village to Fishing Bridge	16	16	36.8	12.32	5.16	1.37	1.74	0.12	0.39	8.78
Fishing Bridge to East Entrance	27	27	62.1	20.79	2.46	0.89	0.54	0.04	0.23	4.16
Fishing Bridge to West Thumb	21	21	48.3	16.17	3.69	2.27	0.93	0.06	0.62	7.58
Madison to Old Faithful	16	16	36.8	12.32	10.84	2.11	5.30	0.36	0.51	19.13
Old Faithful to West Thumb	17	17	39.1	13.09	7.89	1.80	3.47	0.24	0.46	13.86
West Thumb to Flagg Ranch	24	24	55.2	18.48	11.14	1.53	4.46	0.31	0.33	17.77
Old Faithful Staging Area	NA	0.6391	2.407	0.40255	0.36	0.08	0.28	0.01	0.03	0.76
Total					59.40	15.97	26.77	1.83	3.87	**107.83**

Alternative 5a START continued

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas (Current)	19.4	20.9	1.2	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

83/17 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	7.38196	19.55	0.54	0.07	0.46	0.25	0.04	1.36
Mammoth to Norris	21	94.5	438.9	630	8.04	10.82	20.61	6.06	5.71	51.25
West Entrance to Madison	14	63	292.6	420	41.53	7.08	38.34	11.27	3.81	102.03
Madison to Norris	14	63	292.6	420	18.31	5.83	20.25	5.95	3.11	53.46
Norris to Canyon Village	12	54	250.8	360	11.33	2.74	11.12	3.27	1.54	29.99
Canyon Village to Fishing Bridge	16	72	334.4	480	23.22	6.19	15.80	4.65	4.27	54.13
Fishing Bridge to East Entrance	27	121.5	564.3	810	11.07	4.01	4.94	1.45	2.54	24.02
Fishing Bridge to West Thumb	21	94.5	438.9	630	16.63	10.20	8.44	2.48	6.85	44.60
Madison to Old Faithful	16	72	334.4	480	48.78	9.52	48.17	14.16	5.62	126.25
Old Faithful to West Thumb	17	76.5	355.3	510	35.50	8.09	31.56	9.28	5.04	89.47
West Thumb to Flagg Ranch	24	108	501.6	720	50.12	6.90	40.51	11.91	3.68	113.12
Old Faithful Staging Area	NA	0.0996	0.0996	3.5856	0.06	0.01	0.01	0.09	0.01	0.18
Total					265.13	71.44	240.23	70.82	42.23	**689.85**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

83/17 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.01	0.00	0.00	0.00	0.00	0.01
Mammoth to Norris	21	0.651	0.609	6.3	0.06	0.07	0.03	0.06	0.02	0.24
West Entrance to Madison	14	0.434	0.406	4.2	0.29	0.05	0.05	0.11	0.01	0.51
Madison to Norris	14	0.434	0.406	4.2	0.13	0.04	0.03	0.06	0.01	0.26
Norris to Canyon Village	12	0.372	0.348	3.6	0.08	0.02	0.02	0.03	0.01	0.15
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.16	0.04	0.02	0.05	0.01	0.29
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.08	0.03	0.01	0.01	0.01	0.13
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.11	0.07	0.01	0.02	0.02	0.24
Madison to Old Faithful	16	0.496	0.464	4.8	0.34	0.07	0.07	0.14	0.02	0.63
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.24	0.06	0.04	0.09	0.02	0.45
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.35	0.05	0.06	0.12	0.01	0.58
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.02	0.00	0.00	0.00	0.00	0.029
Total					1.86	0.50	0.33	0.71	0.14	**3.54**

Alternative 5b FINAL

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	0.00	0.69	0.66	0.57	0.04	1.97
Mammoth to Norris	21	294	2255.4	119.7	0.00	33.67	72.83	3.87	14.39	124.75
West Entrance to Madison	14	196	1503.6	79.8	0.00	22.02	189.27	10.05	9.59	230.93
Madison to Norris	14	196	1503.6	79.8	0.00	18.13	88.69	4.71	7.85	119.38
Norris to Canyon Village	12	168	1288.8	68.4	0.00	8.51	51.21	2.72	3.89	66.33
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	0.00	19.24	84.18	4.47	10.76	118.65
Fishing Bridge to East Entrance	27	378	2899.8	153.9	0.00	12.49	38.96	2.07	6.39	59.91
Fishing Bridge to West Thumb	21	294	2255.4	119.7	0.00	31.73	46.70	2.48	17.26	98.17
Madison to Old Faithful	16	224	1718.4	91.2	0.00	29.60	225.10	11.95	14.15	280.80
Old Faithful to West Thumb	17	238	1825.8	96.9	0.00	25.16	151.65	8.05	12.71	197.57
West Thumb to Flagg Ranch	24	336	2577.6	136.8	0.00	21.46	197.86	10.50	9.27	239.09
Old Faithful Staging Area	NA	16.73	3.52	1.16	0.00	1.99	0.38	0.12	0.03	2.53
Total					0.00	224.71	1147.49	61.54	106.33	**1540.07**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.00	0.03	0.04	0.04	0.00	0.11
Mammoth to Norris	21	21	29.4	16.17	0.00	2.41	0.95	0.52	0.28	4.15
West Entrance to Madison	14	14	19.6	10.78	0.00	1.57	2.47	1.36	0.18	5.58
Madison to Norris	14	14	19.6	10.78	0.00	1.30	1.16	0.64	0.15	3.24
Norris to Canyon Village	12	12	16.8	9.24	0.00	0.61	0.67	0.37	0.07	1.72
Canyon Village to Fishing Bridge	16	16	22.4	12.32	0.00	1.37	1.10	0.60	0.21	3.28
Fishing Bridge to East Entrance	27	27	37.8	20.79	0.00	0.89	0.51	0.28	0.12	1.80
Fishing Bridge to West Thumb	21	21	29.4	16.17	0.00	2.27	0.61	0.33	0.33	3.54
Madison to Old Faithful	16	16	22.4	12.32	0.00	2.11	2.93	1.61	0.27	6.93
Old Faithful to West Thumb	17	17	23.8	13.09	0.00	1.80	1.98	1.09	0.24	5.11
West Thumb to Flagg Ranch	24	24	33.6	18.48	0.00	1.53	2.58	1.42	0.18	5.71
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.00	0.08	0.10	0.04	0.01	0.23
Total					0.00	15.97	15.08	8.30	2.05	**41.39**

Alternative 5b FINAL continued

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	0.00	0.07	0.09	1.21	0.05	1.41
Mammoth to Norris	21	94.5	121.8	630	0.00	10.82	3.93	20.34	4.55	39.65
West Entrance to Madison	14	63	81.2	420	0.00	7.08	10.22	52.87	3.04	73.20
Madison to Norris	14	63	81.2	420	0.00	5.83	4.79	24.77	2.48	37.88
Norris to Canyon Village	12	54	69.6	360	0.00	2.74	2.77	14.30	1.23	21.04
Canyon Village to Fishing Bridge	16	72	92.8	480	0.00	6.19	4.55	23.51	3.41	37.65
Fishing Bridge to East Entrance	27	121.5	156.6	810	0.00	4.01	2.10	10.88	2.02	19.02
Fishing Bridge to West Thumb	21	94.5	121.8	630	0.00	10.20	2.52	13.04	5.46	31.23
Madison to Old Faithful	16	72	92.8	480	0.00	9.52	12.16	62.88	4.48	89.03
Old Faithful to West Thumb	17	76.5	98.6	510	0.00	8.09	8.19	42.36	4.02	62.66
West Thumb to Flagg Ranch	24	108	139.2	720	0.00	6.90	10.69	55.27	2.93	75.79
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.00	0.01	0.02	0.38	0.03	0.44
Total					0.00	71.44	62.02	321.83	33.70	**489.00**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.00	0.00	0.00	0.01	0.00	0.01
Mammoth to Norris	21	0.651	0.609	6.3	0.00	0.07	0.02	0.20	0.04	0.34
West Entrance to Madison	14	0.434	0.406	4.2	0.00	0.05	0.05	0.53	0.03	0.66
Madison to Norris	14	0.434	0.406	4.2	0.00	0.04	0.02	0.25	0.02	0.33
Norris to Canyon Village	12	0.372	0.348	3.6	0.00	0.02	0.01	0.14	0.01	0.19
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.00	0.04	0.02	0.24	0.03	0.33
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.00	0.03	0.01	0.11	0.02	0.17
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.00	0.07	0.01	0.13	0.05	0.26
Madison to Old Faithful	16	0.496	0.464	4.8	0.00	0.07	0.06	0.63	0.04	0.80
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.00	0.06	0.04	0.42	0.04	0.56
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.00	0.05	0.05	0.55	0.03	0.68
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.00	0.00	0.00	0.00	0.00	0.007
Total					0.00	0.50	0.31	3.21	0.31	**4.33**

Alternative 6 (Max Day)

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	10.40	0.69	0.40	0.35	0.04	11.88
Mammoth to Norris	21	294	2255.4	119.7	54.07	33.67	63.81	3.39	14.39	169.33
West Entrance to Madison	14	196	1503.6	79.8	241.33	22.02	118.70	6.30	9.59	397.94
Madison to Norris	14	196	1503.6	79.8	107.50	18.13	62.69	3.33	7.85	199.50
Norris to Canyon Village	12	168	1288.8	68.4	65.98	8.51	34.42	1.83	3.89	114.62
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	123.50	19.24	48.92	2.60	10.76	205.02
Fishing Bridge to East Entrance	27	378	2899.8	153.9	65.36	12.49	15.30	0.81	6.39	100.35
Fishing Bridge to West Thumb	21	294	2255.4	119.7	77.45	31.73	26.13	1.39	17.26	153.96
Madison to Old Faithful	16	224	1718.4	91.2	272.85	29.60	149.13	7.91	14.15	473.64
Old Faithful to West Thumb	17	238	1825.8	96.9	161.46	25.16	97.68	5.18	12.71	302.20
West Thumb to Flagg Ranch	24	336	2577.6	136.8	210.19	21.46	125.42	6.66	9.27	372.99
Old Faithful Staging Area	NA	16.73	3.52	1.16	15.87	1.99	0.25	0.08	0.03	18.22
Total					1405.94	224.71	742.85	39.82	106.33	**2519.65**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.47	0.03	0.02	0.02	0.00	0.55
Mammoth to Norris	21	21	29.4	16.17	3.86	2.41	0.83	0.46	0.28	7.83
West Entrance to Madison	14	14	19.6	10.78	17.24	1.57	1.55	0.85	0.18	21.39
Madison to Norris	14	14	19.6	10.78	7.68	1.30	0.82	0.45	0.15	10.39
Norris to Canyon Village	12	12	16.8	9.24	4.71	0.61	0.45	0.25	0.07	6.09
Canyon Village to Fishing Bridge	16	16	22.4	12.32	8.82	1.37	0.64	0.35	0.21	11.39
Fishing Bridge to East Entrance	27	27	37.8	20.79	4.67	0.89	0.20	0.11	0.12	5.99
Fishing Bridge to West Thumb	21	21	29.4	16.17	5.53	2.27	0.34	0.19	0.33	8.66
Madison to Old Faithful	16	16	22.4	12.32	19.49	2.11	1.94	1.07	0.27	24.89
Old Faithful to West Thumb	17	17	23.8	13.09	11.53	1.80	1.27	0.70	0.24	15.55
West Thumb to Flagg Ranch	24	24	33.6	18.48	15.01	1.53	1.63	0.90	0.18	19.26
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.61	0.08	0.07	0.03	0.01	0.79
Total					99.62	15.97	9.76	5.37	2.05	**132.77**

Alternative 6 (Max Day) continued

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	1.01	0.07	0.05	0.73	0.05	1.91
Mammoth to Norris	21	94.5	121.8	630	17.38	10.82	3.45	17.82	4.55	54.03
West Entrance to Madison	14	63	81.2	420	77.57	7.08	6.41	33.16	3.04	127.25
Madison to Norris	14	63	81.2	420	34.55	5.83	3.39	17.51	2.48	63.76
Norris to Canyon Village	12	54	69.6	360	21.21	2.74	1.86	9.61	1.23	36.65
Canyon Village to Fishing Bridge	16	72	92.8	480	39.70	6.19	2.64	13.67	3.41	65.59
Fishing Bridge to East Entrance	27	121.5	156.6	810	21.01	4.01	0.83	4.27	2.02	32.14
Fishing Bridge to West Thumb	21	94.5	121.8	630	24.89	10.20	1.41	7.30	5.46	49.27
Madison to Old Faithful	16	72	92.8	480	87.70	9.52	8.05	41.66	4.48	151.40
Old Faithful to West Thumb	17	76.5	98.6	510	51.90	8.09	5.28	27.29	4.02	96.57
West Thumb to Flagg Ranch	24	108	139.2	720	67.56	6.90	6.77	35.03	2.93	119.20
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.09	0.01	0.01	0.25	0.03	0.40
Total					444.57	71.44	40.15	208.30	33.70	**798.18**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.02	0.00	0.00	0.01	0.00	0.03
Mammoth to Norris	21	0.651	0.609	6.3	0.12	0.07	0.02	0.18	0.04	0.43
West Entrance to Madison	14	0.434	0.406	4.2	0.53	0.05	0.03	0.33	0.03	0.97
Madison to Norris	14	0.434	0.406	4.2	0.24	0.04	0.02	0.18	0.02	0.49
Norris to Canyon Village	12	0.372	0.348	3.6	0.15	0.02	0.01	0.10	0.01	0.28
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.27	0.04	0.01	0.14	0.03	0.50
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.14	0.03	0.00	0.04	0.02	0.24
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.17	0.07	0.01	0.07	0.05	0.37
Madison to Old Faithful	16	0.496	0.464	4.8	0.60	0.07	0.04	0.42	0.04	1.17
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.36	0.06	0.03	0.27	0.04	0.75
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.47	0.05	0.03	0.35	0.03	0.92
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.04	0.00	0.00	0.00	0.00	0.045
Total					3.11	0.50	0.20	2.08	0.31	**6.20**

Alternative 7a (Max - 45 Days)

Up to a maximum of 330 Snowmobiles / 80 Snowcoaches per day

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	6.10	0.69	0.42	0.37	0.04	7.63
Mammoth to Norris	21	294	2255.4	119.7	24.22	33.67	59.66	3.17	14.39	135.11
West Entrance to Madison	14	196	1503.6	79.8	141.52	22.02	124.49	6.61	9.59	304.23
Madison to Norris	14	196	1503.6	79.8	60.03	18.13	62.79	3.33	7.85	152.13
Norris to Canyon Village	12	168	1288.8	68.4	37.45	8.51	34.95	1.85	3.89	86.65
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	74.90	19.24	50.38	2.67	10.76	157.95
Fishing Bridge to East Entrance	27	378	2899.8	153.9	37.18	12.49	15.52	0.82	6.39	72.41
Fishing Bridge to West Thumb	21	294	2255.4	119.7	51.29	31.73	27.62	1.47	17.26	129.37
Madison to Old Faithful	16	224	1718.4	91.2	160.97	29.60	153.18	8.13	14.15	366.04
Old Faithful to West Thumb	17	238	1825.8	96.9	109.68	25.16	101.38	5.38	12.71	254.31
West Thumb to Flagg Ranch	24	336	2577.6	136.8	151.42	21.46	130.53	6.93	9.27	319.61
Old Faithful Staging Area	NA	16.73	3.52	1.16	9.87	1.99	0.25	0.08	0.03	12.23
Total					864.62	224.71	761.19	40.81	106.33	**1997.66**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.28	0.03	0.02	0.02	0.00	0.35
Mammoth to Norris	21	21	29.4	16.17	1.73	2.41	0.78	0.43	0.28	5.62
West Entrance to Madison	14	14	19.6	10.78	10.11	1.57	1.62	0.89	0.18	14.38
Madison to Norris	14	14	19.6	10.78	4.29	1.30	0.82	0.45	0.15	7.00
Norris to Canyon Village	12	12	16.8	9.24	2.67	0.61	0.46	0.25	0.07	4.06
Canyon Village to Fishing Bridge	16	16	22.4	12.32	5.35	1.37	0.66	0.36	0.21	7.95
Fishing Bridge to East Entrance	27	27	37.8	20.79	2.66	0.89	0.20	0.11	0.12	3.98
Fishing Bridge to West Thumb	21	21	29.4	16.17	3.66	2.27	0.36	0.20	0.33	6.82
Madison to Old Faithful	16	16	22.4	12.32	11.50	2.11	2.00	1.10	0.27	16.98
Old Faithful to West Thumb	17	17	23.8	13.09	7.83	1.80	1.32	0.73	0.24	11.92
West Thumb to Flagg Ranch	24	24	33.6	18.48	10.82	1.53	1.70	0.94	0.18	15.16
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.38	0.08	0.07	0.03	0.01	0.56
Total					61.27	15.97	10.00	5.50	2.05	**94.80**

Alternative 7a (Max - 45 Days)

Up to a maximum of 330 Snowmobiles / 80 Snowcoaches per day

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	0.59	0.07	0.06	0.78	0.05	1.54
Mammoth to Norris	21	94.5	121.8	630	7.78	10.82	3.22	16.67	4.55	43.05
West Entrance to Madison	14	63	81.2	420	45.49	7.08	6.72	34.77	3.04	97.10
Madison to Norris	14	63	81.2	420	19.29	5.83	3.39	17.54	2.48	48.54
Norris to Canyon Village	12	54	69.6	360	12.04	2.74	1.89	9.76	1.23	27.65
Canyon Village to Fishing Bridge	16	72	92.8	480	24.07	6.19	2.72	14.07	3.41	50.46
Fishing Bridge to East Entrance	27	121.5	156.6	810	11.95	4.01	0.84	4.34	2.02	23.16
Fishing Bridge to West Thumb	21	94.5	121.8	630	16.49	10.20	1.49	7.72	5.46	41.36
Madison to Old Faithful	16	72	92.8	480	51.74	9.52	8.27	42.79	4.48	116.80
Old Faithful to West Thumb	17	76.5	98.6	510	35.25	8.09	5.48	28.32	4.02	81.16
West Thumb to Flagg Ranch	24	108	139.2	720	48.67	6.90	7.05	36.46	2.93	102.01
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.06	0.01	0.01	0.26	0.03	0.37
Total					273.43	71.44	41.14	213.47	33.70	**633.19**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.01	0.00	0.00	0.01	0.00	0.02
Mammoth to Norris	21	0.651	0.609	6.3	0.05	0.07	0.02	0.17	0.04	0.35
West Entrance to Madison	14	0.434	0.406	4.2	0.31	0.05	0.03	0.35	0.03	0.77
Madison to Norris	14	0.434	0.406	4.2	0.13	0.04	0.02	0.18	0.02	0.39
Norris to Canyon Village	12	0.372	0.348	3.6	0.08	0.02	0.01	0.10	0.01	0.22
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.17	0.04	0.01	0.14	0.03	0.39
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.08	0.03	0.00	0.04	0.02	0.18
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.11	0.07	0.01	0.08	0.05	0.32
Madison to Old Faithful	16	0.496	0.464	4.8	0.36	0.07	0.04	0.43	0.04	0.93
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.24	0.06	0.03	0.28	0.04	0.65
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.34	0.05	0.04	0.36	0.03	0.81
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.02	0.00	0.00	0.00	0.00	0.030
Total					1.91	0.50	0.21	2.13	0.31	**5.06**

Alternative 7b (Mid - 30 Days)

Up to a maximum of 220 Snowmobiles / 50 Snowcoaches per day

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	3.81	0.69	0.26	0.22	0.04	5.03
Mammoth to Norris	21	294	2255.4	119.7	21.23	33.67	39.59	2.10	14.39	110.98
West Entrance to Madison	14	196	1503.6	79.8	89.28	22.02	76.50	4.06	9.59	201.45
Madison to Norris	14	196	1503.6	79.8	41.70	18.13	39.78	2.11	7.85	109.56
Norris to Canyon Village	12	168	1288.8	68.4	25.89	8.51	22.09	1.17	3.89	61.54
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	54.06	19.24	32.85	1.74	10.76	118.66
Fishing Bridge to East Entrance	27	378	2899.8	153.9	34.25	12.49	13.41	0.71	6.39	67.26
Fishing Bridge to West Thumb	21	294	2255.4	119.7	34.76	31.73	16.89	0.90	17.26	101.54
Madison to Old Faithful	16	224	1718.4	91.2	104.86	29.60	94.97	5.04	14.15	248.62
Old Faithful to West Thumb	17	238	1825.8	96.9	69.20	25.16	61.41	3.26	12.71	171.74
West Thumb to Flagg Ranch	24	336	2577.6	136.8	91.99	21.46	78.07	4.14	9.27	204.93
Old Faithful Staging Area	NA	16.73	3.52	1.16	6.35	1.99	0.16	0.05	0.03	8.58
Total					577.37	224.71	475.98	25.51	106.33	**1409.90**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.17	0.03	0.01	0.01	0.00	0.23
Mammoth to Norris	21	21	29.4	16.17	1.52	2.41	0.52	0.28	0.28	5.00
West Entrance to Madison	14	14	19.6	10.78	6.38	1.57	1.00	0.55	0.18	9.68
Madison to Norris	14	14	19.6	10.78	2.98	1.30	0.52	0.29	0.15	5.23
Norris to Canyon Village	12	12	16.8	9.24	1.85	0.61	0.29	0.16	0.07	2.98
Canyon Village to Fishing Bridge	16	16	22.4	12.32	3.86	1.37	0.43	0.24	0.21	6.11
Fishing Bridge to East Entrance	27	27	37.8	20.79	2.45	0.89	0.17	0.10	0.12	3.73
Fishing Bridge to West Thumb	21	21	29.4	16.17	2.48	2.27	0.22	0.12	0.33	5.42
Madison to Old Faithful	16	16	22.4	12.32	7.49	2.11	1.24	0.68	0.27	11.79
Old Faithful to West Thumb	17	17	23.8	13.09	4.94	1.80	0.80	0.44	0.24	8.22
West Thumb to Flagg Ranch	24	24	33.6	18.48	6.57	1.53	1.02	0.56	0.18	9.86
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.24	0.08	0.04	0.02	0.01	0.39
Total					40.93	15.97	6.25	3.44	2.05	**68.64**

Alternative 7b (Mid - 30 Days)

Up to a maximum of 220 Snowmobiles / 50 Snowcoaches per day

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	0.37	0.07	0.04	0.47	0.05	0.99
Mammoth to Norris	21	94.5	121.8	630	6.82	10.82	2.14	11.06	4.55	35.40
West Entrance to Madison	14	63	81.2	420	28.70	7.08	4.13	21.37	3.04	64.31
Madison to Norris	14	63	81.2	420	13.40	5.83	2.15	11.11	2.48	34.97
Norris to Canyon Village	12	54	69.6	360	8.32	2.74	1.19	6.17	1.23	19.65
Canyon Village to Fishing Bridge	16	72	92.8	480	17.38	6.19	1.77	9.18	3.41	37.92
Fishing Bridge to East Entrance	27	121.5	156.6	810	11.01	4.01	0.72	3.75	2.02	21.52
Fishing Bridge to West Thumb	21	94.5	121.8	630	11.17	10.20	0.91	4.72	5.46	32.47
Madison to Old Faithful	16	72	92.8	480	33.70	9.52	5.13	26.53	4.48	79.35
Old Faithful to West Thumb	17	76.5	98.6	510	22.24	8.09	3.32	17.15	4.02	54.82
West Thumb to Flagg Ranch	24	108	139.2	720	29.57	6.90	4.22	21.81	2.93	65.42
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.04	0.01	0.01	0.16	0.03	0.24
Total					182.73	71.44	25.73	133.47	33.70	**447.07**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.01	0.00	0.00	0.00	0.00	0.01
Mammoth to Norris	21	0.651	0.609	6.3	0.05	0.07	0.01	0.11	0.04	0.28
West Entrance to Madison	14	0.434	0.406	4.2	0.20	0.05	0.02	0.21	0.03	0.51
Madison to Norris	14	0.434	0.406	4.2	0.09	0.04	0.01	0.11	0.02	0.28
Norris to Canyon Village	12	0.372	0.348	3.6	0.06	0.02	0.01	0.06	0.01	0.16
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.12	0.04	0.01	0.09	0.03	0.29
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.08	0.03	0.00	0.04	0.02	0.16
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.08	0.07	0.00	0.05	0.05	0.25
Madison to Old Faithful	16	0.496	0.464	4.8	0.23	0.07	0.03	0.27	0.04	0.63
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.15	0.06	0.02	0.17	0.04	0.43
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.20	0.05	0.02	0.22	0.03	0.52
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.02	0.00	0.00	0.00	0.00	0.021
Total					1.28	0.50	0.13	1.33	0.31	**3.55**

Alternative 7c (Low - 15 Days)

Up to a maximum of 132 Snowmobiles / 30 Snowcoaches per day

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	15.73328	10.68792	9.2362	2.29	0.69	0.14	0.12	0.04	3.29
Mammoth to Norris	21	294	2255.4	119.7	17.95	33.67	28.76	1.53	14.39	96.30
West Entrance to Madison	14	196	1503.6	79.8	53.66	22.02	42.52	2.26	9.59	130.05
Madison to Norris	14	196	1503.6	79.8	28.78	18.13	25.04	1.33	7.85	81.12
Norris to Canyon Village	12	168	1288.8	68.4	16.69	8.51	13.20	0.70	3.89	42.99
Canyon Village to Fishing Bridge	16	224	1718.4	91.2	26.59	19.24	17.60	0.93	10.76	75.13
Fishing Bridge to East Entrance	27	378	2899.8	153.9	3.30	12.49	2.11	0.11	6.39	24.40
Fishing Bridge to West Thumb	21	294	2255.4	119.7	21.65	31.73	10.43	0.55	17.26	81.64
Madison to Old Faithful	16	224	1718.4	91.2	68.06	29.60	57.23	3.04	14.15	172.08
Old Faithful to West Thumb	17	238	1825.8	96.9	45.09	25.16	39.09	2.07	12.71	124.13
West Thumb to Flagg Ranch	24	336	2577.6	136.8	60.24	21.46	52.46	2.78	9.27	146.22
Old Faithful Staging Area	NA	16.73	3.52	1.16	4.13	1.99	0.10	0.03	0.03	6.28
Total					348.44	224.71	288.68	15.46	106.33	**983.62**

HC Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	1.7	1.0	7.7	0.0083	West Entrance
Snowcoach	Gas BAT	1.3	1.4	11.2	0.083	Old Faithful
	Diesel BAT*	1.4	0.8	4.9		

* from MOBILE6, 2006 model yr.

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.71	0.59	0.57	0.10	0.03	0.01	0.01	0.00	0.15
Mammoth to Norris	21	21	29.4	16.17	1.28	2.41	0.37	0.21	0.28	4.54
West Entrance to Madison	14	14	19.6	10.78	3.83	1.57	0.55	0.30	0.18	6.45
Madison to Norris	14	14	19.6	10.78	2.06	1.30	0.33	0.18	0.15	4.01
Norris to Canyon Village	12	12	16.8	9.24	1.19	0.61	0.17	0.09	0.07	2.14
Canyon Village to Fishing Bridge	16	16	22.4	12.32	1.90	1.37	0.23	0.13	0.21	3.84
Fishing Bridge to East Entrance	27	27	37.8	20.79	0.24	0.89	0.03	0.02	0.12	1.29
Fishing Bridge to West Thumb	21	21	29.4	16.17	1.55	2.27	0.14	0.07	0.33	4.36
Madison to Old Faithful	16	16	22.4	12.32	4.86	2.11	0.75	0.41	0.27	8.40
Old Faithful to West Thumb	17	17	23.8	13.09	3.22	1.80	0.51	0.28	0.24	6.05
West Thumb to Flagg Ranch	24	24	33.6	18.48	4.30	1.53	0.68	0.38	0.18	7.07
Old Faithful Staging Area	NA	0.6391	0.9296	0.40255	0.16	0.08	0.03	0.01	0.01	0.28
Total					24.69	15.97	3.79	2.09	2.05	**48.59**

Alternative 7c (Low - 15 Days)

Up to a maximum of 132 Snowmobiles / 30 Snowcoaches per day

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	4.0	4.5	1.2	0.0083	West Entrance
Snowcoach	Gas BAT	3.8	5.8	2.1	0.083	Old Faithful
	Diesel BAT	50.5	30.0	43.2		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	1.52996	1.46143	19.55	0.22	0.07	0.02	0.26	0.05	0.61
Mammoth to Norris	21	94.5	121.8	630	5.77	10.82	1.55	8.03	4.55	30.74
West Entrance to Madison	14	63	81.2	420	17.25	7.08	2.30	11.88	3.04	41.54
Madison to Norris	14	63	81.2	420	9.25	5.83	1.35	6.99	2.48	25.91
Norris to Canyon Village	12	54	69.6	360	5.36	2.74	0.71	3.69	1.23	13.73
Canyon Village to Fishing Bridge	16	72	92.8	480	8.55	6.19	0.95	4.92	3.41	24.01
Fishing Bridge to East Entrance	27	121.5	156.6	810	1.06	4.01	0.11	0.59	2.02	7.80
Fishing Bridge to West Thumb	21	94.5	121.8	630	6.96	10.20	0.56	2.91	5.46	26.10
Madison to Old Faithful	16	72	92.8	480	21.88	9.52	3.09	15.99	4.48	54.95
Old Faithful to West Thumb	17	76.5	98.6	510	14.49	8.09	2.11	10.92	4.02	39.63
West Thumb to Flagg Ranch	24	108	139.2	720	19.36	6.90	2.83	14.65	2.93	46.68
Old Faithful Staging Area	NA	0.0996	0.1743	3.5856	0.02	0.01	0.00	0.10	0.03	0.17
Total					110.18	71.44	15.60	80.93	33.70	**311.86**

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/mi)	Cruise Speed (g/mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas	0.029	0.029	0.074	0.083	Old Faithful
	Diesel BAT	0.4	0.3	0.11		

Link	Distance (mi)	Snowmobile Unit Emissions (g)	Gas Snowcoach Unit Emissions (g)	Diesel Snowcoach Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	**Total Emissions (lb/day)**
West Entrance	0.38	0.029	0.012	0.153	0.00	0.00	0.00	0.00	0.00	0.01
Mammoth to Norris	21	0.651	0.609	6.3	0.04	0.07	0.01	0.08	0.04	0.24
West Entrance to Madison	14	0.434	0.406	4.2	0.12	0.05	0.01	0.12	0.03	0.33
Madison to Norris	14	0.434	0.406	4.2	0.06	0.04	0.01	0.07	0.02	0.20
Norris to Canyon Village	12	0.372	0.348	3.6	0.04	0.02	0.00	0.04	0.01	0.11
Canyon Village to Fishing Bridge	16	0.496	0.464	4.8	0.06	0.04	0.00	0.05	0.03	0.19
Fishing Bridge to East Entrance	27	0.837	0.783	8.1	0.01	0.03	0.00	0.01	0.02	0.06
Fishing Bridge to West Thumb	21	0.651	0.609	6.3	0.05	0.07	0.00	0.03	0.05	0.20
Madison to Old Faithful	16	0.496	0.464	4.8	0.15	0.07	0.02	0.16	0.04	0.43
Old Faithful to West Thumb	17	0.527	0.493	5.1	0.10	0.06	0.01	0.11	0.04	0.31
West Thumb to Flagg Ranch	24	0.744	0.696	7.2	0.13	0.05	0.01	0.15	0.03	0.37
Old Faithful Staging Area	NA	0.041	0.01	0.00913	0.01	0.00	0.00	0.00	0.00	0.015
Total					0.77	0.50	0.08	0.81	0.31	**2.47**

AP-42 FUGITIVE DUST (PM) FOR PAVED ROADS CALCULATIONS
Alternative 4 only

Vehicle Type	Percent Total Use	Weight - GVWR (ton)
LDG4 (Light-Duty Trucks 4)	34%	3.6
HDV2B (Class 2b Heavy-Duty Vehicles)	11%	4.6
HDV3 (Class 3 Heavy-Duty Vehicles)	11%	6.0
HDV4 (Class 4 Heavy-Duty Vehicles)	11%	7.5
HDBT (Transit and Urban Buses)	33%	20.0

Basis: AP-42 Section 13.2.1 Paved Roads, Jan 2011 Section
lbs/VMT Equation: E=k (sL)0.91 x (W)1.02

Emission Area	Weighted Average Vehicle Weight (tons)	Emission Factor (lb/VMT)	Road Surface Silt Loading (g/m2)*	Particle Size Multiplier, k (dimensionless)
Internal Plant Roads (PM10)	9.83	0.0267	1.2	0.0022
Internal Plant Roads (PM2.5)	9.83	0.0066	1.2	0.00054

Segment	Daily Vehicles	Length of Segment (miles)	Total VMT/day	Daily Fugitive Emissions (lb/day)		Winter Season Fugitive Emissions (tpy)		MOBILE6 PM_{10} Exhaust Emissions (tpy)
				PM-10	PM-2.5	PM-10	PM-2.5	
West Entrance	75	0.38	29	0.76	0	0.0	0.0	0.00
Mammoth to Norris	72.5	21	1523	41	10	1.8	0.4	0.02
West Entrance to Madison	160	14	2240	59.84	15	2.7	0.7	0.03
Madison to Norris	85	14	1190	32	8	1.4	0.4	0.01
Norris to Canyon Village	0	12	0	0	0	0.0	0.0	0.00
Canyon Village to Fishing Bridge	0	16	0	0	0	0.0	0.0	0.00
Fishing Bridge to East Entrance	0	27	0	0	0	0.0	0.0	0.00
Fishing Bridge to West Thumb	0	21	0	0	0	0.0	0.0	0.00
Madison to Old Faithful	150	16	2400	64	16	2.9	0.7	0.04
Old Faithful to West Thumb	0	17	0	0	0	0.0	0.0	0.00
West Thumb to Flagg Ranch	0	24	0	0	0	0.0	0.0	0.00
Old Faithful	75	0.09	7	0.18	0.04	0.0	0.0	0.00
			Total Parkwide	**197**	**48**	**8.9**	**2.2**	**0.10**

Note:
MOBILE6 emissions include brake and tire wear.
*Table 13. 2.1-3. Winter multiplier for low volume roads reduced from X4 to X2. NPS in Yellowstone would spread sand conservatively. Application would be once a day or less, and only in shaded or icy areas.
Distance based on long side of Old Faithful west parking lot area - 470'.

ATTACHMENT I
VISCREEN INPUTS & MODELING FILES

VISCREEN ANALYSIS
Determination of Virtual Point Source

Source/Observer Separation Distances:

Canyon to Fishing
Distance of link = 25.7 km
σy_o = 25.7 ÷ 4.3 = 5.98 km

Old Faithful
Staging area = 630 m x 1037m = 653,310 m^2
v9,600 m = 808 m (equal length of sides)
σy_o = v9,600 ÷ 4.3 = 188 m

WE to Madison
Distance of link = 22.5 km
σy_o = 22.5 ÷ 4.3 = 5.25 km

West Entrance
Distance of link = 0.61
σy_o = 0.61 ÷ 4.3 = 0.142 km

Source/Observer Distance (find midpoint):

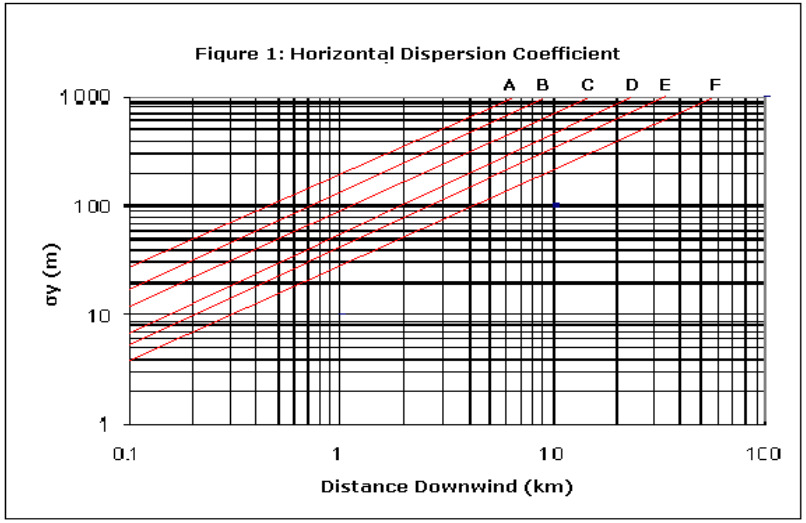
Canyon to Fishing	25.7 km ÷ 2 = 12.85 km
Old Faithful:	0.808 km ÷ 2 = 0.404 km
WE to Madison	22.5 km ÷ 2 = 11.25 km
West Entrance	0.61km ÷ 2 = 0.305

Determine Downwind Distance:

From chart using stability Class D:

Canyon to Fishing	At σy_o = 5,980 m, x = 170 km (extrapolate)
Old Faithful:	At σy_o = 188 m, x = 3.5 km
WE to Madison	At σy_o = 5,230 m, x = 120 km (extrapolate)
West Entrance	At σy_o = 142 m, x = 2.5 km

Note: Use dispersion coefficient table with larger σy scale.



VISCREEN INPUT

Site	Source/Observer Distance (km)	Closest Distance Between S/O (km)	Furthest Distance Between S/O (km)
Canyon to Fishing	12.85	157.15	182.85
Old Faithful:	0.404	3.096	3.904
WE to Madison	11.25	108.75	131.25
West Entrance	0.305	2.195	2.805

Additional Input:

Background Visual Range = 240 km
Change stability class to D
Change wind speed to 1.0 m/s

Yellowstone 2011
VISCREEN Modeling Inputs

NO2	Site 1: West entrance lb/hour	Site 2: West to Madison lb/hour	Site 3: Canyon to Fish lb/hour	Site 4: Old Faithful lb/hour
Alternative 2 (2008 Plan Limits)	0.50	27.36	19.65	0.18
Alternative 3 (2004 Plan Limits)	0.79	45.88	30.84	0.22
Alternative 4 (Mixed Use)	0.14	7.42	14.22	0.16
Alternative 5a START (Transition)	0.48	30.61	21.65	0.09
Alternative 5b FINAL (Transition)	0.49	21.96	15.06	0.23
Alternative 6 (Variable - Max Day)	0.44	25.20	17.32	0.20
Alternative 7a (Variety - Max Day)	0.46	29.13	20.18	0.17
Alternative 7b (Variety - Mid Day)	0.30	19.29	15.17	0.11
Alternative 7c (Variety - Low Day)	0.18	12.46	9.60	0.07
PM	**lb/hour**	**lb/hour**	**lb/hour**	**lb/hour**
Alternative 2 (2008 Plan Limits)	0.01	0.22	0.15	0.014
Alternative 3 (2004 Plan Limits)	0.01	0.35	0.23	0.030
Alternative 4 (Mixed Use)	0.27	18.07	0.11	0.032
Alternative 5a START (Transition)	0.00	0.15	0.12	0.014
Alternative 5b FINAL (Transition)	0.00	0.20	0.13	0.001
Alternative 6 (Variable - Max Day)	0.01	0.19	0.13	0.022
Alternative 7a (Variety - Max Day)	0.01	0.23	0.16	0.013
Alternative 7b (Variety - Mid Day)	0.00	0.15	0.12	0.009
Alternative 7c (Variety - Low Day)	0.00	0.10	0.08	0.006

NO2	Site 1: West entrance lb/day	Site 2: West to Madison lb/day	Site 3: Canyon to Fish lb/day
Alternative 2 (2008 Plan Limits)	1.44	91.21	49.12
Alternative 3 (2004 Plan Limits)	2.25	152.92	77.09
Alternative 4 (Mixed Use)	0.39	24.72	35.56
Alternative 5a START (Transition)	1.36	102.03	54.13
Alternative 5b FINAL (Transition)	1.41	73.20	37.65
Alternative 6 (Variable - Max Day)	1.26	83.99	43.29
Alternative 7a (Variety - Max Day)	1.54	97.10	50.46
Alternative 7b (Variety - Mid Day)	0.99	64.31	37.92
Alternative 7c (Variety - Low Day)	0.61	41.54	24.01

PM	lb/day	lb/day	lb/day
Alternative 2 (2008 Plan Limits)	0.02	0.73	0.38
Alternative 3 (2004 Plan Limits)	0.03	1.15	0.58
Alternative 4 (Mixed Use)	0.77	60.23	0.28
Alternative 5a START (Transition)	0.01	0.51	0.29
Alternative 5b FINAL (Transition)	0.01	0.66	0.33
Alternative 6 (Variable - Max Day)	0.02	0.64	0.33
Alternative 7a (Variety - Max Day)	0.02	0.77	0.39
Alternative 7b (Variety - Mid Day)	0.01	0.51	0.29
Alternative 7c (Variety - Low Day)	0.01	0.33	0.19

Visual Effects Screening Analysis for
Source: cf2
Class I Area: cf2

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.15	LB /HR
NOx (as NO2)	19.65	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	170.00 km
Min. Source-Class I Distance:	157.00 km
Max. Source-Class I Distance:	183.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.019	.05	-.000
SKY	140.	62.	157.0	106.	2.00	.014	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.004	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.003	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.080	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.063	.09	-.002
TERRAIN	10.	0.	1.0	169.	4.24	.105	.09	.001
TERRAIN	140.	0.	1.0	169.	2.65	.062	.09	.001

```
"cf2                    "
"cf2                    "
    4    3
      .150    19.650      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .01
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
```

```
 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .08   2.70    .06
4.24    .10   2.65    .06
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .001  -.002   .001  -.000   .000  -.000   .000   .000
.001  -.001   .001
33 1  62.394   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: cf3
Class I Area: cf3

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.23	LB /HR
NOx (as NO2)	30.84	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	170.00 km
Min. Source-Class I Distance:	157.00 km
Max. Source-Class I Distance:	183.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.030	.05	-.000
SKY	140.	62.	157.0	106.	2.00	.022	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.007	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.005	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.080	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.070	.09	-.002
TERRAIN	10.	0.	1.0	169.	4.24	.118	.09	.002
TERRAIN	140.	0.	1.0	169.	2.65	.069	.09	.002

```
"cf3                    "
"cf3                    "
    4    3
      .230    30.840      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .01
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .01
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
```

```
 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .08   2.70    .07
4.24    .12   2.65    .07
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 0  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 0 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
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23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .002  -.002   .002  -.000   .000  -.000   .000   .000
.001  -.001   .001
33 1  62.394   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 104.876   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: cf4
Class I Area: cf4

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.11	LB /HR
NOx (as NO2)	14.22	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	170.00 km
Min. Source-Class I Distance:	157.00 km
Max. Source-Class I Distance:	183.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.014	.05	.000
SKY	140.	62.	157.0	106.	2.00	.010	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.003	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.002	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.058	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.046	.09	-.001
TERRAIN	10.	0.	1.0	169.	4.24	.076	.09	.001
TERRAIN	140.	0.	1.0	169.	2.65	.045	.09	.001

```
"cf4                    "
"cf4                    "
    4    3
      .110    14.220      .000      .000      .000
   170.000   157.000   183.000   240.000
    1     1.500    3
    1     2.500    8
    1     2.500    6
    1     2.000    1
    1     1.500    4
    1      .040     1.000    6
    1    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .17   .050   2.00    .02   2.00    .02
2.00    .02   2.00    .01
  2 0    10.0  158.8   81.4   91.5  121.1  .24   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .01
  3 0    15.0  153.8   99.5   75.0  106.9  .30   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3  .36   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2  .42   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0  .47   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1  .52   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3  .57   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4  .61   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2  .64   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6  .67   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6  .70   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1  .72   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1  .73   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6  .74   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6  .75   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2  .74   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4  .74   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3  .72   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1  .70   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0  .68   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2  .65   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3  .61   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9  .57   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1  .53   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
```

```
 26 0   130.0   38.8  208.1   53.0  140.9  .48   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0  .43   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3  .37   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6  .31   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4  .25   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0  .19   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .02  1.977  62.93    .08  38.98    .07
61.19    .12  38.26    .07
 33 1    62.4  106.4  157.0   34.6   65.3  .71   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9  .68   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.001   .000  -.000   .000  -.000   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000  -.000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .0
```

Visual Effects Screening Analysis for
Source: cf5a
Class I Area: cf5a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.12	LB /HR
NOx (as NO2)	21.65	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 170.00 km
Min. Source-Class I Distance: 157.00 km
Max. Source-Class I Distance: 183.00 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.021	.05	-.000
SKY	140.	62.	157.0	106.	2.00	.015	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.005	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.004	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.089	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.065	.09	-.002
TERRAIN	10.	0.	1.0	169.	4.24	.108	.09	.002
TERRAIN	140.	0.	1.0	169.	2.65	.063	.09	.001

```
"cf5a                    "
"cf5a                    "
    4    3
      .120    21.650      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .01
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
```

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 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .09   2.70    .07
4.24    .11   2.65    .06
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .002  -.002   .001  -.000   .000  -.000   .000   .000
.001  -.001   .001
33 1  62.394   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: cf5b
Class I Area: cf5b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.13	LB /HR
NOx (as NO2)	15.06	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 170.00 km
Min. Source-Class I Distance: 157.00 km
Max. Source-Class I Distance: 183.00 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.015	.05	.000
SKY	140.	62.	157.0	106.	2.00	.011	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.003	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.003	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.060	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.049	.09	-.001
TERRAIN	10.	0.	1.0	169.	4.24	.081	.09	.001
TERRAIN	140.	0.	1.0	169.	2.65	.048	.09	.001

```
"cf5b                    "
"cf5b                    "
    4    3
      .130    15.060      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .06   2.70    .05
4.24    .08   2.65    .05
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .001  -.001   .001  -.000   .000  -.000   .000   .000
.001  -.001   .000
33 1  62.394   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: cf6
Class I Area: cf6

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.13	LB /HR
NOx (as NO2)	17.32	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	170.00 km
Min. Source-Class I Distance:	157.00 km
Max. Source-Class I Distance:	183.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.017	.05	-.000
SKY	140.	62.	157.0	106.	2.00	.012	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.004	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.003	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.071	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.055	.09	-.001
TERRAIN	10.	0.	1.0	169.	4.24	.092	.09	.001
TERRAIN	140.	0.	1.0	169.	2.65	.054	.09	.001

```
"cf6                    "
"cf6                    "
    4    3
      .130    17.320      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .07   2.70    .06
4.24    .09   2.65    .05
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050   .000   .000  -.000   .000   .000   .000   .000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .001  -.001   .001  -.000   .000  -.000   .000   .000
.001  -.001   .001
33 1  62.394   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: cf7a
Class I Area: cf7a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.16	LB /HR
NOx (as NO2)	20.18	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	170.00 km
Min. Source-Class I Distance:	157.00 km
Max. Source-Class I Distance:	183.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.020	.05	-.000
SKY	140.	62.	157.0	106.	2.00	.014	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.005	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.003	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.082	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.065	.09	-.002
TERRAIN	10.	0.	1.0	169.	4.24	.108	.09	.002
TERRAIN	140.	0.	1.0	169.	2.65	.063	.09	.001

```
"cf7a                    "
"cf7a                    "
    4    3
      .160    20.180      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .01
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .08   2.70    .06
4.24    .11   2.65    .06
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

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23 0 115.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .002  -.002   .001  -.000   .000  -.000   .000   .000
.001  -.001   .001
33 1  62.394   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: cf7b
Class I Area: cf7b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.12	LB /HR
NOx (as NO2)	15.17	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	170.00 km
Min. Source-Class I Distance:	157.00 km
Max. Source-Class I Distance:	183.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	62.	157.0	106.	2.00	.015	.05	.000
SKY	140.	62.	157.0	106.	2.00	.011	.05	-.000
TERRAIN	10.	62.	157.0	106.	2.00	.003	.05	.000
TERRAIN	140.	62.	157.0	106.	2.00	.003	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	4.37	.062	.09	-.001
SKY	140.	0.	1.0	169.	2.70	.049	.09	-.001
TERRAIN	10.	0.	1.0	169.	4.24	.081	.09	.001
TERRAIN	140.	0.	1.0	169.	2.65	.048	.09	.001

```
"cf7b                    "
"cf7b                    "
    4    3
      .120    15.170      .000      .000      .000
   170.000   157.000   183.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .69   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  2 0    10.0  158.8   81.4   91.5  121.1 1.11   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9 1.49   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3 1.85   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2 2.19   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0 2.51   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1 2.81   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3 3.09   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4 3.35   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2 3.57   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6 3.77   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6 3.94   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1 4.08   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1 4.19   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6 4.27   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6 4.31   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2 4.32   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4 4.30   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3 4.25   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1 4.16   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0 4.04   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2 3.89   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3 3.70   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9 3.50   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1 3.26   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8  208.1   53.0  140.9 3.00   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0 2.71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3 2.40   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6 2.07   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4 1.72   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0 1.36   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .05   .094   4.37    .06   2.70    .05
4.24    .08   2.65    .05
 33 1    62.4  106.4  157.0   34.6   65.3 4.01   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9 4.04   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066   .094  -.001   .001  -.001   .001  -.000   .000  -.000   .000   .000
.001  -.001   .000
33 1  62.394   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

```
              Visual Effects Screening Analysis for
                Source: cf7c
                Class I Area: cf7c


                ***   Level-1 Screening   ***
Input Emissions for

   Particulates      .08  LB /HR
   NOx (as NO2)     9.60  LB /HR
   Primary NO2       .00  LB /HR
   Soot              .00  LB /HR
   Primary SO4       .00  LB /HR


    **** Default Particle Characteristics Assumed

              Transport Scenario Specifications:

    Background Ozone:                   .04 ppm
    Background Visual Range:        240.00 km
    Source-Observer Distance:       170.00 km
    Min. Source-Class I Distance:   157.00 km
    Max. Source-Class I Distance:   183.00 km
    Plume-Source-Observer Angle:     11.25 degrees
    Stability:   6
    Wind Speed:   1.00 m/s

                          R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

         Maximum Visual Impacts INSIDE  Class I Area
          Screening Criteria ARE NOT Exceeded
                                       Delta E       Contrast
                                    ===========   ============
Backgrnd Theta Azi Distance Alpha Crit  Plume   Crit  Plume
======== ===== === ======== ===== ====  =====   ====  =====
 SKY      10.  62.  157.0   106.  2.00   .015    .05   .000
 SKY     140.  62.  157.0   106.  2.00   .010    .05  -.000
 TERRAIN  10.  62.  157.0   106.  2.00   .003    .05   .000
 TERRAIN 140.  62.  157.0   106.  2.00   .003    .05   .000


         Maximum Visual Impacts OUTSIDE Class I Area
          Screening Criteria ARE NOT Exceeded
                                       Delta E       Contrast
                                    ===========   ============
Backgrnd Theta Azi Distance Alpha Crit  Plume   Crit  Plume
======== ===== === ======== ===== ====  =====   ====  =====
 SKY      10.  40.  140.1   129.  2.00   .015    .05  -.000
 SKY     140.  40.  140.1   129.  2.00   .011    .05  -.000
 TERRAIN  10.   5.   52.9   164.  2.00   .015    .05   .000
 TERRAIN 140.   5.   52.9   164.  2.00   .009    .05   .000
```

```
"cf7c                    "
"cf7c                    "
    4    3
      .080     9.600      .000      .000      .000
   170.000   157.000   183.000   240.000
    1     1.500    3
    1     2.500    8
    1     2.500    6
    1     2.000    1
    1     1.500    4
    1      .040     1.000    6
    1    11.250
 34
  1 0     5.0  163.8   52.9  118.5  140.9  .17   .050   2.00    .02   2.00    .01
2.00    .02   2.00    .01
  2 0    10.0  158.8   81.4   91.5  121.1  .24   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  3 0    15.0  153.8   99.5   75.0  106.9  .30   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8  112.1   63.9   96.3  .36   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  5 0    25.0  143.8  121.5   56.1   88.2  .42   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8  128.9   50.3   82.0  .47   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8  135.0   45.9   77.1  .52   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8  140.1   42.5   73.3  .57   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8  144.6   39.9   70.4  .61   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8  148.5   37.8   68.2  .64   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 11 0    55.0  113.8  152.1   36.2   66.6  .67   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 12 0    60.0  108.8  155.5   35.0   65.6  .70   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8  158.6   34.1   65.1  .72   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8  161.6   33.6   65.1  .73   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8  164.6   33.2   65.6  .74   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8  167.5   33.2   66.6  .75   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8  170.4   33.4   68.2  .74   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  173.3   33.8   70.4  .74   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  176.4   34.5   73.3  .72   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  179.6   35.6   77.1  .70   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 21 0   105.0   63.8  183.1   37.0   82.0  .68   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  186.9   38.8   88.2  .65   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  191.1   41.1   96.3  .61   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  195.8   44.1  106.9  .57   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  201.4   48.0  121.1  .53   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
```

```
 26 0   130.0   38.8  208.1   53.0  140.9  .48   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  216.4   59.7  170.0  .43   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 28 0   140.0   28.8  227.2   69.0  216.3  .37   .050   2.00    .01   2.00    .00
2.00    .00   2.00    .00
 29 0   145.0   23.8  242.1   82.3  300.6  .31   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 30 0   150.0   18.8  264.4  103.2  498.4  .25   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 31 0   155.0   13.8  302.3  139.5  999.0  .19   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  169.0  169.5  .02  1.977  62.93    .08  38.98    .07
61.19    .11  38.26    .06
 33 1    62.4  106.4  157.0   34.6   65.3  .71   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 34 1   104.9   63.9  183.0   36.9   81.9  .68   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 0  60.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 0 105.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
30 0 150.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
32 0    .066  1.977  -.001   .002  -.002   .002  -.000   .000  -.000   .000   .000
.001  -.001   .001
33 1  62.394   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 104.876   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: of2
Class I Area: of2

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.18	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	3.50 km
Min. Source-Class I Distance:	3.10 km
Max. Source-Class I Distance:	3.90 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.005	.12	.000
SKY	140.	53.	3.1	116.	3.54	.004	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.032	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.001	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.032	.05	.000
SKY	140.	4.	1.0	164.	2.00	.027	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.135	.05	.000
TERRAIN	140.	4.	1.0	164.	2.00	.010	.05	.000

```
"of2                    "
"of2                    "
    4    3
      .014      .180      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .03   2.00    .02
2.00    .12   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .02   2.00    .01
2.00    .08   2.00    .00
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .06   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .05   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .01   2.12    .01
2.00    .05   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .01   2.44    .01
2.00    .04   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .01   2.73    .01
2.00    .04   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .01   2.99    .00
2.00    .04   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .01   3.23    .00
2.00    .03   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .00   3.44    .00
2.00    .03   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .03   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .03   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .03   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .03   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .03   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .03   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .03   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .03   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .03   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .03   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .02   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .02   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .02   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .00   3.51    .00
2.00    .02   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .01   3.31    .00
2.00    .02   2.00    .00
```

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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .01   3.08    .00
2.00    .02   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .01   2.82    .01
2.00    .02   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .01   2.54    .01
2.00    .02   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .01   2.23    .01
2.00    .02   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .01
2.00    .02   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .01
2.00    .01   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .03   2.00    .03
2.00    .13   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .00   3.54    .00
2.00    .03   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .02   2.00    .00
 34
  1 0   5.000   .050   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .129   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: of3
Class I Area: of3

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.03	LB /HR
NOx (as NO2)	.22	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	3.50 km
Min. Source-Class I Distance:	3.10 km
Max. Source-Class I Distance:	3.90 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.006	.12	.000
SKY	140.	53.	3.1	116.	3.54	.005	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.069	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.002	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.040	.05	.000
SKY	140.	4.	1.0	164.	2.00	.034	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.289	.05	.001
TERRAIN	140.	4.	1.0	164.	2.00	.013	.05	.000

```
"of3                    "
"of3                    "
    4    3
      .030      .220      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .04   2.00    .03
2.00    .27   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .02   2.00    .02
2.00    .17   2.00    .01
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .13   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .11   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .01   2.12    .01
2.00    .10   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .01   2.44    .01
2.00    .09   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .01   2.73    .01
2.00    .08   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .01   2.99    .01
2.00    .08   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .01   3.23    .01
2.00    .07   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .01   3.44    .01
2.00    .07   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .01   3.62    .00
2.00    .07   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .01   3.78    .00
2.00    .07   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .01   3.90    .00
2.00    .06   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .06   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .06   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .06   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .06   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .06   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .06   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .05   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .01   3.94    .00
2.00    .05   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .01   3.82    .00
2.00    .05   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .01   3.68    .00
2.00    .05   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .01   3.51    .01
2.00    .05   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .01   3.31    .01
2.00    .05   2.00    .00
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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .01   3.08    .01
2.00    .05   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .01   2.82    .01
2.00    .05   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .01   2.54    .01
2.00    .04   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .01   2.23    .01
2.00    .04   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .01
2.00    .03   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .01
2.00    .02   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .04   2.00    .03
2.00    .29   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .01   3.54    .01
2.00    .07   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .01   3.74    .00
2.00    .05   2.00    .00
 34
  1 0   5.000   .050   .000   .001  -.000   .000   .000   .001  -.001   .000   .000
 .001  -.000   .000
  2 0  10.000   .050   .000   .000  -.000   .000   .000   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
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```
23 0 115.000   .129   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .001  -.000   .000   .000   .001  -.001   .000   .000
.001  -.000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: of4
Class I Area: of4

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.03	LB /HR
NOx (as NO2)	.16	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 3.50 km
Min. Source-Class I Distance: 3.10 km
Max. Source-Class I Distance: 3.90 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.005	.12	.000
SKY	140.	53.	3.1	116.	3.54	.004	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.074	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.002	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.032	.05	.001
SKY	140.	4.	1.0	164.	2.00	.025	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.310	.05	.001
TERRAIN	140.	4.	1.0	164.	2.00	.011	.05	.000

```
"of4                    "
"of4                    "
    4    3
      .032      .160      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .03   2.00    .02
2.00    .29   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .02   2.00    .01
2.00    .18   2.00    .01
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .14   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .12   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .01   2.12    .01
2.00    .11   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .01   2.44    .01
2.00    .10   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .01   2.73    .00
2.00    .09   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .01   2.99    .00
2.00    .08   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .01   3.23    .00
2.00    .08   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .00   3.44    .00
2.00    .08   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .07   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .07   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .07   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .07   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .06   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .06   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .06   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .06   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .06   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .06   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .06   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .06   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .06   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .00   3.51    .00
2.00    .05   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .00   3.31    .00
2.00    .05   2.00    .00
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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .01   3.08    .00
2.00    .05   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .01   2.82    .00
2.00    .05   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .01   2.54    .01
2.00    .05   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .01   2.23    .01
2.00    .04   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .01
2.00    .04   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .01
2.00    .02   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .03   2.00    .03
2.00    .31   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .00   3.54    .00
2.00    .07   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .06   2.00    .00
 34
  1 0   5.000   .050   .000   .001  -.000   .000   .000   .001  -.001   .000   .000
 .001  -.000   .000
  2 0  10.000   .050   .000   .000  -.000   .000   .000   .001  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .129   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .001   .001  -.000   .000   .000   .001  -.001   .000   .000
.001  -.000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: of5a
Class I Area: of5a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.09	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 3.50 km
Min. Source-Class I Distance: 3.10 km
Max. Source-Class I Distance: 3.90 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.002	.12	.000
SKY	140.	53.	3.1	116.	3.54	.002	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.032	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.001	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.017	.05	.000
SKY	140.	4.	1.0	164.	2.00	.014	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.136	.05	.000
TERRAIN	140.	4.	1.0	164.	2.00	.006	.05	.000

```
"of5a                    "
"of5a                    "
    4    3
      .014      .090      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .02   2.00    .01
2.00    .12   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .01   2.00    .01
2.00    .08   2.00    .00
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .06   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .00   2.00    .00
2.00    .05   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .00   2.12    .00
2.00    .05   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .00   2.44    .00
2.00    .04   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .00   2.73    .00
2.00    .04   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .00   2.99    .00
2.00    .04   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .00   3.23    .00
2.00    .03   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .00   3.44    .00
2.00    .03   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .03   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .03   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .03   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .03   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .03   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .03   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .03   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .03   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .03   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .03   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .03   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .02   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .02   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .00   3.51    .00
2.00    .02   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .00   3.31    .00
2.00    .02   2.00    .00
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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .00   3.08    .00
2.00    .02   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .00   2.82    .00
2.00    .02   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .00   2.54    .00
2.00    .02   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .00   2.23    .00
2.00    .02   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .00   2.00    .00
2.00    .02   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .00
2.00    .01   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .02   2.00    .01
2.00    .14   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .00   3.54    .00
2.00    .03   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .02   2.00    .00
 34
  1 0   5.000   .050   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
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23 0 115.000   .129   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: of5b
Class I Area: of5b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.00	LB /HR
NOx (as NO2)	.23	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	3.50 km
Min. Source-Class I Distance:	3.10 km
Max. Source-Class I Distance:	3.90 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.007	.12	.000
SKY	140.	53.	3.1	116.	3.54	.005	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.002	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.001	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.047	.05	-.000
SKY	140.	4.	1.0	164.	2.00	.034	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.019	.05	.000
TERRAIN	140.	4.	1.0	164.	2.00	.013	.05	.000

```
"of5b                    "
"of5b                    "
    4    3
      .001      .230      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .02   2.00    .01
2.00    .01   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .00   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .01   2.12    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .01   2.44    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .01   2.73    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .01   2.99    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .01   3.23    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .01   3.44    .01
2.00    .00   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .01   3.62    .00
2.00    .00   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .01   3.78    .00
2.00    .00   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .01   3.90    .00
2.00    .00   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .01   4.00    .00
2.00    .00   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .01   4.07    .00
2.00    .00   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .01   4.12    .00
2.00    .00   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .01   4.14    .00
2.00    .00   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .01   4.13    .00
2.00    .00   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .01   4.09    .00
2.00    .00   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .01   4.03    .00
2.00    .00   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .01   3.94    .00
2.00    .00   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .01   3.82    .00
2.00    .00   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .01   3.68    .00
2.00    .00   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .01   3.51    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .01   3.31    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .01   3.08    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .01   2.82    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .01   2.54    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .01   2.23    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .02   2.00    .01
2.00    .00   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .05   2.00    .03
2.00    .02   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .01   3.54    .01
2.00    .00   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .01   3.74    .00
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .129   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
33 1  52.769   .124   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: of6
Class I Area: of6

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.02	LB /HR
NOx (as NO2)	.20	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 3.50 km
Min. Source-Class I Distance: 3.10 km
Max. Source-Class I Distance: 3.90 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.005	.12	.000
SKY	140.	53.	3.1	116.	3.54	.005	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.051	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.001	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.035	.05	.000
SKY	140.	4.	1.0	164.	2.00	.030	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.212	.05	.001
TERRAIN	140.	4.	1.0	164.	2.00	.012	.05	.000

```
"of6                    "
"of6                    "
    4    3
      .022      .200      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .03   2.00    .03
2.00    .20   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .02   2.00    .02
2.00    .12   2.00    .01
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .10   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .08   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .01   2.12    .01
2.00    .07   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .01   2.44    .01
2.00    .07   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .01   2.73    .01
2.00    .06   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .01   2.99    .01
2.00    .06   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .01   3.23    .00
2.00    .05   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .01   3.44    .00
2.00    .05   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .05   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .05   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .05   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .05   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .04   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .04   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .04   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .04   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .04   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .04   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .04   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .04   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .04   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .01   3.51    .00
2.00    .04   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .01   3.31    .00
2.00    .04   2.00    .00
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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .01   3.08    .01
2.00    .04   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .01   2.82    .01
2.00    .03   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .01   2.54    .01
2.00    .03   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .01   2.23    .01
2.00    .03   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .01
2.00    .02   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .01
2.00    .01   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .04   2.00    .03
2.00    .21   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .01   3.54    .00
2.00    .05   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .04   2.00    .00
 34
  1 0   5.000   .050   .000   .001  -.000   .000  -.000   .001  -.001   .000   .000
 .000  -.000   .000
  2 0  10.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000  -.000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .129   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .001  -.000   .000  -.000   .001  -.001   .000   .000
.000  -.000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: of7a
Class I Area: of7a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.17	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 3.50 km
Min. Source-Class I Distance: 3.10 km
Max. Source-Class I Distance: 3.90 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.004	.12	.000
SKY	140.	53.	3.1	116.	3.54	.004	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.030	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.001	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.031	.05	.000
SKY	140.	4.	1.0	164.	2.00	.026	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.125	.05	.000
TERRAIN	140.	4.	1.0	164.	2.00	.009	.05	.000

```
"of7a                    "
"of7a                    "
    4    3
      .013      .170      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .03   2.00    .02
2.00    .12   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .02   2.00    .01
2.00    .07   2.00    .00
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .06   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .05   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .01   2.12    .01
2.00    .04   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .01   2.44    .01
2.00    .04   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .01   2.73    .01
2.00    .04   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .01   2.99    .00
2.00    .03   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .00   3.23    .00
2.00    .03   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .00   3.44    .00
2.00    .03   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .03   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .03   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .03   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .03   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .03   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .03   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .02   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .02   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .02   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .02   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .02   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .02   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .02   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .00   3.51    .00
2.00    .02   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .00   3.31    .00
2.00    .02   2.00    .00
```

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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .01   3.08    .00
2.00    .02   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .01   2.82    .00
2.00    .02   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .01   2.54    .01
2.00    .02   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .01   2.23    .01
2.00    .02   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .01
2.00    .01   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .01
2.00    .01   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .03   2.00    .03
2.00    .13   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .00   3.54    .00
2.00    .03   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .02   2.00    .00
 34
  1 0   5.000   .050   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
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23 0 115.000   .129   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: of7b
Class I Area: of7b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.11	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	3.50 km
Min. Source-Class I Distance:	3.10 km
Max. Source-Class I Distance:	3.90 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.003	.12	.000
SKY	140.	53.	3.1	116.	3.54	.002	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.021	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.001	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.020	.05	.000
SKY	140.	4.	1.0	164.	2.00	.017	.05	-.000
TERRAIN	10.	4.	1.0	164.	2.00	.087	.05	.000
TERRAIN	140.	4.	1.0	164.	2.00	.006	.05	.000

```
"of7b                    "
"of7b                    "
    4    3
      .009      .110      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .02   2.00    .02
2.00    .08   2.00    .01
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .01   2.00    .01
2.00    .05   2.00    .00
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .01   2.00    .01
2.00    .04   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .01   2.00    .01
2.00    .03   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .00   2.12    .00
2.00    .03   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .00   2.44    .00
2.00    .03   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .00   2.73    .00
2.00    .03   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .00   2.99    .00
2.00    .02   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .00   3.23    .00
2.00    .02   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .00   3.44    .00
2.00    .02   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .02   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .02   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .02   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .02   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .02   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .02   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .02   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .02   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .02   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .02   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .02   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .02   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .02   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .00   3.51    .00
2.00    .02   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .00   3.31    .00
2.00    .01   2.00    .00
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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .00   3.08    .00
2.00    .01   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .00   2.82    .00
2.00    .01   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .00   2.54    .00
2.00    .01   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .00   2.23    .00
2.00    .01   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .01   2.00    .00
2.00    .01   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .01   2.00    .01
2.00    .01   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .02   2.00    .02
2.00    .09   2.00    .01
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .00   3.54    .00
2.00    .02   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .02   2.00    .00
 34
  1 0   5.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
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23 0 115.000   .129   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: of7c
Class I Area: of7c

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.07	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	3.50 km
Min. Source-Class I Distance:	3.10 km
Max. Source-Class I Distance:	3.90 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	53.	3.1	116.	5.72	.002	.12	.000
SKY	140.	53.	3.1	116.	3.54	.002	.12	.000
TERRAIN	10.	53.	3.1	116.	2.00	.014	.12	.000
TERRAIN	140.	53.	3.1	116.	2.00	.000	.12	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	4.	1.0	164.	2.00	.013	.05	.000
SKY	140.	4.	1.0	164.	2.00	.011	.05	.000
TERRAIN	10.	4.	1.0	164.	2.00	.058	.05	.000
TERRAIN	140.	4.	1.0	164.	2.00	.004	.05	.000

```
"of7c                    "
"of7c                    "
    4    3
      .006      .070      .000      .000      .000
     3.500     3.100     3.900   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8    1.1    2.4    2.9 3.32   .050   2.00    .01   2.00    .01
2.00    .05   2.00    .00
  2 0    10.0  158.8    1.7    1.9    2.5 5.80   .050   2.00    .01   2.00    .01
2.00    .03   2.00    .00
  3 0    15.0  153.8    2.0    1.5    2.2 8.08   .050   2.32    .00   2.00    .00
2.00    .03   2.00    .00
  4 0    20.0  148.8    2.3    1.3    2.010.22   .061   2.88    .00   2.00    .00
2.00    .02   2.00    .00
  5 0    25.0  143.8    2.5    1.2    1.812.23   .073   3.43    .00   2.12    .00
2.00    .02   2.00    .00
  6 0    30.0  138.8    2.7    1.0    1.714.10   .085   3.94    .00   2.44    .00
2.00    .02   2.00    .00
  7 0    35.0  133.8    2.8     .9    1.615.84   .095   4.41    .00   2.73    .00
2.00    .02   2.00    .00
  8 0    40.0  128.8    2.9     .9    1.517.42   .104   4.83    .00   2.99    .00
2.00    .02   2.00    .00
  9 0    45.0  123.8    3.0     .8    1.418.85   .113   5.22    .00   3.23    .00
2.00    .01   2.00    .00
 10 0    50.0  118.8    3.1     .8    1.420.11   .121   5.55    .00   3.44    .00
2.00    .01   2.00    .00
 11 1    55.0  113.8    3.1     .7    1.421.22   .127   5.85    .00   3.62    .00
2.00    .01   2.00    .00
 12 1    60.0  108.8    3.2     .7    1.422.16   .133   6.10    .00   3.78    .00
2.00    .01   2.00    .00
 13 1    65.0  103.8    3.3     .7    1.322.94   .138   6.30    .00   3.90    .00
2.00    .01   2.00    .00
 14 1    70.0   98.8    3.3     .7    1.323.55   .141   6.46    .00   4.00    .00
2.00    .01   2.00    .00
 15 1    75.0   93.8    3.4     .7    1.423.99   .144   6.58    .00   4.07    .00
2.00    .01   2.00    .00
 16 1    80.0   88.8    3.4     .7    1.424.27   .146   6.65    .00   4.12    .00
2.00    .01   2.00    .00
 17 1    85.0   83.8    3.5     .7    1.424.38   .146   6.68    .00   4.14    .00
2.00    .01   2.00    .00
 18 1    90.0   78.8    3.6     .7    1.424.33   .146   6.67    .00   4.13    .00
2.00    .01   2.00    .00
 19 1    95.0   73.8    3.6     .7    1.524.11   .145   6.61    .00   4.09    .00
2.00    .01   2.00    .00
 20 1   100.0   68.8    3.7     .7    1.623.72   .142   6.51    .00   4.03    .00
2.00    .01   2.00    .00
 21 1   105.0   63.8    3.8     .8    1.723.17   .139   6.36    .00   3.94    .00
2.00    .01   2.00    .00
 22 1   110.0   58.8    3.8     .8    1.822.45   .135   6.17    .00   3.82    .00
2.00    .01   2.00    .00
 23 0   115.0   53.8    3.9     .8    2.021.56   .129   5.94    .00   3.68    .00
2.00    .01   2.00    .00
 24 0   120.0   48.8    4.0     .9    2.220.51   .123   5.66    .00   3.51    .00
2.00    .01   2.00    .00
 25 0   125.0   43.8    4.1    1.0    2.519.30   .116   5.34    .00   3.31    .00
2.00    .01   2.00    .00
```

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 26 0   130.0   38.8    4.3    1.1    2.917.93   .108   4.97    .00   3.08    .00
2.00    .01   2.00    .00
 27 0   135.0   33.8    4.5    1.2    3.516.39   .098   4.56    .00   2.82    .00
2.00    .01   2.00    .00
 28 0   140.0   28.8    4.7    1.4    4.514.71   .088   4.10    .00   2.54    .00
2.00    .01   2.00    .00
 29 0   145.0   23.8    5.0    1.7    6.212.87   .077   3.60    .00   2.23    .00
2.00    .01   2.00    .00
 30 0   150.0   18.8    5.4    2.1   10.310.89   .065   3.06    .00   2.00    .00
2.00    .01   2.00    .00
 31 0   155.0   13.8    6.2    2.9   30.7 8.77   .053   2.50    .00   2.00    .00
2.00    .00   2.00    .00
 32 0     4.4  164.3    1.0    2.5    3.0 3.01   .050   2.00    .01   2.00    .01
2.00    .06   2.00    .00
 33 1    52.8  116.0    3.1     .8    1.420.75   .124   5.72    .00   3.54    .00
2.00    .01   2.00    .00
 34 1   113.1   55.6    3.9     .8    1.921.91   .131   6.03    .00   3.74    .00
2.00    .01   2.00    .00
 34
  1 0   5.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050   .000   .000   .000   .000   .000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .061   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  5 0  25.000   .073   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  6 0  30.000   .085   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  7 0  35.000   .095   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  8 0  40.000   .104   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
  9 0  45.000   .113   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 10 0  50.000   .121   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 11 1  55.000   .127   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 12 1  60.000   .133   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 13 1  65.000   .138   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 14 1  70.000   .141   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 15 1  75.000   .144   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 16 1  80.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 17 1  85.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 18 1  90.000   .146   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 19 1  95.000   .145   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 20 1 100.000   .142   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 21 1 105.000   .139   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
 22 1 110.000   .135   .000   .000   .000   .000   .000   .000   .000   .000   .000
 .000   .000   .000
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23 0 115.000   .129   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
24 0 120.000   .123   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
25 0 125.000   .116   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
26 0 130.000   .108   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
27 0 135.000   .098   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
28 0 140.000   .088   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
29 0 145.000   .077   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
30 0 150.000   .065   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
31 0 155.000   .053   .000   .000   .000   .000   .000   .000  -.000   .000   .000
.000   .000   .000
32 0   4.428   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
33 1  52.769   .124   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
34 1 113.134   .131   .000   .000   .000   .000   .000   .000   .000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: we2
Class I Area: we2

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.50	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 2.50 km
Min. Source-Class I Distance: 2.20 km
Max. Source-Class I Distance: 2.80 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	51.	2.2	117.	6.24	.019	.14	.000
SKY	140.	51.	2.2	117.	3.87	.014	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.036	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.002	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	5.	.8	164.	2.00	.118	.05	-.000
SKY	140.	5.	.8	164.	2.00	.088	.05	-.001
TERRAIN	10.	5.	.8	164.	2.00	.143	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.029	.05	.000

```
"we2                        "
"we2                        "
    4    3
      .010      .500      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .12   2.00    .09
2.00    .14   2.00    .03
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .07   2.00    .05
2.00    .09   2.00    .01
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .05   2.00    .04
2.00    .07   2.00    .01
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .04   2.00    .03
2.00    .06   2.00    .01
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .03   2.36    .02
2.00    .05   2.00    .00
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .03   2.71    .02
2.00    .05   2.00    .00
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .02   3.03    .02
2.00    .04   2.00    .00
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .02   3.32    .02
2.00    .04   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .02   3.58    .02
2.00    .04   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .02   3.81    .01
2.00    .04   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .02   4.01    .01
2.00    .04   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .02   4.17    .01
2.00    .03   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .02   4.31    .01
2.00    .03   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .02   4.42    .01
2.00    .03   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .02   4.50    .01
2.00    .03   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .02   4.55    .01
2.00    .03   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .02   4.57    .01
2.00    .03   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .02   4.56    .01
2.00    .03   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .02   4.52    .01
2.00    .03   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .02   4.46    .01
2.00    .03   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .02   4.36    .01
2.00    .03   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .02   4.24    .01
2.00    .03   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .02   4.09    .01
2.00    .03   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .02   3.90    .01
2.00    .03   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .02   3.69    .01
2.00    .03   2.00    .00
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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .02   3.44    .02
2.00    .03   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .02   3.16    .02
2.00    .02   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .03   2.85    .02
2.00    .02   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .03   2.51    .02
2.00    .02   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .03   2.14    .03
2.00    .02   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .04   2.00    .03
2.00    .01   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .09   2.00    .06
2.00    .11   2.00    .02
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .02   3.87    .01
2.00    .04   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .02   4.11    .01
2.00    .03   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.001   .000  -.002   .000  -.002   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .054  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .068   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .082   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .094   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .106   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .111   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .099   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .087   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .074   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
31 0 155.000   .060   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.000   .000  -.001   .000  -.002   .000   .000
.000   .000   .000
33 1  51.429   .136   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: wealt3
Class I Area: wealt3

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.79	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	51.	2.2	117.	6.24	.030	.14	.000
SKY	140.	51.	2.2	117.	3.87	.022	.14	-.000
TERRAIN	10.	51.	2.2	117.	2.00	.036	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.004	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	5.	.8	164.	2.00	.189	.05	-.001
SKY	140.	5.	.8	164.	2.00	.139	.05	-.001
TERRAIN	10.	5.	.8	164.	2.00	.147	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.046	.05	.000

```
"wealt3                    "
"wealt3                    "
    4    3
      .010      .790      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .19   2.00    .14
2.00    .15   2.00    .05
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .11   2.00    .08
2.00    .09   2.00    .02
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .08   2.00    .06
2.00    .07   2.00    .01
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .06   2.00    .05
2.00    .06   2.00    .01
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .05   2.36    .04
2.00    .05   2.00    .01
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .04   2.71    .03
2.00    .05   2.00    .01
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .04   3.03    .03
2.00    .04   2.00    .01
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .04   3.32    .03
2.00    .04   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .03   3.58    .02
2.00    .04   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .03   3.81    .02
2.00    .04   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .03   4.01    .02
2.00    .03   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .03   4.17    .02
2.00    .03   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .03   4.31    .02
2.00    .03   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .03   4.42    .02
2.00    .03   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .03   4.50    .02
2.00    .03   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .02   4.55    .02
2.00    .03   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .02   4.57    .02
2.00    .03   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .02   4.56    .02
2.00    .03   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .02   4.52    .02
2.00    .03   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .03   4.46    .02
2.00    .03   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .03   4.36    .02
2.00    .03   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .03   4.24    .02
2.00    .03   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .03   4.09    .02
2.00    .03   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .03   3.90    .02
2.00    .03   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .03   3.69    .02
2.00    .03   2.00    .00
```

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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .03   3.44    .02
2.00    .03   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .04   3.16    .03
2.00    .02   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .04   2.85    .03
2.00    .02   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .05   2.51    .03
2.00    .02   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .06   2.14    .04
2.00    .02   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .07   2.00    .05
2.00    .01   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .14   2.00    .10
2.00    .11   2.00    .03
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .03   3.87    .02
2.00    .04   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .03   4.11    .02
2.00    .03   2.00    .00
 34
  1 0   5.000   .050  -.001   .000  -.001   .000  -.003   .001  -.004   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.002   .000  -.002   .000   .000
 .000   .000   .000
  3 0  15.000   .054  -.000   .000  -.000   .000  -.001   .000  -.002   .000   .000
 .000   .000   .000
  4 0  20.000   .068  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .082  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .094  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .106  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .144   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .111  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .099  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .087  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .074  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
31 0 155.000   .060  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.001   .000  -.002   .000  -.003   .000   .000
.000  -.000   .000
33 1  51.429   .136   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wealt4
Class I Area: wealt4

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.27	LB /HR
NOx (as NO2)	.14	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	51.	2.2	117.	6.24	.047	.14	.001
SKY	140.	51.	2.2	117.	3.87	.009	.14	-.000
TERRAIN	10.	51.	2.2	117.	2.00	.962	.14	.001
TERRAIN	140.	51.	2.2	117.	2.00	.028	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	5.	.8	164.	2.00	.301	.05	.006
SKY	140.	5.	.8	164.	2.00	.059	.05	-.002
TERRAIN	10.	5.	.8	164.	2.00	3.613*	.05	.008
TERRAIN	140.	5.	.8	164.	2.00	.117	.05	.000

Class I Area: wealt4

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.27	LB /HR
NOx (as NO2)	.14	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4

Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	51.	2.2	117.	6.24	.047	.14	.001
SKY	140.	51.	2.2	117.	3.87	.009	.14	-.000
TERRAIN	10.	51.	2.2	117.	2.00	.962	.14	.001
TERRAIN	140.	51.	2.2	117.	2.00	.028	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	5.	.8	164.	2.00	.301	.05	.006
SKY	140.	5.	.8	164.	2.00	.059	.05	-.002
TERRAIN	10.	5.	.8	164.	2.00	3.613*	.05	.008
TERRAIN	140.	5.	.8	164.	2.00	.117	.05	.000

```
"wealt4                    "
"wealt4                    "
    4    3
      .270      .140      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .30   2.00    .06
2.00   3.61   2.00    .12
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .17   2.00    .03
2.00   2.33   2.00    .07
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .12   2.00    .02
2.00   1.83   2.00    .06
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .10   2.00    .02
2.00   1.55   2.00    .05
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .08   2.36    .02
2.00   1.38   2.00    .04
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .07   2.71    .01
2.00   1.25   2.00    .04
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .06   3.03    .01
2.00   1.15   2.00    .03
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .06   3.32    .01
2.00   1.08   2.00    .03
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .05   3.58    .01
2.00   1.02   2.00    .03
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .05   3.81    .01
2.00    .97   2.00    .03
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .05   4.01    .01
2.00    .93   2.00    .03
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .04   4.17    .01
2.00    .90   2.00    .03
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .04   4.31    .01
2.00    .87   2.00    .03
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .04   4.42    .01
2.00    .85   2.00    .02
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .04   4.50    .01
2.00    .83   2.00    .02
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .04   4.55    .01
2.00    .81   2.00    .02
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .04   4.57    .01
2.00    .79   2.00    .02
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .04   4.56    .01
2.00    .78   2.00    .02
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .04   4.52    .01
2.00    .76   2.00    .02
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .04   4.46    .01
2.00    .75   2.00    .02
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .04   4.36    .01
2.00    .74   2.00    .02
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .04   4.24    .01
2.00    .73   2.00    .02
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .04   4.09    .01
2.00    .72   2.00    .02
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .05   3.90    .01
2.00    .71   2.00    .02
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .05   3.69    .01
2.00    .69   2.00    .02
```

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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .05   3.44    .01
2.00    .68   2.00    .02
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .06   3.16    .01
2.00    .66   2.00    .02
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .07   2.85    .01
2.00    .62   2.00    .02
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .07   2.51    .01
2.00    .57   2.00    .02
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .09   2.14    .02
2.00    .47   2.00    .01
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .11   2.00    .02
2.00    .26   2.00    .01
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .22   2.00    .04
2.00   2.83   2.00    .09
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .05   3.87    .01
2.00    .96   2.00    .03
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .04   4.11    .01
2.00    .72   2.00    .02
 34
  1 0   5.000   .050   .006   .008  -.002   .000   .008   .010  -.002   .000   .004
 .006  -.002   .000
  2 0  10.000   .050   .004   .005  -.001   .000   .004   .006  -.001   .000   .003
 .004  -.001   .000
  3 0  15.000   .054   .003   .003  -.001   .000   .003   .004  -.001   .000   .002
 .003  -.001   .000
  4 0  20.000   .068   .002   .003  -.001   .000   .002   .003  -.001   .000   .001
 .002  -.000   .000
  5 0  25.000   .082   .002   .002  -.000   .000   .002   .003  -.001   .000   .001
 .002  -.000   .000
  6 0  30.000   .094   .001   .002  -.000   .000   .002   .002  -.001   .000   .001
 .001  -.000   .000
  7 0  35.000   .106   .001   .002  -.000   .000   .002   .002  -.000   .000   .001
 .001  -.000   .000
  8 0  40.000   .116   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
  9 0  45.000   .126   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 10 0  50.000   .134   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 11 1  55.000   .141   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 12 1  60.000   .148   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 13 1  65.000   .153   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 14 1  70.000   .157   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 15 1  75.000   .160   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 16 1  80.000   .161   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 17 1  85.000   .162   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 18 1  90.000   .162   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 19 1  95.000   .161   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 20 1 100.000   .158   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 21 1 105.000   .155   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 22 1 110.000   .150   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
```

```
 23 0 115.000   .144   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
 24 0 120.000   .138   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 25 0 125.000   .130   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 26 0 130.000   .121   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 27 0 135.000   .111   .001   .002  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 28 0 140.000   .099   .001   .002  -.000   .000   .002   .002  -.000   .000   .001
 .001  -.000   .000
 29 0 145.000   .087   .002   .002  -.000   .000   .002   .002  -.001   .000   .001
 .002  -.000   .000
 30 0 150.000   .074   .002   .002  -.000   .000   .002   .002  -.001   .000   .001
 .002  -.000   .000
 31 0 155.000   .060   .002   .002  -.001   .000   .003   .002  -.001   .000   .002
 .002  -.001   .000
 32 0   7.318   .050   .005   .006  -.001   .000   .006   .007  -.002   .000   .003
 .005  -.001   .000
 33 1  51.429   .136   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 34 1 114.261   .145   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
 .001  -.000   .000
"wealt4                  "
"wealt4                  "
    4    3
      .270      .140      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .30   2.00    .06
2.00   3.61   2.00    .12
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .17   2.00    .03
2.00   2.33   2.00    .07
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .12   2.00    .02
2.00   1.83   2.00    .06
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .10   2.00    .02
2.00   1.55   2.00    .05
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .08   2.36    .02
2.00   1.38   2.00    .04
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .07   2.71    .01
2.00   1.25   2.00    .04
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .06   3.03    .01
2.00   1.15   2.00    .03
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .06   3.32    .01
2.00   1.08   2.00    .03
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .05   3.58    .01
2.00   1.02   2.00    .03
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .05   3.81    .01
2.00    .97   2.00    .03
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .05   4.01    .01
2.00    .93   2.00    .03
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .04   4.17    .01
2.00    .90   2.00    .03
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .04   4.31    .01
2.00    .87   2.00    .03
```

```
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .04   4.42    .01
2.00    .85   2.00    .02
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .04   4.50    .01
2.00    .83   2.00    .02
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .04   4.55    .01
2.00    .81   2.00    .02
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .04   4.57    .01
2.00    .79   2.00    .02
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .04   4.56    .01
2.00    .78   2.00    .02
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .04   4.52    .01
2.00    .76   2.00    .02
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .04   4.46    .01
2.00    .75   2.00    .02
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .04   4.36    .01
2.00    .74   2.00    .02
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .04   4.24    .01
2.00    .73   2.00    .02
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .04   4.09    .01
2.00    .72   2.00    .02
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .05   3.90    .01
2.00    .71   2.00    .02
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .05   3.69    .01
2.00    .69   2.00    .02
 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .05   3.44    .01
2.00    .68   2.00    .02
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .06   3.16    .01
2.00    .66   2.00    .02
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .07   2.85    .01
2.00    .62   2.00    .02
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .07   2.51    .01
2.00    .57   2.00    .02
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .09   2.14    .02
2.00    .47   2.00    .01
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .11   2.00    .02
2.00    .26   2.00    .01
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .22   2.00    .04
2.00   2.83   2.00    .09
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .05   3.87    .01
2.00    .96   2.00    .03
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .04   4.11    .01
2.00    .72   2.00    .02
 34
  1 0   5.000   .050   .006   .008  -.002   .000   .008   .010  -.002   .000   .004
 .006  -.002   .000
  2 0  10.000   .050   .004   .005  -.001   .000   .004   .006  -.001   .000   .003
 .004  -.001   .000
  3 0  15.000   .054   .003   .003  -.001   .000   .003   .004  -.001   .000   .002
 .003  -.001   .000
  4 0  20.000   .068   .002   .003  -.001   .000   .002   .003  -.001   .000   .001
 .002  -.000   .000
  5 0  25.000   .082   .002   .002  -.000   .000   .002   .003  -.001   .000   .001
 .002  -.000   .000
  6 0  30.000   .094   .001   .002  -.000   .000   .002   .002  -.001   .000   .001
 .001  -.000   .000
  7 0  35.000   .106   .001   .002  -.000   .000   .002   .002  -.000   .000   .001
 .001  -.000   .000
  8 0  40.000   .116   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
  9 0  45.000   .126   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
 10 0  50.000   .134   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
 .001  -.000   .000
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11 1  55.000   .141   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
12 1  60.000   .148   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
13 1  65.000   .153   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
14 1  70.000   .157   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
15 1  75.000   .160   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
16 1  80.000   .161   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
17 1  85.000   .162   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
18 1  90.000   .162   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
19 1  95.000   .161   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
20 1 100.000   .158   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
21 1 105.000   .155   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
22 1 110.000   .150   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
23 0 115.000   .144   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
24 0 120.000   .138   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
.001  -.000   .000
25 0 125.000   .130   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
.001  -.000   .000
26 0 130.000   .121   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
.001  -.000   .000
27 0 135.000   .111   .001   .002  -.000   .000   .001   .002  -.000   .000   .001
.001  -.000   .000
28 0 140.000   .099   .001   .002  -.000   .000   .002   .002  -.000   .000   .001
.001  -.000   .000
29 0 145.000   .087   .002   .002  -.000   .000   .002   .002  -.001   .000   .001
.002  -.000   .000
30 0 150.000   .074   .002   .002  -.000   .000   .002   .002  -.001   .000   .001
.002  -.000   .000
31 0 155.000   .060   .002   .002  -.001   .000   .003   .002  -.001   .000   .002
.002  -.001   .000
32 0   7.318   .050   .005   .006  -.001   .000   .006   .007  -.002   .000   .003
.005  -.001   .000
33 1  51.429   .136   .001   .001  -.000   .000   .001   .002  -.000   .000   .001
.001  -.000   .000
34 1 114.261   .145   .001   .001  -.000   .000   .001   .001  -.000   .000   .001
.001  -.000   .000
```

Visual Effects Screening Analysis for
Source: wealt5a
Class I Area: wealt5a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.00	LB /HR
NOx (as NO2)	.48	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	51.	2.2	117.	6.24	.019	.14	.000
SKY	140.	51.	2.2	117.	3.87	.013	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.003	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.002	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	5.	.8	164.	2.00	.119	.05	-.000
SKY	140.	5.	.8	164.	2.00	.084	.05	-.000
TERRAIN	10.	5.	.8	164.	2.00	.040	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.028	.05	.000

```
"wealt5a                    "
"wealt5a                    "
    4    3
      .000      .480      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .12   2.00    .08
2.00    .04   2.00    .03
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .07   2.00    .05
2.00    .02   2.00    .01
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .05   2.00    .03
2.00    .01   2.00    .01
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .04   2.00    .03
2.00    .01   2.00    .01
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .03   2.36    .02
2.00    .01   2.00    .00
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .03   2.71    .02
2.00    .01   2.00    .00
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .02   3.03    .02
2.00    .00   2.00    .00
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .02   3.32    .02
2.00    .00   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .02   3.58    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .02   3.81    .01
2.00    .00   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .02   4.01    .01
2.00    .00   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .02   4.17    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .02   4.31    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .02   4.42    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .02   4.50    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .02   4.55    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .02   4.57    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .02   4.56    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .02   4.52    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .02   4.46    .01
2.00    .00   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .02   4.36    .01
2.00    .00   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .02   4.24    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .02   4.09    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .02   3.90    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .02   3.69    .01
2.00    .00   2.00    .00
```

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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .02   3.44    .02
2.00    .00   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .02   3.16    .02
2.00    .00   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .03   2.85    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .03   2.51    .02
2.00    .00   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .03   2.14    .02
2.00    .00   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .04   2.00    .03
2.00    .00   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .09   2.00    .06
2.00    .03   2.00    .02
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .02   3.87    .01
2.00    .00   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .02   4.11    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.002   .000  -.002   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .054  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .068  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .082  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .094  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .106   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .111   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .099  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .087  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .074  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
31 0 155.000   .060  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.000   .000  -.002   .000  -.002   .000   .000
.000   .000   .000
33 1  51.429   .136   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wealt5b
Class I Area: wealt5b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.00	LB /HR
NOx (as NO2)	.49	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	51.	2.2	117.	6.24	.019	.14	.000
SKY	140.	51.	2.2	117.	3.87	.014	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.003	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.002	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	5.	.8	164.	2.00	.121	.05	-.000
SKY	140.	5.	.8	164.	2.00	.086	.05	-.000
TERRAIN	10.	5.	.8	164.	2.00	.041	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.029	.05	.000

```
"wealt5b                    "
"wealt5b                    "
    4    3
      .000      .490      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .12   2.00    .09
2.00    .04   2.00    .03
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .07   2.00    .05
2.00    .02   2.00    .01
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .05   2.00    .04
2.00    .01   2.00    .01
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .04   2.00    .03
2.00    .01   2.00    .01
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .03   2.36    .02
2.00    .01   2.00    .01
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .03   2.71    .02
2.00    .01   2.00    .00
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .03   3.03    .02
2.00    .00   2.00    .00
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .02   3.32    .02
2.00    .00   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .02   3.58    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .02   3.81    .01
2.00    .00   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .02   4.01    .01
2.00    .00   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .02   4.17    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .02   4.31    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .02   4.42    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .02   4.50    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .02   4.55    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .02   4.57    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .02   4.56    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .02   4.52    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .02   4.46    .01
2.00    .00   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .02   4.36    .01
2.00    .00   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .02   4.24    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .02   4.09    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .02   3.90    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .02   3.69    .01
2.00    .00   2.00    .00
```

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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .02   3.44    .02
2.00    .00   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .02   3.16    .02
2.00    .00   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .03   2.85    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .03   2.51    .02
2.00    .00   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .04   2.14    .03
2.00    .00   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .04   2.00    .03
2.00    .00   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .09   2.00    .06
2.00    .03   2.00    .02
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .02   3.87    .01
2.00    .00   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .02   4.11    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.002   .000  -.002   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .054  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .068  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .082  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .094  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .106   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .111   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .099  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .087  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .074  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
31 0 155.000   .060  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.000   .000  -.002   .000  -.002   .000   .000
.000   .000   .000
33 1  51.429   .136   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wealt6
Class I Area: wealt6

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.44	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	51.	2.2	117.	6.24	.016	.14	.000
SKY	140.	51.	2.2	117.	3.87	.012	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.036	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.002	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	5.	.8	164.	2.00	.103	.05	-.000
SKY	140.	5.	.8	164.	2.00	.078	.05	-.000
TERRAIN	10.	5.	.8	164.	2.00	.143	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.025	.05	.000

Visual Effects Screening Analysis for
Source: wealt7a
Class I Area: wealt7a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.01	LB /HR
NOx (as NO2)	.46	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	51.	2.2	117.	6.24	.017	.14	.000
SKY	140.	51.	2.2	117.	3.87	.013	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.036	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.002	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	5.	.8	164.	2.00	.108	.05	-.000
SKY	140.	5.	.8	164.	2.00	.081	.05	-.001
TERRAIN	10.	5.	.8	164.	2.00	.143	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.026	.05	.000

```
"wealt7a                    "
"wealt7a                    "
    4    3
      .010      .460      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .11   2.00    .08
2.00    .14   2.00    .03
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .06   2.00    .05
2.00    .09   2.00    .01
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .04   2.00    .03
2.00    .07   2.00    .01
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .03   2.00    .03
2.00    .06   2.00    .01
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .03   2.36    .02
2.00    .05   2.00    .00
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .03   2.71    .02
2.00    .05   2.00    .00
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .02   3.03    .02
2.00    .04   2.00    .00
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .02   3.32    .02
2.00    .04   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .02   3.58    .01
2.00    .04   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .02   3.81    .01
2.00    .04   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .02   4.01    .01
2.00    .04   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .02   4.17    .01
2.00    .03   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .01   4.31    .01
2.00    .03   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .01   4.42    .01
2.00    .03   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .01   4.50    .01
2.00    .03   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .01   4.55    .01
2.00    .03   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .01   4.57    .01
2.00    .03   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .01   4.56    .01
2.00    .03   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .01   4.52    .01
2.00    .03   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .01   4.46    .01
2.00    .03   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .01   4.36    .01
2.00    .03   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .02   4.24    .01
2.00    .03   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .02   4.09    .01
2.00    .03   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .02   3.90    .01
2.00    .03   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .02   3.69    .01
2.00    .03   2.00    .00
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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .02   3.44    .01
2.00    .03   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .02   3.16    .02
2.00    .02   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .02   2.85    .02
2.00    .02   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .03   2.51    .02
2.00    .02   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .03   2.14    .02
2.00    .02   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .04   2.00    .03
2.00    .01   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .08   2.00    .06
2.00    .11   2.00    .02
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .02   3.87    .01
2.00    .04   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .02   4.11    .01
2.00    .03   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.001   .000  -.002   .000  -.002   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .054   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .068   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .082   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .094   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .106   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .111   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .099   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .087   .000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .074   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
31 0 155.000   .060   .000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.000   .000  -.001   .000  -.002   .000   .000
.000   .000   .000
33 1  51.429   .136   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wealt7b
Class I Area: wealt7b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.00	LB /HR
NOx (as NO2)	.30	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees

Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	51.	2.2	117.	6.24	.012	.14	.000
SKY	140.	51.	2.2	117.	3.87	.008	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.002	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.001	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	5.	.8	164.	2.00	.074	.05	-.000
SKY	140.	5.	.8	164.	2.00	.053	.05	-.000
TERRAIN	10.	5.	.8	164.	2.00	.025	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.018	.05	.000

```
"wealt7b                    "
"wealt7b                    "
    4    3
      .000      .300      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .07   2.00    .05
2.00    .03   2.00    .02
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .03   2.00    .02
2.00    .01   2.00    .01
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .02   2.00    .02
2.00    .01   2.00    .00
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .02   2.36    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .02   2.71    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .02   3.03    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .01   3.32    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .01   3.58    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .01   3.81    .01
2.00    .00   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .01   4.01    .01
2.00    .00   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .01   4.17    .01
2.00    .00   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .01   4.31    .01
2.00    .00   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .01   4.42    .01
2.00    .00   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .01   4.50    .01
2.00    .00   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .01   4.55    .01
2.00    .00   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .01   4.57    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .01   4.56    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .01   4.52    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .01   4.46    .01
2.00    .00   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .01   4.36    .01
2.00    .00   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .01   4.24    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .01   4.09    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .01   3.90    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .01   3.69    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .01   3.44    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .01   3.16    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .02   2.85    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .02   2.51    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .02   2.14    .02
2.00    .00   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .03   2.00    .02
2.00    .00   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .01   3.87    .01
2.00    .00   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .01   4.11    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .054  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .068   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .082   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .094   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .106   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .111   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .099   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .087   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .074   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .060  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
33 1  51.429   .136   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wealt7c
Class I Area: wealt7c

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.00	LB /HR
NOx (as NO2)	.18	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	2.50 km
Min. Source-Class I Distance:	2.20 km
Max. Source-Class I Distance:	2.80 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	51.	2.2	117.	6.24	.007	.14	.000
SKY	140.	51.	2.2	117.	3.87	.005	.14	.000
TERRAIN	10.	51.	2.2	117.	2.00	.001	.14	.000
TERRAIN	140.	51.	2.2	117.	2.00	.001	.14	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E Crit	Delta E Plume	Contrast Crit	Contrast Plume
SKY	10.	5.	.8	164.	2.00	.044	.05	-.000
SKY	140.	5.	.8	164.	2.00	.032	.05	-.000
TERRAIN	10.	5.	.8	164.	2.00	.015	.05	.000
TERRAIN	140.	5.	.8	164.	2.00	.011	.05	.000

```
"wealt7c                    "
"wealt7c                    "
    4    3
      .000      .180      .000      .000      .000
     2.500     2.200     2.800   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8     .8    1.7    2.1 3.63   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  2 0    10.0  158.8    1.2    1.3    1.8 6.42   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  3 0    15.0  153.8    1.5    1.1    1.6 8.98   .054   2.55    .02   2.00    .01
2.00    .00   2.00    .00
  4 0    20.0  148.8    1.6     .9    1.411.38   .068   3.19    .01   2.00    .01
2.00    .00   2.00    .00
  5 0    25.0  143.8    1.8     .8    1.313.62   .082   3.81    .01   2.36    .01
2.00    .00   2.00    .00
  6 0    30.0  138.8    1.9     .7    1.215.71   .094   4.37    .01   2.71    .01
2.00    .00   2.00    .00
  7 0    35.0  133.8    2.0     .7    1.117.64   .106   4.89    .01   3.03    .01
2.00    .00   2.00    .00
  8 0    40.0  128.8    2.1     .6    1.119.39   .116   5.36    .01   3.32    .01
2.00    .00   2.00    .00
  9 0    45.0  123.8    2.1     .6    1.020.96   .126   5.78    .01   3.58    .01
2.00    .00   2.00    .00
 10 0    50.0  118.8    2.2     .6    1.022.36   .134   6.15    .01   3.81    .01
2.00    .00   2.00    .00
 11 1    55.0  113.8    2.2     .5    1.023.58   .141   6.47    .01   4.01    .00
2.00    .00   2.00    .00
 12 1    60.0  108.8    2.3     .5    1.024.61   .148   6.74    .01   4.17    .00
2.00    .00   2.00    .00
 13 1    65.0  103.8    2.3     .5    1.025.46   .153   6.96    .01   4.31    .00
2.00    .00   2.00    .00
 14 1    70.0   98.8    2.4     .5    1.026.13   .157   7.14    .01   4.42    .00
2.00    .00   2.00    .00
 15 1    75.0   93.8    2.4     .5    1.026.61   .160   7.26    .01   4.50    .00
2.00    .00   2.00    .00
 16 1    80.0   88.8    2.5     .5    1.026.92   .161   7.34    .01   4.55    .00
2.00    .00   2.00    .00
 17 1    85.0   83.8    2.5     .5    1.027.05   .162   7.38    .01   4.57    .00
2.00    .00   2.00    .00
 18 1    90.0   78.8    2.5     .5    1.027.00   .162   7.36    .01   4.56    .00
2.00    .00   2.00    .00
 19 1    95.0   73.8    2.6     .5    1.126.78   .161   7.30    .01   4.52    .00
2.00    .00   2.00    .00
 20 1   100.0   68.8    2.6     .5    1.126.37   .158   7.20    .01   4.46    .00
2.00    .00   2.00    .00
 21 1   105.0   63.8    2.7     .5    1.225.78   .155   7.05    .01   4.36    .00
2.00    .00   2.00    .00
 22 1   110.0   58.8    2.7     .6    1.325.01   .150   6.84    .01   4.24    .00
2.00    .00   2.00    .00
 23 0   115.0   53.8    2.8     .6    1.424.06   .144   6.60    .01   4.09    .00
2.00    .00   2.00    .00
 24 0   120.0   48.8    2.9     .6    1.622.93   .138   6.30    .01   3.90    .00
2.00    .00   2.00    .00
 25 0   125.0   43.8    3.0     .7    1.821.61   .130   5.95    .01   3.69    .01
2.00    .00   2.00    .00
```

```
 26 0   130.0   38.8    3.1     .8    2.120.11   .121   5.55    .01   3.44    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8    3.2     .9    2.518.43   .111   5.11    .01   3.16    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8    3.3    1.0    3.216.58   .099   4.61    .01   2.85    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8    3.6    1.2    4.414.55   .087   4.06    .01   2.51    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8    3.9    1.5    7.312.35   .074   3.46    .01   2.14    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8    4.4    2.1   21.9 9.98   .060   2.81    .02   2.00    .01
2.00    .00   2.00    .00
 32 0     7.3  161.4    1.0    1.5    1.9 4.96   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 33 1    51.4  117.3    2.2     .5    1.022.73   .136   6.24    .01   3.87    .00
2.00    .00   2.00    .00
 34 1   114.3   54.5    2.8     .6    1.424.21   .145   6.64    .01   4.11    .00
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  2 0  10.000   .050   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .054   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .068   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .082   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .094   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .106   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .116   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .126   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .134   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 1  55.000   .141   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .148   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .153   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .157   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .160   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .162   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .161   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .158   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .155   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 1 110.000   .150   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
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23 0 115.000   .144   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .138   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .130   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .121   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .111   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .099   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .087   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .074   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .060   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0   7.318   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
33 1  51.429   .136   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 114.261   .145   .000   .000   .000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: wmad2
Class I Area: wmad2

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.22	LB /HR
NOx (as NO2)	27.36	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 120.00 km
Min. Source-Class I Distance: 109.00 km
Max. Source-Class I Distance: 131.00 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.047	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.033	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.013	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.010	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.143	.05	-.003
SKY	140.	0.	1.0	169.	2.00	.121	.05	-.004
TERRAIN	10.	0.	1.0	169.	2.09	.205	.05	.003
TERRAIN	140.	0.	1.0	169.	2.00	.114	.05	.003

```
"wmad2                    "
"wmad2                    "
    4    3
      .220    27.360      .000      .000      .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .03   2.00    .02
2.00    .02   2.00    .01
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .05   2.00    .03
2.00    .02   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .05   2.00    .03
2.00    .02   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .05   2.00    .03
2.00    .02   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .00
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .14   2.00    .12
2.09    .20   2.00    .11
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 34
  1 0   5.000   .050  -.001   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  3 0  15.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
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23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.003   .003  -.004   .003  -.002   .002  -.002   .002   .001
.002  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
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Visual Effects Screening Analysis for
Source: wmad3
Class I Area: wmad3

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.35	LB /HR
NOx (as NO2)	45.88	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.078	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.056	.05	-.001
TERRAIN	10.	58.	109.0	110.	2.00	.022	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.017	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.140	.05	-.002
SKY	140.	0.	1.0	169.	2.00	.135	.05	-.004
TERRAIN	10.	0.	1.0	169.	2.09	.239	.05	.004
TERRAIN	140.	0.	1.0	169.	2.00	.129	.05	.004

Visual Effects Screening Analysis for
Source: wmad4
Class I Area: wmad4

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	18.07	LB /HR
NOx (as NO2)	7.42	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.224	.05	.005
SKY	140.	58.	109.0	110.	2.00	.037	.05	-.001
TERRAIN	10.	58.	109.0	110.	2.00	.336	.05	.003
TERRAIN	140.	58.	109.0	110.	2.00	.024	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	5.263*	.05	.067*
SKY	140.	0.	1.0	169.	2.00	.884	.05	-.018
TERRAIN	10.	0.	1.0	169.	2.09	3.086*	.05	.029
TERRAIN	140.	0.	1.0	169.	2.00	1.027	.05	.019

Visual Effects Screening Analysis for
Source: wmad5a
Class I Area: wmad5a

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.15	LB /HR
NOx (as NO2)	30.61	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.052	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.037	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.015	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.012	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.159	.05	-.003
SKY	140.	0.	1.0	169.	2.00	.120	.05	-.004
TERRAIN	10.	0.	1.0	169.	2.09	.198	.05	.003
TERRAIN	140.	0.	1.0	169.	2.00	.112	.05	.003

```
"wmad5a                    "
"wmad5a                    "
    4    3
      .150    30.610       .000       .000       .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .04   2.00    .02
2.00    .03   2.00    .02
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .05   2.00    .03
2.00    .02   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .16   2.00    .12
2.09    .20   2.00    .11
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 34
  1 0   5.000   .050  -.001   .000  -.001   .000  -.001   .001  -.001   .001   .000
 .000  -.000   .000
  2 0  10.000   .050  -.001   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  3 0  15.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  4 0  20.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
```

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23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.003   .003  -.004   .003  -.002   .002  -.002   .002   .000
.001  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wmad5b
Class I Area: wmad5b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.20	LB /HR
NOx (as NO2)	21.96	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
Background Visual Range: 240.00 km
Source-Observer Distance: 120.00 km
Min. Source-Class I Distance: 109.00 km
Max. Source-Class I Distance: 131.00 km
Plume-Source-Observer Angle: 11.25 degrees
Stability: 4
Wind Speed: 1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.037	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.027	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.011	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.008	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.142	.05	-.003
SKY	140.	0.	1.0	169.	2.00	.117	.05	-.004
TERRAIN	10.	0.	1.0	169.	2.09	.197	.05	.003
TERRAIN	140.	0.	1.0	169.	2.00	.110	.05	.003

```
"wmad5b                    "
"wmad5b                    "
    4    3
      .200    21.960       .000       .000       .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .03   2.00    .02
2.00    .02   2.00    .01
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .03   2.00    .03
2.00    .01   2.00    .01
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .14   2.00    .12
2.09    .20   2.00    .11
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
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23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.003   .003  -.004   .003  -.002   .002  -.002   .002   .000
.001  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wmad6
Class I Area: wmad6

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.19	LB /HR
NOx (as NO2)	25.20	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.043	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.031	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.012	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.010	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.147	.05	-.003
SKY	140.	0.	1.0	169.	2.00	.118	.05	-.004
TERRAIN	10.	0.	1.0	169.	2.09	.199	.05	.003
TERRAIN	140.	0.	1.0	169.	2.00	.111	.05	.003

```
"wmad6                    "
"wmad6                    "
    4    3
      .190    25.200      .000      .000      .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .03   2.00    .02
2.00    .02   2.00    .01
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .03   2.00    .02
2.00    .02   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .00
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .15   2.00    .12
2.09    .20   2.00    .11
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 34
  1 0   5.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
```

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23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.003   .003  -.004   .003  -.002   .002  -.002   .002   .000
.001  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wmad7b
Class I Area: wmad7b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.23	LB /HR
NOx (as NO2)	29.13	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.050	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.036	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.014	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.011	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.143	.05	-.003
SKY	140.	0.	1.0	169.	2.00	.122	.05	-.004
TERRAIN	10.	0.	1.0	169.	2.09	.208	.05	.003
TERRAIN	140.	0.	1.0	169.	2.00	.115	.05	.003

```
"wmad7b                    "
"wmad7b                    "
    4    3
      .230    29.130      .000      .000      .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .03   2.00    .02
2.00    .02   2.00    .01
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .04   2.00    .03
2.00    .02   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .05   2.00    .03
2.00    .02   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .05   2.00    .04
2.00    .02   2.00    .01
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .01
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .04   2.00    .03
2.00    .01   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .04   2.00    .03
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .14   2.00    .12
2.09    .21   2.00    .12
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .05   2.00    .04
2.00    .01   2.00    .01
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .05   2.00    .03
2.00    .01   2.00    .01
 34
  1 0   5.000   .050  -.001   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  3 0  15.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  4 0  20.000   .050  -.000   .000  -.001   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
```

```
23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.003   .003  -.004   .003  -.002   .002  -.002   .002   .001
.002  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wmad7b
Class I Area: wmad7b

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.15	LB /HR
NOx (as NO2)	19.29	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.033	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.024	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.009	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.007	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.140	.05	-.003
SKY	140.	0.	1.0	169.	2.00	.108	.05	-.003
TERRAIN	10.	0.	1.0	169.	2.09	.180	.05	.003
TERRAIN	140.	0.	1.0	169.	2.00	.101	.05	.003

```
"wmad7b                    "
"wmad7b                    "
    4    3
      .150    19.290       .000       .000       .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .02   2.00    .02
2.00    .02   2.00    .01
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .03   2.00    .02
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .02   2.00    .02
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .14   2.00    .11
2.09    .18   2.00    .10
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .01
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .03   2.00    .02
2.00    .01   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000  -.000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
 .000   .000   .000
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23 0 115.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.001   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.003   .003  -.003   .003  -.002   .002  -.002   .002   .000
.001  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.001   .000  -.001   .000   .000
.000   .000   .000
```

Visual Effects Screening Analysis for
Source: wmad7c
Class I Area: wmad7c

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	.10	LB /HR
NOx (as NO2)	12.46	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	240.00 km
Source-Observer Distance:	120.00 km
Min. Source-Class I Distance:	109.00 km
Max. Source-Class I Distance:	131.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	4
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	58.	109.0	110.	2.00	.021	.05	-.000
SKY	140.	58.	109.0	110.	2.00	.015	.05	-.000
TERRAIN	10.	58.	109.0	110.	2.00	.006	.05	.000
TERRAIN	140.	58.	109.0	110.	2.00	.005	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.22	.090	.05	-.002
SKY	140.	0.	1.0	169.	2.00	.070	.05	-.002
TERRAIN	10.	0.	1.0	169.	2.09	.116	.05	.002
TERRAIN	140.	0.	1.0	169.	2.00	.066	.05	.002

```
"wmad7c                    "
"wmad7c                    "
    4    3
      .100    12.460       .000       .000       .000
   120.000   109.000   131.000   240.000
    0     1.500    3
    0     2.500    8
    0     2.500    6
    0     2.000    1
    0     1.500    4
    0      .040     1.000    4
    0    11.250
 34
  1 0     5.0  163.8   37.4   83.7   99.5  .82   .050   2.00    .01   2.00    .01
2.00    .01   2.00    .01
  2 0    10.0  158.8   57.5   64.6   85.5 1.32   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .01
  3 0    15.0  153.8   70.2   52.9   75.4 1.78   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .01
  4 0    20.0  148.8   79.1   45.1   68.0 2.21   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
  5 0    25.0  143.8   85.8   39.6   62.3 2.62   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
  6 0    30.0  138.8   91.0   35.5   57.9 3.01   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
  7 0    35.0  133.8   95.3   32.4   54.4 3.37   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
  8 0    40.0  128.8   98.9   30.0   51.8 3.70   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
  9 0    45.0  123.8  102.1   28.2   49.7 4.01   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .01
 10 0    50.0  118.8  104.9   26.7   48.2 4.28   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 11 0    55.0  113.8  107.4   25.6   47.0 4.52   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 12 1    60.0  108.8  109.7   24.7   46.3 4.72   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 13 1    65.0  103.8  112.0   24.1   46.0 4.89   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
 14 1    70.0   98.8  114.1   23.7   46.0 5.02   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
 15 1    75.0   93.8  116.2   23.5   46.3 5.11   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
 16 1    80.0   88.8  118.2   23.4   47.0 5.17   .050   2.00    .02   2.00    .01
2.00    .01   2.00    .00
 17 1    85.0   83.8  120.3   23.6   48.2 5.18   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 18 1    90.0   78.8  122.4   23.9   49.7 5.15   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 19 1    95.0   73.8  124.5   24.4   51.8 5.09   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 20 1   100.0   68.8  126.8   25.1   54.4 4.98   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 21 1   105.0   63.8  129.2   26.1   57.9 4.84   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 22 0   110.0   58.8  131.9   27.4   62.3 4.66   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 23 0   115.0   53.8  134.9   29.0   68.0 4.44   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 24 0   120.0   48.8  138.2   31.1   75.4 4.19   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 25 0   125.0   43.8  142.1   33.9   85.5 3.91   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
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 26 0   130.0   38.8  146.9   37.4   99.5 3.59   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 27 0   135.0   33.8  152.7   42.1  120.0 3.25   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 28 0   140.0   28.8  160.4   48.7  152.7 2.88   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 29 0   145.0   23.8  170.9   58.1  212.2 2.49   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 30 0   150.0   18.8  186.7   72.8  351.8 2.07   .050   2.00    .01   2.00    .01
2.00    .00   2.00    .00
 31 0   155.0   13.8  213.4   98.5  999.0 1.63   .050   2.00    .00   2.00    .00
2.00    .00   2.00    .00
 32 0      .1  168.7    1.0  119.0  119.5  .06   .050   2.22    .09   2.00    .07
2.09    .12   2.00    .07
 33 1    58.4  110.4  109.0   25.0   46.5 4.66   .050   2.00    .02   2.00    .02
2.00    .01   2.00    .00
 34 1   108.4   60.4  131.0   26.9   60.7 4.72   .050   2.00    .02   2.00    .01
2.00    .00   2.00    .00
 34
  1 0   5.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  2 0  10.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  3 0  15.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  4 0  20.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  5 0  25.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  6 0  30.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  7 0  35.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  8 0  40.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
  9 0  45.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 10 0  50.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 11 0  55.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 12 1  60.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 13 1  65.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 14 1  70.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 15 1  75.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 16 1  80.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 17 1  85.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 18 1  90.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 19 1  95.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 20 1 100.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 21 1 105.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
 .000   .000   .000
 22 0 110.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
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23 0 115.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
24 0 120.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
25 0 125.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
26 0 130.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
27 0 135.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
28 0 140.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
29 0 145.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
30 0 150.000   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
31 0 155.000   .050   .000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
32 0    .094   .050  -.002   .002  -.002   .002  -.001   .001  -.001   .001   .000
.001  -.001   .001
33 1  58.376   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
34 1 108.362   .050  -.000   .000  -.000   .000  -.000   .000  -.000   .000   .000
.000   .000   .000
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ATTACHMENT J
REFINED INPUTS & HOURLY DISTRIBUTIONS OF OSVs

Site 1: West Entrance & Site 2: West Entrance to Madison

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Gas (Current)	133.6	208.7	741.2		
	Diesel BAT	24.0	5.7	14.0		
Wheeled Vehicles		25.8	14.7	116.3		

50/50 gas/diesel snowcoaches, except for 83/17 for Alt. 5a

Alternative 2

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Tot Veh.	Alternative 2 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	North Lane	West to Madison
160	34	20	2	7 to 8	34	7	41	35.05	172.00	21.26	27	14	22
				8 to 9	37	7	44	35.19	174.01	20.77	29	15	25
				9 to 10	52	11	63	35.01	171.32	21.43	42	21	43
				10 to 11	35	7	42	35.10	172.70	21.09	28	14	62
				11 to 12	10	2	12	35.10	172.70	21.09	8	4	51
				12 to 1	18	4	22	34.93	170.07	21.74	15	7	22
				1 to 2	18	4	22	34.93	170.07	21.74	15	7	51
				2 to 3	34	7	41	35.05	172.00	21.26	27	14	51
				3 to 4	36	7	43	35.14	173.37	20.93	29	14	63
				4 to 5	61	12	73	35.13	173.10	20.99	49	24	35
				5 to 6	19	4	23	35.02	171.44	21.40	15	8	3
				6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
				7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
				8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 3

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Tot Veh.	Alternative 3 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	North Lane	West to Madison
400	34	20	2	7 to 8	82	7	89	36.10	187.96	17.35	59	30	46
				8 to 9	85	7	92	36.13	188.41	17.24	61	31	49
				9 to 10	124	11	135	36.07	187.47	17.47	90	45	91
				10 to 11	83	7	90	36.11	188.11	17.31	60	30	134
				11 to 12	22	2	24	36.05	187.15	17.55	16	8	111
				12 to 1	42	4	46	36.01	186.52	17.70	31	15	46
				1 to 2	42	4	46	36.01	186.52	17.70	31	15	111
				2 to 3	82	7	89	36.10	187.96	17.35	59	30	111
				3 to 4	84	7	91	36.12	188.26	17.27	61	30	135
				4 to 5	145	12	157	36.13	188.35	17.25	105	52	71
				5 to 6	43	4	47	36.03	186.84	17.62	31	16	3
				6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
				7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
				8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 4 (Mixed Use)

Snowmobiles	Visitor Snowcoaches	Wheeled Veh	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches
0	0	75	20	2

Alternative 4 (Mixed Use)

Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Wheeled Veh	Tot Veh.	E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	West Entrance Traffic North Lane
7 to 8	2	0	15	17	27.12	126.34	14.62	11	6
8 to 9	5	1	15	21	28.46	132.41	16.53	14	7
9 to 10	4	0	23	27	27.46	128.94	14.60	18	9
10 to 11	3	0	15	18	27.67	130.52	14.58	12	6
11 to 12	2	0	4	6	29.53	144.73	14.47	4	2
12 to 1	2	0	8	10	28.04	133.36	14.56	7	3
1 to 2	2	0	8	10	28.04	133.36	14.56	7	3
2 to 3	2	0	15	17	27.12	126.34	14.62	11	6
3 to 4	4	0	15	19	28.16	134.26	14.55	13	6
4 to 5	5	1	26	32	27.54	126.88	15.90	21	11
5 to 6	3	0	8	11	28.85	139.56	14.51	7	4
6 to 7	2	0	0	2	37.00	201.60	14.00	1	1
7 to 8	2	0	0	2	37.00	201.60	14.00	1	1
8 to 9	2	0	0	2	37.00	201.60	14.00	1	1

Alternative 5a

Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches
160	34	20	2

Alternative 5a

Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Tot Veh.	E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	West Entrance Traffic North Lane	West to Madison
7 to 8	34	7	41	50.31	272.62	41.35	27	14	22
8 to 9	37	7	44	49.40	267.78	39.48	29	15	25
9 to 10	52	11	63	50.61	274.23	41.97	42	21	43
10 to 11	35	7	42	49.99	270.93	40.70	28	14	62
11 to 12	10	2	12	49.99	270.93	40.70	8	4	51
12 to 1	18	4	22	51.18	277.23	43.13	15	7	22
1 to 2	18	4	22	51.18	277.23	43.13	15	7	51
2 to 3	34	7	41	50.31	272.62	41.35	27	14	51
3 to 4	36	7	43	49.69	269.32	40.08	29	14	63
4 to 5	61	12	73	49.82	269.98	40.33	49	24	35
5 to 6	19	4	23	50.56	273.94	41.86	15	8	3
6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 5b

Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches
0	56	20	2

Alternative 5b

Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Tot Veh.	E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	West Entrance Traffic North Lane	West to Madison
7 to 8	2	11	13	27.35	54.88	50.00	9	4	8
8 to 9	5	12	17	28.95	79.20	44.04	11	6	11
9 to 10	4	17	21	27.77	61.23	48.45	14	7	16
10 to 11	3	12	15	27.88	62.88	48.04	10	5	20
11 to 12	2	3	5	30.16	97.56	39.53	3	2	16
12 to 1	2	6	8	28.45	71.55	45.91	5	3	8
1 to 2	2	6	8	28.45	71.55	45.91	5	3	16
2 to 3	2	11	13	27.35	54.88	50.00	9	4	16
3 to 4	4	12	16	28.45	71.55	45.91	11	5	21
4 to 5	5	20	25	27.88	62.88	48.04	17	8	14
5 to 6	3	6	9	29.40	86.00	42.37	6	3	3
6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 6

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches
300	34	20	2

Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Tot Veh.	Alternative 6 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	North Lane	West to Madison
7 to 8	62	7	69	35.84	184.01	18.32	46	23	36
8 to 9	65	7	72	35.89	184.74	18.14	48	24	39
9 to 10	94	11	105	35.81	183.43	18.46	70	35	71
10 to 11	63	7	70	35.86	184.26	18.26	47	23	104
11 to 12	17	2	19	35.80	183.35	18.48	13	6	86
12 to 1	32	4	36	35.73	182.33	18.73	24	12	36
1 to 2	32	4	36	35.73	182.33	18.73	24	12	86
2 to 3	62	7	69	35.84	184.01	18.32	46	23	86
3 to 4	64	7	71	35.88	184.50	18.20	47	24	105
4 to 5	110	12	122	35.88	184.54	18.19	81	41	56
5 to 6	33	4	37	35.77	182.85	18.60	25	12	3
6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 7a

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches
176	36	20	2

Hour	# vehs / pk hr Snowmobiles	Snowcoaches	Tot Veh.	Alternative 7a E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	West Entrance Traffic South Lane	North Lane	West to Madison
7 to 8	37	7	44	35.19	174.01	20.77	29	15	24
8 to 9	58	11	69	35.18	173.96	20.78	46	23	27
9 to 10	57	11	68	35.16	173.55	20.88	45	23	68
10 to 11	56	11	67	35.13	173.13	20.99	45	22	67
11 to 12	2	0	2	37.00	201.60	14.00	1	1	66
12 to 1	2	0	2	37.00	201.60	14.00	1	1	24
1 to 2	20	4	24	35.10	172.70	21.09	16	8	44
2 to 3	37	7	44	35.19	174.01	20.77	29	15	44
3 to 4	39	8	47	35.06	172.09	21.24	31	16	68
4 to 5	58	11	69	35.18	173.96	20.78	46	23	27
5 to 6	21	4	25	35.18	173.86	20.81	17	8	3
6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 7b

Visitor		Administrative Travel			# vehs / pk hr			Alternative 7b			West Entrance Traffic		
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	South Lane	North Lane	West to Madison
110	22	20	2	7 to 8	24	5	29	35.03	171.70	21.34	19	10	15
				8 to 9	38	7	45	35.23	174.63	20.62	30	15	19
				9 to 10	37	7	44	35.19	174.01	20.77	29	15	44
				10 to 11	36	7	43	35.14	173.37	20.93	29	14	43
				11 to 12	2	0	2	37.00	201.60	14.00	1	1	42
				12 to 1	2	0	2	37.00	201.60	14.00	1	1	15
				1 to 2	13	2	15	35.48	178.48	19.67	10	5	29
				2 to 3	24	5	29	35.03	171.70	21.34	19	10	29
				3 to 4	26	5	31	35.16	173.63	20.86	21	10	44
				4 to 5	38	7	45	35.23	174.63	20.62	30	15	19
				5 to 6	14	3	17	34.99	171.00	21.51	11	6	3
				6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
				7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
				8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Alternative 7c

Visitor		Administrative Travel			# vehs / pk hr			Alternative 7c			West Entrance Traffic		
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	E- Factor (g/mi) Cruise Speed	South Lane	North Lane	West to Madison
66	12	20	2	7 to 8	15	3	18	35.10	172.70	21.09	12	6	10
				8 to 9	25	4	29	35.43	177.68	19.87	19	10	14
				9 to 10	24	4	28	35.37	176.83	20.08	19	9	28
				10 to 11	23	4	27	35.31	175.91	20.30	18	9	27
				11 to 12	2	0	2	37.00	201.60	14.00	1	1	26
				12 to 1	2	0	2	37.00	201.60	14.00	1	1	10
				1 to 2	9	1	10	35.86	184.26	18.26	7	3	18
				2 to 3	15	3	18	35.10	172.70	21.09	12	6	18
				3 to 4	17	3	20	35.29	175.59	20.38	13	7	28
				4 to 5	25	4	29	35.43	177.68	19.87	19	10	14
				5 to 6	10	2	12	35.10	172.70	21.09	8	4	3
				6 to 7	2	0	2	37.00	201.60	14.00	1	1	2
				7 to 8	2	0	2	37.00	201.60	14.00	1	1	2
				8 to 9	2	0	2	37.00	201.60	14.00	1	1	2

Site 1: West Entrance & Site 2: West Entrance to Madison

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds* Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	400	450	120	0.0083	West Entrance
Snowcoach	Gas BAT	380	580	210	0.083	Old Faithful
	Gas (Current)	1,940	2,090	120		
	Diesel BAT	5,050	3,000	4,320		
Wheeled Vehicles		413	296	1,350		

50/50 gas/diesel snowcoaches, except for 83/17 for Alt. 5a

NOTE: * All emissions factors are x100, except Alt.4 & 5b which are x10 (NOx only)

Alternative 2

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
160	**34**	**20**	**2**	**7 to 8**	34	7	41	795	486	27	14	679	22
				8 to 9	37	7	44	768	461	29	15	663	25
				9 to 10	52	11	63	804	495	42	21	684	43
				10 to 11	35	7	42	786	478	28	14	673	62
				11 to 12	10	2	12	786	478	8	4	673	51
				12 to 1	18	4	22	821	510	15	7	694	22
				1 to 2	18	4	22	821	510	15	7	694	51
				2 to 3	34	7	41	795	486	27	14	679	51
				3 to 4	36	7	43	777	469	29	14	668	63
				4 to 5	61	12	73	781	473	49	24	670	35
				5 to 6	19	4	23	803	493	15	8	683	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 3

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
400	**34**	**20**	**2**	7 to 8	82	7	89	582	289	59	30	555	46
				8 to 9	85	7	92	576	283	61	31	552	49
				9 to 10	124	11	135	589	295	90	45	559	91
				10 to 11	83	7	90	580	287	60	30	554	134
				11 to 12	22	2	24	593	299	16	8	562	111
				12 to 1	42	4	46	601	307	31	15	567	46
				1 to 2	42	4	46	601	307	31	15	567	111
				2 to 3	82	7	89	582	289	59	30	555	111
				3 to 4	84	7	91	578	285	61	30	553	135
				4 to 5	145	12	157	577	284	105	52	552	71
				5 to 6	43	4	47	597	303	31	16	564	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 4 (Mixed Use)

Visitor Snowmobiles	Visitor Snowcoaches	Visitor Wheeled Veh	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Wheeled Veh	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x10 Cruise Speed	Site 2 E- Factor (g/mi) x10 West to Madison
				12 to 1						0	0	0	0	0	0
				1 to 2						0	0	0	0	0	0
				2 to 3						0	0	0	0	0	0
				3 to 4						0	0	0	0	0	0
				4 to 5						0	0	0	0	0	0
				5 to 6						0	0	0	0	0	0
				6 to 7						0	0	0	0	0	0
0	0	75	20	2	7 to 8	2	0	15	17	41.1	121	11	6	31.4	10
					8 to 9	5	1	15	21	52.0	110	14	7	40.4	13
					9 to 10	4	0	23	27	41.1	117	18	9	31.9	19
					10 to 11	3	0	15	18	41.1	115	12	6	32.2	26
					11 to 12	2	0	4	6	40.9	94	4	2	34.7	21
					12 to 1	2	0	8	10	41.0	110	7	3	32.7	10
					1 to 2	2	0	8	10	41.0	110	7	3	32.7	21
					2 to 3	2	0	15	17	41.1	121	11	6	31.4	21
					3 to 4	4	0	15	19	41.0	109	13	6	32.8	27
					4 to 5	5	1	26	32	48.3	119	21	11	36.7	17
					5 to 6	3	0	8	11	40.9	101	7	4	33.8	3
					6 to 7	2	0	0	2	40.0	12	1	1	45.0	2
					7 to 8	2	0	0	2	40.0	12	1	1	45.0	2
					8 to 9	2	0	0	2	40.0	12	1	1	45.0	2
				9 to 10						0	0	0	0	0	0
				10 to 11						0	0	0	0	0	0
				11 to 12						0	0	0	0	0	0

Alternative 5a

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	Site 2 E- Factor (g/mi) x100 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
160	34	20	2	7 to 8	34	7	41	753	242	27	14	756	22
				8 to 9	37	7	44	729	234	29	15	736	25
				9 to 10	52	11	63	761	245	42	21	763	43
				10 to 11	35	7	42	745	239	28	14	749	62
				11 to 12	10	2	12	745	239	8	4	749	51
				12 to 1	18	4	22	776	250	15	7	776	22
				1 to 2	18	4	22	776	250	15	7	776	51
				2 to 3	34	7	41	753	242	27	14	756	51
				3 to 4	36	7	43	737	236	29	14	742	63
				4 to 5	61	12	73	740	237	49	24	745	35
				5 to 6	19	4	23	760	244	15	8	762	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 5b

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x10 Cruise Speed	Site 2 E- Factor (g/mi) x10 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
0	56	20	2	7 to 8	2	11	13	236	194	9	4	158	8
				8 to 9	5	12	17	203	163	11	6	140	11
				9 to 10	4	17	21	227	186	14	7	153	16
				10 to 11	3	12	15	225	184	10	5	152	20
				11 to 12	2	3	5	179	141	3	2	125	16
				12 to 1	2	6	8	214	173	5	3	146	8
				1 to 2	2	6	8	214	173	5	3	146	16
				2 to 3	2	11	13	236	194	9	4	158	16
				3 to 4	4	12	16	214	173	11	5	146	21
				4 to 5	5	20	25	225	184	17	8	152	14
				5 to 6	3	6	9	194	155	6	3	134	3
				6 to 7	2	0	2	40	12	1	1	45	2
				7 to 8	2	0	2	40	12	1	1	45	2
				8 to 9	2	0	2	40	12	1	1	45	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 6

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	Site 2 E- Factor (g/mi) x100 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
300	**34**	**20**	**2**	7 to 8	62	7	69	635	338	46	23	586	36
				8 to 9	65	7	72	625	329	48	24	580	39
				9 to 10	94	11	105	643	345	70	35	590	71
				10 to 11	63	7	70	632	335	47	23	584	104
				11 to 12	17	2	19	644	346	13	6	591	86
				12 to 1	32	4	36	657	358	24	12	599	36
				1 to 2	32	4	36	657	358	24	12	599	86
				2 to 3	62	7	69	635	338	46	23	586	86
				3 to 4	64	7	71	628	331	47	24	582	105
				4 to 5	110	12	122	628	331	81	41	582	56
				5 to 6	33	4	37	650	352	25	12	595	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 7a

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	Site 2 E- Factor (g/mi) x100 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
176	**36**	**20**	**2**	7 to 8	37	7	44	768	461	29	15	663	24
				8 to 9	58	11	69	769	462	46	23	664	27
				9 to 10	57	11	68	774	467	45	23	667	68
				10 to 11	56	11	67	780	472	45	22	670	67
				11 to 12	2	0	2	400	120	1	1	450	66
				12 to 1	2	0	2	400	120	1	1	450	24
				1 to 2	20	4	24	786	478	16	8	673	44
				2 to 3	37	7	44	768	461	29	15	663	44
				3 to 4	39	8	47	794	485	31	16	678	68
				4 to 5	58	11	69	769	462	46	23	664	27
				5 to 6	21	4	25	770	463	17	8	664	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 7b

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	Site 2 E- Factor (g/mi) x100 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
110	**22**	**20**	**2**	7 to 8	24	5	29	799	490	19	10	681	15
				8 to 9	38	7	45	760	454	30	15	658	19
				9 to 10	37	7	44	768	461	29	15	663	44
				10 to 11	36	7	43	777	469	29	14	668	43
				11 to 12	2	0	2	400	120	1	1	450	42
				12 to 1	2	0	2	400	120	1	1	450	15
				1 to 2	13	2	15	709	406	10	5	629	29
				2 to 3	24	5	29	799	490	19	10	681	29
				3 to 4	26	5	31	773	466	21	10	666	44
				4 to 5	38	7	45	760	454	30	15	658	19
				5 to 6	14	3	17	809	499	11	6	686	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 7c

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	# vehs / pk hr Tot Veh.	NOx Emission Factors E- Factor (g/mi) Low Speed	NOx Emission Factors E- Factor (g/hr) Idle	Site 1 West Entrance Traffic South Lane	Site 1 West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) x100 Cruise Speed	Site 2 E- Factor (g/mi) x100 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
66	**12**	**20**	**2**	7 to 8	15	3	18	786	478	12	6	673	10
				8 to 9	25	4	29	719	416	19	10	635	14
				9 to 10	24	4	28	731	426	19	9	641	28
				10 to 11	23	4	27	743	438	18	9	649	27
				11 to 12	2	0	2	400	120	1	1	450	26
				12 to 1	2	0	2	400	120	1	1	450	10
				1 to 2	9	1	10	632	335	7	3	584	18
				2 to 3	15	3	18	786	478	12	6	673	18
				3 to 4	17	3	20	747	442	13	7	651	28
				4 to 5	25	4	29	719	416	19	10	635	14
				5 to 6	10	2	12	786	478	8	4	673	3
				6 to 7	2	0	2	400	120	1	1	450	2
				7 to 8	2	0	2	400	120	1	1	450	2
				8 to 9	2	0	2	400	120	1	1	450	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Site 1: West Entrance & Site 2: West Entrance to Madison

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas BAT	0.029	0.029	0.074	0.083	Old Faithful
	Gas (Current)	0.029	0.029	0.074		
	Diesel BAT	0.4	0.3	0.11		
Wheeled Vehicles	MOBILE6	0.065	0.065	0.54		
Wheeled Vehicles	Paved Roads	2.97	2.97	na		

50/50 gas/diesel snowcoaches, except for 83/17 for Alt. 5a

Alternative 2

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	Alternative 2 Site 1 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	West Entrance Traffic South Lane	North Lane	PM Emission Factors E- Factor (g/mi) Cruise Speed	Site 2 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
160	**34**	**20**	**2**	7 to 8	34	7	41	0.091	0.42	27	14	0.054	22
				8 to 9	37	7	44	0.089	0.43	29	15	0.052	25
				9 to 10	52	11	63	0.091	0.42	42	21	0.054	43
				10 to 11	35	7	42	0.090	0.42	28	14	0.053	62
				11 to 12	10	2	12	0.090	0.42	8	4	0.053	51
				12 to 1	18	4	22	0.092	0.42	15	7	0.055	22
				1 to 2	18	4	22	0.092	0.42	15	7	0.055	51
				2 to 3	34	7	41	0.091	0.42	27	14	0.054	51
				3 to 4	36	7	43	0.089	0.43	29	14	0.053	63
				4 to 5	61	12	73	0.090	0.42	49	24	0.053	35
				5 to 6	19	4	23	0.091	0.42	15	8	0.054	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 3

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	Alternative 3 Site 1 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	West Entrance Traffic South Lane	North Lane	E- Factor (g/mi) Cruise Speed	Site 2 West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
400	**34**	**20**	**2**	7 to 8	82	7	89	0.077	0.46	59	30	0.042	46
				8 to 9	85	7	92	0.076	0.46	61	31	0.041	49
				9 to 10	124	11	135	0.077	0.46	90	45	0.042	91
				10 to 11	83	7	90	0.077	0.46	60	30	0.041	134
				11 to 12	22	2	24	0.077	0.46	16	8	0.042	111
				12 to 1	42	4	46	0.078	0.46	31	15	0.043	46
				1 to 2	42	4	46	0.078	0.46	31	15	0.043	111
				2 to 3	82	7	89	0.077	0.46	59	30	0.042	111
				3 to 4	84	7	91	0.077	0.46	61	30	0.041	135
				4 to 5	145	12	157	0.076	0.46	105	52	0.041	71
				5 to 6	43	4	47	0.078	0.46	31	16	0.042	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 4 (Mixed Use)

Visitor			Administrative Travel			# vehs / pk hr				Alternative 4 (Mixed Use) Site 1					
										E- Factor (g/mi)	E- Factor (g/hr)	West Entrance Traffic		E- Factor (g/r Site 2	
Snowmobiles	Snowcoaches	Wheeled Veh	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Wheeled Veh	Tot Veh.	Low Speed	Idle	South Lane	North Lane	Cruise Speed	West to Madison
					12 to 1					0	0	0	0	0	0
					1 to 2					0	0	0	0	0	0
					2 to 3					0	0	0	0	0	0
					3 to 4					0	0	0	0	0	0
					4 to 5					0	0	0	0	0	0
					5 to 6					0	0	0	0	0	0
					6 to 7					0	0	0	0	0	0
0	0	75	20	2	7 to 8	2	0	15	17	2.686	0.53	11	6	2.682	10
					8 to 9	5	1	15	21	2.194	0.51	14	7	2.183	13
					9 to 10	4	0	23	27	2.595	0.53	18	9	2.590	19
					10 to 11	3	0	15	18	2.540	0.53	12	6	2.534	26
					11 to 12	2	0	4	6	2.045	0.52	4	2	2.034	21
					12 to 1	2	0	8	10	2.441	0.53	7	3	2.434	10
					1 to 2	2	0	8	10	2.441	0.53	7	3	2.434	21
					2 to 3	2	0	15	17	2.686	0.53	11	6	2.682	21
					3 to 4	4	0	15	19	2.410	0.53	13	6	2.403	27
					4 to 5	5	1	26	32	2.483	0.52	21	11	2.476	17
					5 to 6	3	0	8	11	2.225	0.53	7	4	2.216	3
					6 to 7	2	0	0	2	0.065	0.49	1	1	0.031	2
					7 to 8	2	0	0	2	0.065	0.49	1	1	0.031	2
					8 to 9	2	0	0	2	0.065	0.49	1	1	0.031	2
					9 to 10					0	0	0	0	0	0
					10 to 11					0	0	0	0	0	0
					11 to 12					0	0	0	0	0	0

Alternative 5a

Visitor		Administrative Travel			# vehs / pk hr			Alternative 5a Site 1					
								E- Factor (g/mi)	E- Factor (g/hr)	West Entrance Traffic		E- Factor (g/mi)	Site 2
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Low Speed	Idle	South Lane	North Lane	Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
160	34	20	2	7 to 8	34	7	41	0.070	0.42	27	14	0.039	22
				8 to 9	37	7	44	0.069	0.42	29	15	0.038	25
				9 to 10	52	11	63	0.070	0.42	42	21	0.039	43
				10 to 11	35	7	42	0.070	0.42	28	14	0.038	62
				11 to 12	10	2	12	0.070	0.42	8	4	0.038	51
				12 to 1	18	4	22	0.070	0.42	15	7	0.039	22
				1 to 2	18	4	22	0.070	0.42	15	7	0.039	51
				2 to 3	34	7	41	0.070	0.42	27	14	0.039	51
				3 to 4	36	7	43	0.069	0.42	29	14	0.038	63
				4 to 5	61	12	73	0.069	0.42	49	24	0.038	35
				5 to 6	19	4	23	0.070	0.42	15	8	0.039	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 5b

Visitor		Administrative Travel			# vehs / pk hr			Alternative 5b Site 1					
								E- Factor (g/mi)	E- Factor (g/hr)	West Entrance Traffic		E- Factor (g/mi)	Site 2
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Low Speed	Idle	South Lane	North Lane	Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
0	56	20	2	7 to 8	2	11	13	0.192	0.15	9	4	0.144	8
				8 to 9	5	12	17	0.171	0.21	11	6	0.125	11
				9 to 10	4	17	21	0.186	0.17	14	7	0.139	16
				10 to 11	3	12	15	0.185	0.17	10	5	0.138	20
				11 to 12	2	3	5	0.155	0.25	3	2	0.111	16
				12 to 1	2	6	8	0.177	0.19	5	3	0.131	8
				1 to 2	2	6	8	0.177	0.19	5	3	0.131	16
				2 to 3	2	11	13	0.192	0.15	9	4	0.144	16
				3 to 4	4	12	16	0.177	0.19	11	5	0.131	21
				4 to 5	5	20	25	0.185	0.17	17	8	0.138	14
				5 to 6	3	6	9	0.165	0.22	6	3	0.120	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 6

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	Alternative 6 Site 1 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	West Entrance Traffic South Lane	West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
300	**34**	**20**	**2**	7 to 8	62	7	69	0.080	0.45	46	23	0.045	36
				8 to 9	65	7	72	0.080	0.45	48	24	0.044	39
				9 to 10	94	11	105	0.081	0.45	70	35	0.045	71
				10 to 11	63	7	70	0.080	0.45	47	23	0.044	104
				11 to 12	17	2	19	0.081	0.45	13	6	0.045	86
				12 to 1	32	4	36	0.082	0.45	24	12	0.046	36
				1 to 2	32	4	36	0.082	0.45	24	12	0.046	86
				2 to 3	62	7	69	0.080	0.45	46	23	0.045	86
				3 to 4	64	7	71	0.080	0.45	47	24	0.044	105
				4 to 5	110	12	122	0.080	0.45	81	41	0.044	56
				5 to 6	33	4	37	0.081	0.45	25	12	0.045	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 7a

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	Alternative 7a Site 1 E- Factor (g/mi) Low Speed	E- Factor (g/hr) Idle	West Entrance Traffic South Lane	West Entrance Traffic North Lane	Site 2 E- Factor (g/mi) Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
176	**36**	**20**	**2**	7 to 8	37	7	44	0.089	0.43	29	15	0.052	24
				8 to 9	58	11	69	0.089	0.43	46	23	0.052	27
				9 to 10	57	11	68	0.089	0.43	45	23	0.053	68
				10 to 11	56	11	67	0.090	0.42	45	22	0.053	67
				11 to 12	2	0	2	0.065	0.49	1	1	0.031	66
				12 to 1	2	0	2	0.065	0.49	1	1	0.031	24
				1 to 2	20	4	24	0.090	0.42	16	8	0.053	44
				2 to 3	37	7	44	0.089	0.43	29	15	0.052	44
				3 to 4	39	8	47	0.090	0.42	31	16	0.054	68
				4 to 5	58	11	69	0.089	0.43	46	23	0.052	27
				5 to 6	21	4	25	0.089	0.43	17	8	0.052	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 7b

Visitor		Administrative Travel			# vehs / pk hr			E- Factor (g/mi)	E- Factor (g/hr)	West Entrance Traffic		E- Factor (g/mi)	Site 2
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Low Speed	Idle	South Lane	North Lane	Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
110	**22**	**20**	**2**	7 to 8	24	5	29	0.091	0.42	19	10	0.054	15
				8 to 9	38	7	45	0.088	0.43	30	15	0.052	19
				9 to 10	37	7	44	0.089	0.43	29	15	0.052	44
				10 to 11	36	7	43	0.089	0.43	29	14	0.053	43
				11 to 12	2	0	2	0.065	0.49	1	1	0.031	42
				12 to 1	2	0	2	0.065	0.49	1	1	0.031	15
				1 to 2	13	2	15	0.085	0.44	10	5	0.049	29
				2 to 3	24	5	29	0.091	0.42	19	10	0.054	29
				3 to 4	26	5	31	0.089	0.43	21	10	0.053	44
				4 to 5	38	7	45	0.088	0.43	30	15	0.052	19
				5 to 6	14	3	17	0.091	0.42	11	6	0.055	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Alternative 7c

Visitor		Administrative Travel			# vehs / pk hr			E- Factor (g/mi)	E- Factor (g/hr)	West Entrance Traffic		E- Factor (g/mi)	Site 2
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Low Speed	Idle	South Lane	North Lane	Cruise Speed	West to Madison
				12 to 1				0	0	0	0	0	0
				1 to 2				0	0	0	0	0	0
				2 to 3				0	0	0	0	0	0
				3 to 4				0	0	0	0	0	0
				4 to 5				0	0	0	0	0	0
				5 to 6				0	0	0	0	0	0
				6 to 7				0	0	0	0	0	0
66	**12**	**20**	**2**	7 to 8	15	3	18	0.090	0.42	12	6	0.053	10
				8 to 9	25	4	29	0.086	0.44	19	10	0.049	14
				9 to 10	24	4	28	0.086	0.43	19	9	0.050	28
				10 to 11	23	4	27	0.087	0.43	18	9	0.051	27
				11 to 12	2	0	2	0.065	0.49	1	1	0.031	26
				12 to 1	2	0	2	0.065	0.49	1	1	0.031	10
				1 to 2	9	1	10	0.080	0.45	7	3	0.044	18
				2 to 3	15	3	18	0.090	0.42	12	6	0.053	18
				3 to 4	17	3	20	0.087	0.43	13	7	0.051	28
				4 to 5	25	4	29	0.086	0.44	19	10	0.049	14
				5 to 6	10	2	12	0.090	0.42	8	4	0.053	3
				6 to 7	2	0	2	0.065	0.49	1	1	0.031	2
				7 to 8	2	0	2	0.065	0.49	1	1	0.031	2
				8 to 9	2	0	2	0.065	0.49	1	1	0.031	2
				9 to 10				0	0	0	0	0	0
				10 to 11				0	0	0	0	0	0
				11 to 12				0	0	0	0	0	0

Site 3: Canyon to Fishing Bridge

CO Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	37.0	14.0	201.6	0.0083	West Entrance
Snowcoach	Gas BAT	27.2	107.4	42.4	0.083	Old Faithful
	Gas (Current)	133.6	208.7	741.2		
	Diesel BAT	24.0	5.7	14.0		

50/50 gas/diesel snowcoaches, except for 83/17 for Alt. 5a

Alternative 2

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	Alternative 2 E- Factor (g/mi) Cruise Speed
146	**26**	**39**	**5**	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	37	6	43	19.94
				10 to 11	66	11	77	20.08
				11 to 12	66	11	77	20.08
				12 to 1	66	11	77	20.08
				1 to 2	37	6	43	19.94
				2 to 3	37	6	43	19.94
				3 to 4	33	6	39	20.55
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 3

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Tot Veh.	Alternative 3 E- Factor (g/mi) Cruise Speed
323	**26**	**39**	**5**	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	72	6	78	17.27
				10 to 11	137	11	148	17.16
				11 to 12	137	11	148	17.16
				12 to 1	137	11	148	17.16
				1 to 2	72	6	78	17.27
				2 to 3	72	6	78	17.27
				3 to 4	68	6	74	17.45
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 4 (Mixed Use) *no wheeled vehicles at this site

Visitor		Administrative Travel			# vehs / pk hr			Alternative 4 (Mixed Use) E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
77	22	39	5	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	23	5	28	21.60
				10 to 11	39	10	49	22.68
				11 to 12	39	10	49	22.68
				12 to 1	39	10	49	22.68
				1 to 2	23	5	28	21.60
				2 to 3	23	5	28	21.60
				3 to 4	19	5	24	22.86
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 5a

Visitor		Administrative Travel			# vehs / pk hr			Alternative 5a E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
146	26	39	5	7 to 8	4	1	5	46.04
				8 to 9	4	1	5	46.04
				9 to 10	37	6	43	36.35
				10 to 11	66	11	77	36.88
				11 to 12	66	11	77	36.88
				12 to 1	66	11	77	36.88
				1 to 2	37	6	43	36.35
				2 to 3	37	6	43	36.35
				3 to 4	33	6	39	38.64
				4 to 5	4	1	5	46.04
				5 to 6	4	1	5	46.04
				6 to 7	4	1	5	46.04
				7 to 8	4	1	5	46.04
				8 to 9	4	1	5	46.04

Alternative 5b

Visitor		Administrative Travel			# vehs / pk hr			Alternative 5b E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
0	44	39	5	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	8	10	18	37.64
				10 to 11	8	19	27	43.94
				11 to 12	8	19	27	43.94
				12 to 1	8	19	27	43.94
				1 to 2	8	10	18	37.64
				2 to 3	8	10	18	37.64
				3 to 4	4	9	13	43.46
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 6

Visitor		Administrative Travel			# vehs / pk hr			Alternative 6 E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
250	26	39	5	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	58	6	64	17.99
				10 to 11	108	11	119	17.93
				11 to 12	108	11	119	17.93
				12 to 1	108	11	119	17.93
				1 to 2	58	6	64	17.99
				2 to 3	58	6	64	17.99
				3 to 4	54	6	60	18.26
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 7a

Visitor		Administrative Travel			# vehs / pk hr			Alternative 7a E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
152	27	39	5	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	38	6	44	19.80
				10 to 11	69	12	81	20.30
				11 to 12	69	12	81	20.30
				12 to 1	69	12	81	20.30
				1 to 2	38	6	44	19.80
				2 to 3	38	6	44	19.80
				3 to 4	34	6	40	20.38
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 7b

Visitor		Administrative Travel			# vehs / pk hr			Alternative 7b E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
110	17	39	5	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	30	5	35	20.08
				10 to 11	52	8	60	19.67
				11 to 12	52	8	60	19.67
				12 to 1	52	8	60	19.67
				1 to 2	30	5	35	20.08
				2 to 3	30	5	35	20.08
				3 to 4	26	4	30	19.67
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Alternative 7c

Visitor		Administrative Travel			# vehs / pk hr			Alternative 7c E- Factor (g/mi)
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Tot Veh.	Cruise Speed
54	9	39	5	7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51
				9 to 10	19	3	22	19.80
				10 to 11	29	5	34	20.26
				11 to 12	29	5	34	20.26
				12 to 1	29	5	34	20.26
				1 to 2	19	3	22	19.80
				2 to 3	19	3	22	19.80
				3 to 4	15	2	17	19.01
				4 to 5	4	1	5	22.51
				5 to 6	4	1	5	22.51
				6 to 7	4	1	5	22.51
				7 to 8	4	1	5	22.51
				8 to 9	4	1	5	22.51

Site 3: Canyon to Fishing Bridge

NOx Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds* Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr) Idle Time	
Snowmobile	Current BAT	400	450	120	0.0083	West Entrance
Snowcoach	Gas BAT	380	580	210	0.083	Old Faithful
	Gas (Current)	1,940	2,090	120		
	Diesel BAT	5,050	3,000	4,320		

50/50 gas/diesel snowcoaches, except for 83/17 for Alt. 5a

NOTE: * All emissions factors are x100, except Alt. 5b which is x10 (NOx only)

NOx Emission Factors

Alternative 2

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Alternative 2 E- Factor (g/mi) x100 Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
146	**26**	**39**	**5**	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	37	6	637	43
				10 to 11	66	11	641	77
				11 to 12	66	11	641	77
				12 to 1	66	11	641	77
				1 to 2	37	6	637	43
				2 to 3	37	6	637	43
				3 to 4	33	6	656	39
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 3

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Alternative 3 E- Factor (g/mi) x100 Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
323	**26**	**39**	**5**	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	72	6	553	78
				10 to 11	137	11	550	148
				11 to 12	137	11	550	148
				12 to 1	137	11	550	148
				1 to 2	72	6	553	78
				2 to 3	72	6	553	78
				3 to 4	68	6	559	74
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 4 (Mixed Use) *no wheeled vehicles at this site

Visitor		Administrative Travel			# vehs / pk hr		Alternative 4 (Mixed Use) E- Factor (g/mi) x100	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
77	22	39	5	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	23	5	689	28
				10 to 11	39	10	723	49
				11 to 12	39	10	723	49
				12 to 1	39	10	723	49
				1 to 2	23	5	689	28
				2 to 3	23	5	689	28
				3 to 4	19	5	729	24
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 5a

Visitor		Administrative Travel			# vehs / pk hr		Alternative 5a E- Factor (g/mi) x100	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
146	26	39	5	7 to 8	4	1	809	5
				8 to 9	4	1	809	5
				9 to 10	37	6	700	43
				10 to 11	66	11	706	77
				11 to 12	66	11	706	77
				12 to 1	66	11	706	77
				1 to 2	37	6	700	43
				2 to 3	37	6	700	43
				3 to 4	33	6	726	39
				4 to 5	4	1	809	5
				5 to 6	4	1	809	5
				6 to 7	4	1	809	5
				7 to 8	4	1	809	5
				8 to 9	4	1	809	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 5b

Visitor		Administrative Travel			# vehs / pk hr		Alternative 5b E- Factor (g/mi) x10	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
0	44	39	5	7 to 8	4	1	72	5
				8 to 9	4	1	72	5
				9 to 10	8	10	119	18
				10 to 11	8	19	139	27
				11 to 12	8	19	139	27
				12 to 1	8	19	139	27
				1 to 2	8	10	119	18
				2 to 3	8	10	119	18
				3 to 4	4	9	138	13
				4 to 5	4	1	72	5
				5 to 6	4	1	72	5
				6 to 7	4	1	72	5
				7 to 8	4	1	72	5
				8 to 9	4	1	72	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 6

Visitor		Administrative Travel			# vehs / pk hr		Alternative 6 E- Factor (g/mi) x100	
Snowmobiles	**Snowcoaches**	**Snowmobiles**	**Snowcoaches**	**Hour**	**Snowmobiles**	**Snowcoaches**	**Cruise Speed**	**Tot Veh.**
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
250	**26**	**39**	**5**	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	58	6	576	64
				10 to 11	108	11	574	119
				11 to 12	108	11	574	119
				12 to 1	108	11	574	119
				1 to 2	58	6	576	64
				2 to 3	58	6	576	64
				3 to 4	54	6	584	60
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 7a

Visitor		Administrative Travel			# vehs / pk hr		Alternative 7a E- Factor (g/mi) x100	
Snowmobiles	**Snowcoaches**	**Snowmobiles**	**Snowcoaches**	**Hour**	**Snowmobiles**	**Snowcoaches**	**Cruise Speed**	**Tot Veh.**
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
152	**27**	**39**	**5**	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	38	6	633	44
				10 to 11	69	12	649	81
				11 to 12	69	12	649	81
				12 to 1	69	12	649	81
				1 to 2	38	6	633	44
				2 to 3	38	6	633	44
				3 to 4	34	6	651	40
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 7b

Visitor		Administrative Travel			# vehs / pk hr		Alternative 7b E- Factor (g/mi) x100	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
110	**17**	**39**	**5**	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	30	5	641	35
				10 to 11	52	8	629	60
				11 to 12	52	8	629	60
				12 to 1	52	8	629	60
				1 to 2	30	5	641	35
				2 to 3	30	5	641	35
				3 to 4	26	4	629	30
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 7c

Visitor		Administrative Travel			# vehs / pk hr		Alternative 7c E- Factor (g/mi) x100	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
54	**9**	**39**	**5**	7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10	19	3	633	22
				10 to 11	29	5	647	34
				11 to 12	29	5	647	34
				12 to 1	29	5	647	34
				1 to 2	19	3	633	22
				2 to 3	19	3	633	22
				3 to 4	15	2	608	17
				4 to 5	4	1	718	5
				5 to 6	4	1	718	5
				6 to 7	4	1	718	5
				7 to 8	4	1	718	5
				8 to 9	4	1	718	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Site 3: Canyon to Fishing Bridge

PM Emissions

Snow Equipment	BAT Requirements	Emission Factors and Traveling Speeds: Low Speed (g/veh-mi)	Cruise Speed (g/veh-mi)	Idle (g/hr)	Idle Time (hr): Idle Time	
Snowmobile	Current BAT	0.065	0.031	0.49	0.0083	West Entrance
Snowcoach	Gas BAT	0.029	0.029	0.074	0.083	Old Faithful
	Gas (Current)	0.029	0.029	0.074		
	Diesel BAT	0.4	0.3	0.11		

50/50 gas/diesel snowcoaches, except for 83/17 for Alt. 5a

Alternative 2

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	PM Emission Factors Alternative 2 E- Factor (g/mi) Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
146	**26**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	37	6	0.050	43
				10 to 11	66	11	0.050	77
				11 to 12	66	11	0.050	77
				12 to 1	66	11	0.050	77
				1 to 2	37	6	0.050	43
				2 to 3	37	6	0.050	43
				3 to 4	33	6	0.052	39
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 3

Visitor Snowmobiles	Visitor Snowcoaches	Administrative Travel Snowmobiles	Administrative Travel Snowcoaches	Hour	# vehs / pk hr Snowmobiles	# vehs / pk hr Snowcoaches	Alternative 3 E- Factor (g/mi) Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
323	**26**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	72	6	0.041	78
				10 to 11	137	11	0.041	148
				11 to 12	137	11	0.041	148
				12 to 1	137	11	0.041	148
				1 to 2	72	6	0.041	78
				2 to 3	72	6	0.041	78
				3 to 4	68	6	0.042	74
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 4 (Mixed Use) *no wheeled vehicles at this site **Alternative 4 (Mixed Use)**

Visitor		Administrative Travel			# vehs / pk hr		E- Factor (g/mi)	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
77	**22**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	23	5	0.055	28
				10 to 11	39	10	0.058	49
				11 to 12	39	10	0.058	49
				12 to 1	39	10	0.058	49
				1 to 2	23	5	0.055	28
				2 to 3	23	5	0.055	28
				3 to 4	19	5	0.059	24
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 5a **Alternative 5a**

Visitor		Administrative Travel			# vehs / pk hr		E- Factor (g/mi)	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
146	**26**	**39**	**5**	7 to 8	4	1	0.040	5
				8 to 9	4	1	0.040	5
				9 to 10	37	6	0.037	43
				10 to 11	66	11	0.037	77
				11 to 12	66	11	0.037	77
				12 to 1	66	11	0.037	77
				1 to 2	37	6	0.037	43
				2 to 3	37	6	0.037	43
				3 to 4	33	6	0.038	39
				4 to 5	4	1	0.040	5
				5 to 6	4	1	0.040	5
				6 to 7	4	1	0.040	5
				7 to 8	4	1	0.040	5
				8 to 9	4	1	0.040	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 5b **Alternative 5b**

Visitor		Administrative Travel			# vehs / pk hr		E- Factor (g/mi)	
Snowmobiles	Snowcoaches	Snowmobiles	Snowcoaches	Hour	Snowmobiles	Snowcoaches	Cruise Speed	Tot Veh.
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
0	**44**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	8	10	0.105	18
				10 to 11	8	19	0.125	27
				11 to 12	8	19	0.125	27
				12 to 1	8	19	0.125	27
				1 to 2	8	10	0.105	18
				2 to 3	8	10	0.105	18
				3 to 4	4	9	0.123	13
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 6

Visitor		Administrative Travel			# vehs / pk hr		Alternative 6 E- Factor (g/mi)	
Snowmobiles	**Snowcoaches**	**Snowmobiles**	**Snowcoaches**	**Hour**	**Snowmobiles**	**Snowcoaches**	**Cruise Speed**	**Tot Veh.**
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
250	**26**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	58	6	0.044	64
				10 to 11	108	11	0.043	119
				11 to 12	108	11	0.043	119
				12 to 1	108	11	0.043	119
				1 to 2	58	6	0.044	64
				2 to 3	58	6	0.044	64
				3 to 4	54	6	0.044	60
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 7a

Visitor		Administrative Travel			# vehs / pk hr		Alternative 7a E- Factor (g/mi)	
Snowmobiles	**Snowcoaches**	**Snowmobiles**	**Snowcoaches**	**Hour**	**Snowmobiles**	**Snowcoaches**	**Cruise Speed**	**Tot Veh.**
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
152	**27**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	38	6	0.049	44
				10 to 11	69	12	0.051	81
				11 to 12	69	12	0.051	81
				12 to 1	69	12	0.051	81
				1 to 2	38	6	0.049	44
				2 to 3	38	6	0.049	44
				3 to 4	34	6	0.051	40
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 7b

Visitor		Administrative Travel			# vehs / pk hr		Alternative 7b E- Factor (g/mi)	
Snowmobiles	**Snowcoaches**	**Snowmobiles**	**Snowcoaches**	**Hour**	**Snowmobiles**	**Snowcoaches**	**Cruise Speed**	**Tot Veh.**
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
110	**17**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	30	5	0.050	35
				10 to 11	52	8	0.049	60
				11 to 12	52	8	0.049	60
				12 to 1	52	8	0.049	60
				1 to 2	30	5	0.050	35
				2 to 3	30	5	0.050	35
				3 to 4	26	4	0.049	30
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

Alternative 7c

Visitor		Administrative Travel			# vehs / pk hr		Alternative 7c E- Factor (g/mi)	
Snowmobiles	**Snowcoaches**	**Snowmobiles**	**Snowcoaches**	**Hour**	**Snowmobiles**	**Snowcoaches**	**Cruise Speed**	**Tot Veh.**
				12 to 1			0	0
				1 to 2			0	0
				2 to 3			0	0
				3 to 4			0	0
				4 to 5			0	0
				5 to 6			0	0
				6 to 7			0	0
54	**9**	**39**	**5**	7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10	19	3	0.049	22
				10 to 11	29	5	0.051	34
				11 to 12	29	5	0.051	34
				12 to 1	29	5	0.051	34
				1 to 2	19	3	0.049	22
				2 to 3	19	3	0.049	22
				3 to 4	15	2	0.047	17
				4 to 5	4	1	0.058	5
				5 to 6	4	1	0.058	5
				6 to 7	4	1	0.058	5
				7 to 8	4	1	0.058	5
				8 to 9	4	1	0.058	5
				9 to 10			0	0
				10 to 11			0	0
				11 to 12			0	0

EMISSIONS INPUT FOR AERMOD REFINED MODELING
Site 4: Old Faithful Staging Area
Old Faithful - CO

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions (g/veh-link)	Diesel Snowcoach Unit Emissions (g/veh-link)	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	**Total Emissions (lb/day)**
Alternative 2	NA	16.73	3.52	1.16		9.55	1.99	0.25	0.08	0.03		11.90
Alternative 3	NA	16.73	3.52	1.16		21.64	1.99	0.25	0.08	0.03		23.99
Alternative 4	NA	16.73	3.52	1.16	9.65	2.72	1.99	0.08	0.03	0.03	1.59	6.45
Alternative 5a	NA	16.73	61.52	1.16		9.55	1.99	7.16	0.03	0.45		19.18
Alternative 5b	NA	16.73	3.52	1.16		0.00	1.99	0.38	0.12	0.03		2.53
Alternative 6	NA	16.73	3.52	1.16		15.87	1.99	0.25	0.08	0.03		18.22
Alternative 7a	NA	16.73	3.52	1.16		9.87	1.99	0.25	0.08	0.03		12.23
Alternative 7b	NA	16.73	3.52	1.16		6.35	1.99	0.16	0.05	0.03		8.58
Alternative 7c	NA	16.73	3.52	1.16		4.13	1.99	0.10	0.03	0.03		6.28

	CO Emissions (lb/day)	
	Visitor (All)	**Administrative**
Alternative 2	**9.88**	**2.02**
Alternative 3	**21.97**	**2.02**
Alternative 4	**4.42**	**2.02**
Alternative 5a	**16.74**	**2.44**
Alternative 5b	**0.50**	**2.02**
Alternative 6	**16.20**	**2.02**
Alternative 7a	**10.21**	**2.02**
Alternative 7b	**6.56**	**2.02**
Alternative 7c	**4.26**	**2.02**

	CO Emissions (lb/hr)								
Hour	**Alt.2**	**Alt.3**	**Alt.4**	**Alt.5a**	**Alt.5b**	**Alt.6**	**Alt.7a**	**Alt.7b**	**Alt.7c**
7 to 8	1.19	2.40	0.64	1.92	0.25	1.82	1.22	0.86	0.63
8 to 9	0.40	0.40	0.40	0.49	0.40	0.40	0.40	0.40	0.40
9 to 10	1.49	2.70	0.95	2.28	0.56	2.13	1.53	1.16	0.93
10 to 11	3.57	7.20	1.93	5.76	0.76	5.47	3.67	2.57	1.88
11 to 12	4.65	10.09	2.19	7.78	0.43	7.49	5.31	3.48	2.33
12 to 1	1.19	2.40	0.64	1.92	0.25	1.82	2.24	1.51	1.05
1 to 2	2.67	5.70	1.31	4.43	0.33	4.25	2.24	1.51	1.05
2 to 3	5.64	12.29	2.64	9.45	0.48	9.11	5.31	3.48	2.33
3 to 4	1.39	2.60	0.85	2.16	0.45	2.02	1.43	1.06	0.83
4 to 5	0.30	0.30	0.30	0.37	0.30	0.30	0.30	0.30	0.30
5 to 6	0.70	1.30	0.42	1.08	0.23	1.01	0.20	0.20	0.20
6 to 7	0.20	0.20	0.20	0.24	0.20	0.20	0.20	0.20	0.20
7 to 8	0.20	0.20	0.20	0.24	0.20	0.20	0.20	0.20	0.20
8 to 9	0.20	0.20	0.20	0.24	0.20	0.20	0.20	0.20	0.20

Old Faithful - NOx

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions	Diesel Snowcoach Unit Emissions	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	**Total Emissions (lb/day)**
Alternative 2	NA	0.10	0.17	3.59		0.0569	0.0118	0.0122	0.2515	0.0271		0.3596
Alternative 3	NA	0.10	0.17	3.59		0.1288	0.0118	0.0122	0.2515	0.0271		0.4315
Alternative 4	NA	0.10	0.17	3.59	1.12	0.0162	0.0118	0.0042	0.0865	0.0271	0.1851	0.3309
Alternative 5a	NA	0.10	0.10	3.59		0.0569	0.0118	0.0116	0.0855	0.0266		0.1924
Alternative 5b	NA	0.10	0.17	3.59		0.0000	0.0118	0.0187	0.3838	0.0271		0.4414
Alternative 6	NA	0.10	0.17	3.59		0.0944	0.0118	0.0122	0.2515	0.0271		0.3971
Alternative 7a	NA	0.10	0.17	3.59		0.0587	0.0118	0.0126	0.2594	0.0271		0.3697
Alternative 7b	NA	0.10	0.17	3.59		0.0378	0.0118	0.0077	0.1594	0.0271		0.2439
Alternative 7c	NA	0.10	0.17	3.59		0.0246	0.0118	0.0048	0.0981	0.0271		0.1664

	NOx Emissions (lb/day)	
	Visitor (All)	Administrative
Alternative 2	**0.3206**	**0.0390**
Alternative 3	**0.3926**	**0.0390**
Alternative 4	**0.2920**	**0.0390**
Alternative 5a	**0.1540**	**0.0384**
Alternative 5b	**0.4024**	**0.0390**
Alternative 6	**0.3582**	**0.0390**
Alternative 7a	**0.3307**	**0.0390**
Alternative 7b	**0.2049**	**0.0390**
Alternative 7c	**0.1274**	**0.0390**

NOx Emissions (lb/hr)									
Hour	**Alt.2**	**Alt.3**	**Alt.4**	**Alt.5a**	**Alt.5b**	**Alt.6**	**Alt.7**	**Alt.7b**	**Alt.7c**
7 to 8	0.0360	0.0432	0.0331	0.0192	0.0441	0.0397	0.0370	0.0244	0.0166
8 to 9	0.0078	0.0078	0.0078	0.0077	0.0078	0.0078	0.0078	0.0078	0.0078
9 to 10	0.0418	0.0490	0.0389	0.0250	0.0500	0.0456	0.0428	0.0302	0.0225
10 to 11	0.1079	0.1295	0.0993	0.0577	0.1324	0.1191	0.1109	0.0732	0.0499
11 to 12	0.1482	0.1805	0.1353	0.0731	0.1850	0.1651	0.1693	0.1064	0.0676
12 to 1	0.0360	0.0432	0.0331	0.0192	0.0441	0.0397	0.0700	0.0449	0.0294
1 to 2	0.0840	0.1020	0.0769	0.0423	0.1045	0.0934	0.0700	0.0449	0.0294
2 to 3	0.1802	0.2198	0.1645	0.0885	0.2252	0.2009	0.1693	0.1064	0.0676
3 to 4	0.0399	0.0470	0.0370	0.0231	0.0480	0.0436	0.0409	0.0283	0.0205
4 to 5	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058	0.0058
5 to 6	0.0199	0.0235	0.0185	0.0115	0.0240	0.0218	0.0039	0.0039	0.0039
6 to 7	0.0039	0.0039	0.0039	0.0038	0.0039	0.0039	0.0039	0.0039	0.0039
7 to 8	0.0039	0.0039	0.0039	0.0038	0.0039	0.0039	0.0039	0.0039	0.0039
8 to 9	0.0039	0.0039	0.0039	0.0038	0.0039	0.0039	0.0039	0.0039	0.0039

Old Faithful - PM

Link	Distance (mi)	Snowmobile Unit Emissions (g/veh-link)	Gas Snowcoach Unit Emissions	Diesel Snowcoach Unit Emissions	Wheeled Vehicle Unit Emissions (g/veh-link)	Snowmobile Emissions (lb/day)	Administrative Snowmobile Emissions (lb/day)	Gas Snowcoach Emissions (lb/day)	Diesel Snowcoach Emissions (lb/day)	Administrative Snowcoach Emissions (lb/day)	Wheeled Vehicle Emissions (lb/day)	Fugitive Road Emissions PM-10/2.5 (lb/day)	**Total Emissions (lb/day)**
Alternative 2	NA	0.04	0.01	0.01		0.0232	0.0048	0.0004	0.0006	0.0001			0.0292
Alternative 3	NA	0.04	0.01	0.01		0.0526	0.0048	0.0004	0.0006	0.0001			0.0586
Alternative 4	NA	0.04	0.01	0.01	0.04	0.0066	0.0048	0.0001	0.0002	0.0001	0.0074	0.0438	0.0631
Alternative 5a	NA	0.04	0.01	0.01		0.0232	0.0048	0.0007	0.0002	0.0001			0.0291
Alternative 5b	NA	0.04	0.01	0.01		0.0000	0.0048	0.0007	0.0010	0.0001			0.0066
Alternative 6	NA	0.04	0.01	0.01		0.0386	0.0048	0.0004	0.0006	0.0001			0.0446
Alternative 7a	NA	0.04	0.01	0.01		0.0240	0.0048	0.0004	0.0007	0.0001			0.0300
Alternative 7b	NA	0.04	0.01	0.01		0.0154	0.0048	0.0003	0.0004	0.0001			0.0211
Alternative 7c	NA	0.04	0.01	0.01		0.0100	0.0048	0.0002	0.0002	0.0001			0.0154

	PM Emissions (lb/day)	
	Visitor (All)	Administrative
Alternative 2	**0.0243**	**0.0049**
Alternative 3	**0.0537**	**0.0049**
Alternative 4	**0.0581**	**0.0049**
Alternative 5a	**0.0241**	**0.0049**
Alternative 5b	**0.0016**	**0.0049**
Alternative 6	**0.0396**	**0.0049**
Alternative 7a	**0.0251**	**0.0049**
Alternative 7b	**0.0161**	**0.0049**
Alternative 7c	**0.0104**	**0.0049**

PM Emissions (lb/hr)									
Hour	**Alt.2**	**Alt.3**	**Alt.4**	**Alt.5a**	**Alt.5b**	**Alt.6**	**Alt.7**	**Alt.7b**	**Alt.7c**
7 to 8	0.0029	0.0059	0.0063	0.0029	0.0007	0.0045	0.0030	0.0021	0.0015
8 to 9	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010
9 to 10	0.0037	0.0066	0.0071	0.0037	0.0014	0.0052	0.0037	0.0028	0.0023
10 to 11	0.0088	0.0176	0.0189	0.0087	0.0020	0.0134	0.0090	0.0063	0.0046
11 to 12	0.0114	0.0246	0.0267	0.0114	0.0012	0.0183	0.0130	0.0085	0.0057
12 to 1	0.0029	0.0059	0.0063	0.0029	0.0007	0.0045	0.0055	0.0037	0.0026
1 to 2	0.0066	0.0139	0.0150	0.0065	0.0009	0.0104	0.0055	0.0037	0.0026
2 to 3	0.0139	0.0300	0.0325	0.0138	0.0014	0.0223	0.0130	0.0085	0.0057
3 to 4	0.0034	0.0064	0.0068	0.0034	0.0012	0.0050	0.0035	0.0026	0.0020
4 to 5	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
5 to 6	0.0017	0.0032	0.0034	0.0017	0.0006	0.0025	0.0005	0.0005	0.0005
6 to 7	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
7 to 8	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
8 to 9	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005

Summary of Daily Snowmobile, Snowcoach, and Wheeled Vehicles Use Numbers from Yellowstone Sept30 2010 Travel Factors Spreadsheet

Alt 7 added Jan 2011 - revised draft Travel Factors Dec10 2010

Snowmobiles

Link	Alternative 2	Alternative 3	Alternative 4	Alternative 5a START	Alternative 5b FINAL	Alternative 6 Max Day	Alternative 7a Max Day	Alternative 7b Mid Day	Alternative 7c Low Day	Administrative Travel
West Entrance	160	400	0	160	0	300	176	110	66	20
Mammoth to Norris	38.62	93.6	0	38.62	0.00	83.5	37.4	32.78	27.72	52
West Entrance to Madison	299.3	744	0	299.3	0	559	327.8	206.8	124.3	51
Madison to Norris	131.92	323.6	0	131.92	0	249	139.04	96.58	66.66	42
Norris to Canyon Village	95.22	232.8	57	95.22	0	178.3	101.2	69.96	45.1	23
Canyon Village to Fishing Bridge	146.42	322.8	77	146.42	0	250.3	151.8	109.56	53.9	39
Fishing Bridge to East Entrance	41.38	84.2	0	41.38	0	78.5	44.66	41.14	3.96	15
Fishing Bridge to West Thumb	79.88	166.8	77	79.88	0	119.6	79.2	53.68	33.44	49
Madison to Old Faithful	307.58	737.4	0	307.58	0	553	326.26	212.52	137.94	60
Old Faithful to West Thumb	210.7	437	147	210.7	0	308	209.22	132	86.02	48
West Thumb to Flagg Ranch	210.7	412	125	210.7	0	284	204.6	124.3	81.4	29
Old Faithful	259.14	587.2	73.7	259.14	0	430.5	267.74	172.26	111.98	54

Snowcoaches

Link	Alternative 2	Alternative 3	Alternative 4	Alternative 5a START	Alternative 5b FINAL	Alternative 6 Max Day	Alternative 7a Max Day	Alternative 7b Mid Day	Alternative 7c Low Day	Administrative Travel
West Entrance	34	34	0	34	56	34	36	22	12	2
Mammoth to Norris	25.69	25.69	0	25.69	29.32	25.69	24.02	15.94	11.58	5.5
West Entrance to Madison	71.68	71.68	0	71.68	114.3	71.68	75.18	46.2	25.68	5.5
Madison to Norris	37.86	37.86	0	37.86	53.56	37.86	37.92	24.02	15.12	4.5
Norris to Canyon Village	24.25	24.25	9.6	24.25	36.08	24.25	24.62	15.56	9.3	2.6
Canyon Village to Fishing Bridge	25.85	25.85	21.8	25.85	44.48	25.85	26.62	17.36	9.3	5.4
Fishing Bridge to East Entrance	4.79	4.79	0	4.79	12.2	4.79	4.86	4.2	0.66	1.9
Fishing Bridge to West Thumb	10.52	10.52	22.4	10.52	18.8	10.52	11.12	6.8	4.2	6.6
Madison to Old Faithful	78.8	78.8	0	78.8	118.94	78.8	80.94	50.18	30.24	7.1
Old Faithful to West Thumb	48.58	48.58	43.8	48.58	75.42	48.58	50.42	30.54	19.44	6
West Thumb to Flagg Ranch	44.18	44.18	37.8	44.18	69.7	44.18	45.98	27.5	18.48	3.1
Old Faithful	63.69	63.69	21.9	63.69	97.18	63.69	65.68	40.36	24.84	6.55

Note: West Entrance numbers are based on total daily admission--no factors applied.

For Alternative 4, ONLY

Wheeled Vehicles

Link	Alternative 4
West Entrance	75
Mammoth to Norris	72.5
West Entrance to Madison	160
Madison to Norris	85
Norris to Canyon Village	0
Canyon Village to Fishing Bridge	0
Fishing Bridge to East Entrance	0
Fishing Bridge to West Thumb	0
Madison to Old Faithful	150
Old Faithful to West Thumb	0
West Thumb to Flagg Ranch	0
Old Faithful	75

Hourly distributions of Visitor OSVs for AQ Modeling - Does NOT Assume 10:30 am requirement for entries

For Alt.2-6

	West Entrance		**West to Madison**		**Canyon to Fishing Bridge**		**Old Faithful**	
Hour	Entries %	Exits %	East Bound %	West Bound %	South Bound %	North Bound %	Arrive %	Depart %
7 to 8	10%	10%	0%	10%	0%	0%	0%	10%
8 to 9	20%	0%	10%	0%	0%	0%	0%	0%
9 to 10	30%	0%	20%	0%	10%	10%	10%	0%
10 to 11	20%	0%	30%	0%	20%	20%	30%	0%
11 to 12	5%	0%	20%	5%	20%	20%	40%	5%
12 to 1	5%	5%	5%	5%	20%	20%	5%	5%
1 to 2	5%	5%	5%	20%	10%	10%	5%	20%
2 to 3	0%	20%	5%	20%	10%	10%	5%	50%
3 to 4	0%	20%	0%	30%	10%	10%	0%	10%
4 to 5	5%	30%	5%	10%	0%	0%	0%	0%
5 to 6	0%	10%	0%	0%	0%	0%	5%	0%
6 to 7	0%	0%	0%	0%	0%	0%	0%	0%
7 to 8	0%	0%	0%	0%	0%	0%	0%	0%
8 to 9	0%	0%	0%	0%	0%	0%	0%	0%
Totals	100%	100%	100%	100%	100%	100%	100%	100%

Hourly distributions of Visitor OSVs for AQ Modeling - assumes entry by 10:30 am

For Alt.7 Only

	West Entrance		**West to Madison**		**Canyon to Fishing Bridge**		**Old Faithful**	
Hour	Entries %	Exits %	East Bound %	West Bound %	South Bound %	North Bound %	Arrive %	Depart %
7 to 8	10%	10%	0%	10%	0%	0%	0%	10%
8 to 9	30%	0%	10%	0%	0%	0%	0%	0%
9 to 10	30%	0%	30%	0%	10%	10%	10%	0%
10 to 11	30%	0%	30%	0%	20%	20%	30%	0%
11 to 12	0%	0%	30%	0%	20%	20%	50%	0%
12 to 1	0%	0%	0%	10%	20%	20%	10%	10%
1 to 2	0%	10%	0%	20%	10%	10%	0%	20%
2 to 3	0%	20%	0%	20%	10%	10%	0%	50%
3 to 4	0%	20%	0%	30%	10%	10%	0%	10%
4 to 5	0%	30%	0%	10%	0%	0%	0%	0%
5 to 6	0%	10%	0%	0%	0%	0%	0%	0%
6 to 7	0%	0%	0%	0%	0%	0%	0%	0%
7 to 8	0%	0%	0%	0%	0%	0%	0%	0%
8 to 9	0%	0%	0%	0%	0%	0%	0%	0%
Totals	100%	100%	100%	100%	100%	100%	100%	100%

Hourly distributions of Administrative Travel OSVs for AQ Modeling

	West Entrance		West to Madison		Canyon to Fishing Bridge		Old Faithful	
Hour	Entries %	Exits %	East Bound %	West Bound %	South Bound %	North Bound %	Arrive %	Depart %
7 to 8	5%	5%	5%	5%	5%	5%	5%	5%
8 to 9	20%	5%	20%	5%	5%	5%	10%	10%
9 to 10	15%	5%	15%	5%	10%	10%	10%	15%
10 to 11	10%	5%	10%	5%	10%	10%	20%	10%
11 to 12	5%	5%	5%	5%	10%	10%	5%	5%
12 to 1	5%	5%	5%	5%	10%	10%	5%	5%
1 to 2	5%	5%	5%	5%	10%	10%	5%	5%
2 to 3	5%	5%	5%	5%	10%	10%	5%	5%
3 to 4	5%	15%	5%	15%	5%	5%	10%	10%
4 to 5	5%	20%	5%	20%	5%	5%	5%	10%
5 to 6	5%	10%	5%	10%	5%	5%	5%	5%
6 to 7	5%	5%	5%	5%	5%	5%	5%	5%
7 to 8	5%	5%	5%	5%	5%	5%	5%	5%
8 to 9	5%	5%	5%	5%	5%	5%	5%	5%
Totals	100%	100%	100%	100%	100%	100%	100%	100%