

Appendix A
Visual Effects Screening Analysis

TABLE 1
VISUAL EFFECTS SCREENING ANALYSIS FOR
SOURCE: ALL SOURCES AT UC MERCED
CLASS I AREA: YOSEMITE

*** Level-1 Screening ***

Input Emissions for

Particulates	.67	G	/S
NOx (as NO2)	1.39	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	254.00	km
Source-Observer Distance:	50.00	km
Min. Source-Class I Distance:	50.00	km
Max. Source-Class I Distance:	103.00	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

Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume	
=====	=====	=====	=====	=====	=====	=====	=====	=====	
SKY	10.	155.	88.9	14.	2.00	.652	.05	.011	
SKY	140.	155.	88.9	14.	2.00	.113	.05	-.004	
TERRAIN	10.	84.	50.0	84.	2.00	1.239	.05	.009	
TERRAIN	140.	84.	50.0	84.	2.00	.056	.05	.001	

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume	
=====	=====	=====	=====	=====	=====	=====	=====	=====	
SKY	10.	0.	1.0	169.	2.00	8.850*	.05	.156*	
SKY	140.	0.	1.0	169.	2.00	1.485	.05	-.048	
TERRAIN	10.	0.	1.0	169.	2.00	10.492*	.05	.111*	
TERRAIN	140.	0.	1.0	169.	2.00	1.565	.05	.034	

Visual Effects Screening Analysis for
 Source: All Sources at UC Merced
 Class I Area: Yosemite

*** Level-1 Screening ***

Input Emissions for

Particulates	.67	G	/S
NOx (as NO2)	1.39	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

TABLE 1 (cont'd)
VISUAL EFFECTS SCREENING ANALYSIS FOR
SOURCE: ALL SOURCES AT UC MERCED
CLASS I AREA: YOSEMITE

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone: .04 ppm
 Background Visual Range: 254.00 km
 Source-Observer Distance: 50.00 km
 Min. Source-Class I Distance: 50.00 km
 Max. Source-Class I Distance: 103.00 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

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	155.	88.9	14.	2.00	.652	.05	.011
SKY	140.	155.	88.9	14.	2.00	.113	.05	-.004
TERRAIN	10.	84.	50.0	84.	2.00	1.239	.05	.009
TERRAIN	140.	84.	50.0	84.	2.00	.056	.05	.001

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	169.	2.00	8.850*	.05	.156*
SKY	140.	0.	1.0	169.	2.00	1.485	.05	-.048
TERRAIN	10.	0.	1.0	169.	2.00	10.492*	.05	.111*
TERRAIN	140.	0.	1.0	169.	2.00	1.565	.05	.034

11/08/01
13:25:01

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Merced Run

COMPLEX TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.00000
STACK HT (M) = 2.0000
STACK DIAMETER (M) = .3000
STACK VELOCITY (M/S) = .1000
STACK GAS TEMP (K) = 293.0000
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

FINAL STABLE PLUME HEIGHT (M) = 1.2
DISTANCE TO FINAL RISE (M) = 151.3

TERR HT (M)	DIST (M)	*VALLEY 24-HR CALCS*			**SIMPLE TERRAIN 24-HR CALCS**				
		MAX 24-HR CONC (UG/M**3)	CONC (UG/M**3)	PLUME HT ABOVE STK BASE (M)	CONC (UG/M**3)	PLUME HT ABOVE STK HGT (M)	U10M SC	USTK (M/S)	
2000.	50000.	.5091E-01	.5091E-01	1.2	.0000	.0	0	.0	.0

11/08/01
13:25:01

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

John's Merced Run

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.00000
STACK HEIGHT (M) = 2.0000
STK INSIDE DIAM (M) = .3000
STK EXIT VELOCITY (M/S) = .1000
STK GAS EXIT TEMP (K) = 293.0000
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = .0000
MIN HORIZ BLDG DIM (M) = .0000
MAX HORIZ BLDG DIM (M) = .0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M**4/S**3; MOM. FLUX = .000 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1000.	670.6	6	1.0	1.0	10000.0	1.25	33.88	13.95	NO
1100.	579.0	6	1.0	1.0	10000.0	1.25	36.96	14.82	NO
1200.	506.4	6	1.0	1.0	10000.0	1.25	40.01	15.66	NO
1300.	447.7	6	1.0	1.0	10000.0	1.25	43.04	16.47	NO
1400.	399.4	6	1.0	1.0	10000.0	1.25	46.05	17.26	NO
1500.	359.2	6	1.0	1.0	10000.0	1.25	49.03	18.03	NO
1600.	325.2	6	1.0	1.0	10000.0	1.25	51.99	18.78	NO
1700.	296.3	6	1.0	1.0	10000.0	1.25	54.94	19.52	NO
1800.	271.3	6	1.0	1.0	10000.0	1.25	57.87	20.23	NO
1900.	249.7	6	1.0	1.0	10000.0	1.25	60.78	20.94	NO
2000.	230.8	6	1.0	1.0	10000.0	1.25	63.68	21.63	NO
2100.	215.0	6	1.0	1.0	10000.0	1.25	66.56	22.21	NO
2200.	201.0	6	1.0	1.0	10000.0	1.25	69.42	22.78	NO
2300.	188.4	6	1.0	1.0	10000.0	1.25	72.28	23.34	NO
2400.	177.2	6	1.0	1.0	10000.0	1.25	75.12	23.89	NO
2500.	167.0	6	1.0	1.0	10000.0	1.25	77.95	24.42	NO
2600.	157.8	6	1.0	1.0	10000.0	1.25	80.76	24.95	NO
2700.	149.4	6	1.0	1.0	10000.0	1.25	83.57	25.47	NO
2800.	141.7	6	1.0	1.0	10000.0	1.25	86.37	25.98	NO
2900.	134.7	6	1.0	1.0	10000.0	1.25	89.15	26.48	NO
3000.	128.2	6	1.0	1.0	10000.0	1.25	91.92	26.98	NO
3500.	103.9	6	1.0	1.0	10000.0	1.25	105.65	28.98	NO
4000.	86.55	6	1.0	1.0	10000.0	1.25	119.17	30.84	NO
4500.	73.70	6	1.0	1.0	10000.0	1.25	132.50	32.57	NO
5000.	63.84	6	1.0	1.0	10000.0	1.25	145.67	34.21	NO
5500.	56.06	6	1.0	1.0	10000.0	1.25	158.69	35.76	NO
6000.	49.80	6	1.0	1.0	10000.0	1.25	171.58	37.23	NO
6500.	44.66	6	1.0	1.0	10000.0	1.25	184.34	38.64	NO
7000.	40.38	6	1.0	1.0	10000.0	1.25	196.99	40.00	NO
7500.	36.89	6	1.0	1.0	10000.0	1.25	209.54	41.16	NO
8000.	33.90	6	1.0	1.0	10000.0	1.25	221.98	42.28	NO
8500.	31.32	6	1.0	1.0	10000.0	1.25	234.34	43.36	NO
9000.	29.06	6	1.0	1.0	10000.0	1.25	246.61	44.40	NO
9500.	27.08	6	1.0	1.0	10000.0	1.25	258.79	45.41	NO
10000.	25.32	6	1.0	1.0	10000.0	1.25	270.90	46.38	NO
15000.	14.93	6	1.0	1.0	10000.0	1.25	388.43	54.88	NO
20000.	10.54	6	1.0	1.0	10000.0	1.25	500.95	60.29	NO
25000.	8.048	6	1.0	1.0	10000.0	1.25	609.75	64.86	NO
30000.	6.461	6	1.0	1.0	10000.0	1.25	715.59	68.84	NO
40000.	4.643	6	1.0	1.0	10000.0	1.25	920.22	74.49	NO
50000.	3.597	6	1.0	1.0	10000.0	1.25	1117.42	79.19	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1000. M:
 1000. 670.6 6 1.0 1.0 10000.0 1.25 33.88 13.95 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	670.6	1000.	0.
COMPLEX TERRAIN	.5091E-01	50000.	2000. (24-HR CONC)

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
