Attachment A

Emission Calculations

Table A-1
Construction Emissions Calculations - Heavy Equipment
Sugarbush Residential Development

Site Grading

	Fuel	HP	Load Factor	Emission Factors, lb/hr									No of Equipment	Hrs/day	Months	Emissions, lbs/day									Emissions, tons/yr								
Equipment				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O
Dozer	Diesel	356	59	1.7411	0.3621	3.2071	0.0026	0.137	0.12193	265	0.0327	0.30467	2	8	4	27.86	5.79	51.31	0.04	2.19	1.95	4240	0.52	4.87	1.45	0.30	2.67	0.00	0.11	0.10	220.48	0.03	0.25
Rubber Tire Compactor	Diesel	99	57.5	0.4177	0.1201	0.7383	0.0007	0.0641	0.05705	59	0.0108	0.07014	1	8	4	3.34	0.96	5.91	0.01	0.51	0.46	472	0.09	0.56	0.17	0.05	0.31	0.00	0.03	0.02	24.54	0.00	0.03
Scraper	Diesel	266.76	66	1.5182	0.365	3.425	0.0032	0.1386	0.12335	321	0.0329	0.32538	2	8	4	24.29	5.84	54.80	0.05	2.22	1.97	5136	0.53	5.21	1.26	0.30	2.85	0.00	0.12	0.10	267.07	0.03	0.27
Water Trucks	Diesel			0.4301	0.1639	1.615	0.0019	0.0574	0.05109	167	0.0148	0.15343	1	8	4	3.44	1.31	12.92	0.02	0.46	0.41	1336	0.12	1.23	0.18	0.07	0.67	0.00	0.02	0.02	69.47	0.01	0.06
																58.93	***13.91***	***124.94***	***0.11***	***5.38***	***4.79***	***11184***	***1.25***	***11.87***	***3.06***	***0.72***	***6.50***	***0.01***	***0.28***	***0.25***	***581.57***	***0.07***	***0.62***

Site Utilities/Infrastructure

	Fuel	HP	Load Factor	Emission Factors, lb/bhp-hr									No of Equipment	Hrs/day	Months	Emissions, lbs/day									Emissions, tons/yr								
Equipment				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O
Paddle Scrapers	Diesel	266.76	66	1.5182	0.365	3.425	0.0032	0.1386	0.12335	321	0.0329	0.32538	1	8	6	12.15	2.92	27.40	0.03	1.11	0.99	2568	0.26	2.60	0.95	0.23	2.14	0.00	0.09	0.08	200.30	0.02	0.20
Blade	Diesel	266.76	66	1.5182	0.365	3.425	0.0032	0.1386	0.12335	321	0.0329	0.32538	1	8	6	12.15	2.92	27.40	0.03	1.11	0.99	2568	0.26	2.60	0.95	0.23	2.14	0.00	0.09	0.08	200.30	0.02	0.20
Asphalt Trucks	Diesel			0.4301	0.1639	1.615	0.0019	0.0574	0.05109	167	0.0148	0.15343	1	8	6	3.44	1.31	12.92	0.02	0.46	0.41	1336	0.12	1.23	0.27	0.10	1.01	0.00	0.04	0.03	104.21	0.01	0.10
Paver	Diesel	130	62	0.7959	0.2049	1.6028	0.0014	0.0903	0.08037	128	0.0185	0.15227	1	8	6	6.37	1.64	12.82	0.01	0.72	0.64	1024	0.15	1.22	0.50	0.13	1.00	0.00	0.06	0.05	79.87	0.01	0.10
Roller compactor	Diesel	99	57.5	0.4177	0.1201	0.7383	0.0007	0.0641	0.05705	59	0.0108	0.07014	2	8	6	6.68	1.92	11.81	0.01	1.03	0.91	944	0.17	1.12	0.52	0.15	0.92	0.00	0.08	0.07	73.63	0.01	0.09
Rubber Tire Compactor	Diesel	99	57.5	0.4177	0.1201	0.7383	0.0007	0.0641	0.05705	59	0.0108	0.07014	2	8	6	6.68	1.92	11.81	0.01	1.03	0.91	944	0.17	1.12	0.52	0.15	0.92	0.00	0.08	0.07	73.63	0.01	0.09
Concrete/Rock Trucks	Diesel			0.4301	0.1639	1.615	0.0019	0.0574	0.05109	167	0.0148	0.15343	1	8	6	3.44	1.31	12.92	0.02	0.46	0.41	1336	0.12	1.23	0.27	0.10	1.01	0.00	0.04	0.03	104.21	0.01	0.10
																50.91	***13.94***	***117.09***	***0.12***	***5.91***	***5.26***	***###### ***	***1.26***	***11.12***	***3.97***	***1.09***	***9.13***	***0.01***	***0.46***	***0.41***	***836.16***	***0.10***	***0.87***

House Construction

	Fuel	HP	Load Factor	Emission Factors, lb/bhp-hr									No of Equipment	Hrs/day	Months	Emissions, lbs/day									Emissions, tons/yr								
Equipment				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O				CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O	CO	VOC	NOx	SOx	PM10	PM2.5	CO2	CH4	N2O
Crane	Diesel	399	43	0.6625	0.1821	1.7722	0.0018	0.0685	0.06097	180	0.0164	0.16836	1	8	6	5.30	1.46	14.18	0.01	0.55	0.49	1440	0.13	1.35	0.41	0.11	1.11	0.00	0.04	0.04	112.32	0.01	0.11
Concrete Trucks	Diesel			0.4301	0.1639	1.615	0.0019	0.0574	0.05109	167	0.0148	0.15343	3	8	6	10.32	3.93	38.76	0.05	1.38	1.23	4008	0.36	3.68	0.81	0.31	3.02	0.00	0.11	0.10	312.62	0.03	0.29
																15.62	***5.39***	***52.94***	***0.06***	***1.93***	***1.71***	***5448.00***	***0.49***	***5.03***	***1.22***	***0.42***	***4.13***	***0.00***	***0.15***	***0.13***	***424.94***	***0.04***	***0.39***
																66.53	**19.34**	**170.03**	**0.18**	**7.84**	**6.97**	**#######**	**1.74**	**16.15**									

Table A-2
Construction Worker Estimates And Emission Calculations
Sugarbush Residential Development

Construction Worker Estimates and Emission Calculations

Per Table A9-17, SCAQMD CEQA Air Quality Handbook, the number of construction workers is estimated by E = FxGxH/1E6 xI or GxH/1E6 xI where F,G,H,I in Tables A9-17A through A9-17C.

Construction Phase	E	F	G	H	I	
Grading	25					Assumption
Wet Utilities Construction	117.319677		29,175,000	8.78	0.458	
Dry Utilities Construction	89.96318128		22,372,000	8.78	0.458	
Curb/Gutter Construction	25					Assumption
Paving	25					Assumption
House Construction	23.6029864	55.7	117500	9.2	0.392	

Construction Phase	Vehicle Class	No. of Workers Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_x Running Exhaust (g/mi)	NO_x Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)	SOx Running Exhaust (g/mi)	SOx Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]	N2O Running Exhaust (g/mi)	N2O Start-Up (g/start)[a]
Grading	Light-duty truck, catalyst	25	35	40	2.481	10.073	0.241	0.495	0.044	0.72	0.181	0.024	0.044	0.051	0.004	0.002	0.011	0.016	0.008	0.013	0.01	0.015	0.002	0.005	385.668	203.153	0.022	0.041	0.022895	0.047025
Wet Utilities Construction	Light-duty truck, catalyst	117	35	40	2.481	10.073	0.241	0.495	0.044	0.72	0.181	0.024	0.044	0.051	0.004	0.002	0.011	0.016	0.008	0.013	0.01	0.015	0.002	0.005	385.668	203.153	0.022	0.041	0.022895	0.047025
Dry Utilities Construction	Light-duty truck, catalyst	90	35	40	2.481	10.073	0.241	0.495	0.044	0.72	0.181	0.024	0.044	0.051	0.004	0.002	0.011	0.016	0.008	0.013	0.01	0.015	0.002	0.005	385.668	203.153	0.022	0.041	0.022895	0.047025
Curb/Gutter Construction	Light-duty truck, catalyst	25	35	40	2.481	10.073	0.241	0.495	0.044	0.72	0.181	0.024	0.044	0.051	0.004	0.002	0.011	0.016	0.008	0.013	0.01	0.015	0.002	0.005	385.668	203.153	0.022	0.041	0.022895	0.047025
Paving	Light-duty truck, catalyst	25	35	40	2.481	10.073	0.241	0.495	0.044	0.72	0.181	0.024	0.044	0.051	0.004	0.002	0.011	0.016	0.008	0.013	0.01	0.015	0.002	0.005	385.668	203.153	0.022	0.041	0.022895	0.047025
House Construction	Light-duty truck, catalyst	24	35	40	2.481	10.073	0.241	0.495	0.044	0.72	0.181	0.024	0.044	0.051	0.004	0.002	0.011	0.016	0.008	0.013	0.01	0.015	0.002	0.005	385.668	203.153	0.022	0.041	0.022895	0.047025

Construction Phase	Emissions, lbs/day CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	N2O
Grading	6.02	0.56	0.29	0.01	0.07	0.04	861.45	0.05	0.05
Wet Utilities Construction	28.20	2.61	1.35	0.04	0.33	0.18	4031.60	0.24	0.25
Dry Utilities Construction	21.69	2.01	1.04	0.03	0.26	0.14	3101.23	0.18	0.19
Curb/Gutter Construction	6.02	0.56	0.29	0.01	0.07	0.04	861.45	0.05	0.05
Paving	6.02	0.56	0.29	0.01	0.07	0.04	861.45	0.05	0.05
House Construction	5.78	0.54	0.28	0.01	0.07	0.04	827.00	0.05	0.05

Maximum emissions from infrastructure assumed to be sum of utilities and curb/gutter/paving, simultaneous
Assume startup after 8 hours

Assume 45 minutes run time total
2010 Emission Factors from EMFAC2007, average temp 60F

Phase 2 Emissions	CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	N2O
	67.72	6.28	3.25	0.10	0.80	0.44	9682.74	0.57	0.60

Table A-3
Construction Truck Trip Emissions
Sugarbush Residential Development

PM10

Construction Phase	Vehicle Class	No. of Trucks Per Construction Phase	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	NO_X Running Exhaust (g/mi)	VOCs Running Exhaust (g/mi)	SOx Running Exhaust (g/mi)	PM10 Running Exhaust (g/mi)	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CH4 Running Exhaust (g/mi)	N2O Running Exhaust (g/mi)	Emissions, lbs/ CO	NOx	VOCs	SOx	PM10
Grading	Heavy-duty truck	25	35	20	4.462	15.067	0.865	0.017	0.536	0.036	0.028	0.493	0.009	0.012	1827.808	0.04	1.431365	4.92	16.61	0.95	0.02	0.66
Wet Utilities Construction	Heavy-duty truck	3	35	20	4.462	15.067	0.865	0.017	0.536	0.036	0.028	0.493	0.009	0.012	1827.808	0.04	1.431365	0.59	1.99	0.11	0.00	0.08
Dry Utilities Construction	Heavy-duty truck	2	35	20	4.462	15.067	0.865	0.017	0.536	0.036	0.028	0.493	0.009	0.012	1827.808	0.04	1.431365	0.39	1.33	0.08	0.00	0.05
Curb/Gutter Construction	Heavy-duty truck	15	35	5	4.462	15.067	0.865	0.017	0.536	0.036	0.028	0.493	0.009	0.012	1827.808	0.04	1.431365	0.74	2.49	0.14	0.00	0.10
Paving	Heavy-duty truck	15	35	5	4.462	15.067	0.865	0.017	0.536	0.036	0.028	0.493	0.009	0.012	1827.808	0.04	1.431365	0.74	2.49	0.14	0.00	0.10
House Construciton	Heavy-duty truck	4	35	20	4.462	15.067	0.865	0.017	0.536	0.036	0.028	0.493	0.009	0.012	1827.808	0.04	1.431365	0.79	2.66	0.15	0.00	0.11

Distances Calculated using
www.mapquest.com: Construction
Materials from Escondido/San
Marcos (10 miles one way);
Concrete/asphalt from San
Marcos (2.5 miles one way).

Emission factors from 2010
EMFAC2007, 35 mph, Light
Heavy Duty Diesel truck (LHD1)

Phase 2 Emissions, lbs/day

CO	NOx	VOCs	SOx	PM10
3.25	10.96	0.63	0.01	0.44

Table A-4
Project-Related Traffic Emissions
Sugarbush Residential Development

45 Homes

Vehicle Class	Number of Daily Trips	Speed (mph)	VMT (mi/vehicle-day)	CO Running Exhaust (g/mi)	CO Start-Up (g/start)[a]	NO_x Running Exhaust (g/mi)	NO_x Start-Up (g/start)[a]	VOCs Running Exhaust (g/mi)	VOCs Start-Up (g/start)[a]	VOCs Hot-Soak (g/trip)	VOCs Resting Loss (g/hr)	VOCs Running Evaporative (g/mi)	VOCs Diurnal Evaporative (g/hr)	SO_x Running Exhaust (g/mi)	SO_x Start-Up (g/start)[a]	PM10 Running Exhaust (g/mi)	PM10 Start-Up (g/start)[a]	PM10 Tire Wear (g/mi)	PM10 Brake Wear (g/mi)	PM2.5 Running Exhaust (g/mi)	PM2.5 Start-Up (g/start)[a]	PM2.5 Tire Wear (g/mi)	PM2.5 Brake Wear (g/mi)	CO2 Running Exhaust (g/mi)	CO2 Start-Up (g/start)[a]	CH4 Running Exhaust (g/mi)	CH4 Start-Up (g/start)[a]	N2O Running Exhaust (g/mi)	N2O Start-Up (g/start)[a]
Light-duty auto	421	27	5.82	2.915	10.332	0.272	0.535	0.107	0.919	0.222	0.026	0.042	0.061	0.004	0.002	0.013	0.014	0.008	0.013	0.012	0.013	0.002	0.005	367.007	164.624	0.03	0.053	0.025.94	0.050825
Light-duty truck	119	27	5.82	3.473	10.449	0.331	0.487	0.137	0.783	0.224	0.028	0.051	0.057	0.004	0.002	0.016	0.015	0.008	0.013	0.015	0.014	0.002	0.005	452.44	194.636	0.031	0.046	0.031445	0.046265
	540																												

Vehicle Class	Emissions, lbs/day CO	NOx	VOCs	SOx	PM10	PM2.5	CO2	CH4	N2O	Emissions, tons CO	NOx	VOCs	SOx	PM10
Light-duty auto	25.35	1.97	3.13	0.0235	0.20	0.11	2136.32	0.21	0.19	4.63	0.36	0.57	0.0043	0.0359
Light-duty truck	8.03	0.63	0.90	0.0066	0.06	0.04	740.64	0.06	0.06	1.47	0.12	0.16	0.0012	0.0110
Totals	**33.38**	**2.60**	**4.02**	**0.03**	**0.26**	**0.15**	**2876.96**	**0.27**	**0.25**	**6.09**	**0.47**	**0.73**	**0.01**	**0.05**

Table A-5
Project-Related Diesel Particulate Emissions
Sugarbush Residential Development

Vehicle Class	Number of Daily Trips	Speed (mph)	VMT (mi/vehicle-day)	PM10 Running Exhaust (g/mi)	Emissions, PM10
Light-duty auto, diesel	2	27	0.2	0.194	***0.00017***
Light-duty truck,diesel	1	27	0.2	0.093	***0.00002***
	3				
			Total		**0.00019**

Table A-6
Energy Use
Emissions Calculations
Sugarbush Residential Development

Energy Use Emissions

Based on SCAQMD Air Quality CEQA Handbook, Table 9-8.

	Emission factors, lbs/day/unit				Emissions, lbs/day				Emissions, tons/year			
Dwelling Units	**CO**	**Nox**	**ROC**	**PM10**	**CO**	**Nox**	**ROC**	**PM10**	**CO**	**Nox**	**ROC**	**PM10**
45	0.00333	0.01916	0.00017	0.00067	1.50E-04	8.62E-04	7.65E-06	3.02E-05	2.73E-05	1.57E-04	1.40E-06	5.50E-06

CALINE4 Model Outputs

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: Buena Creek and Monte Vista pm
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide


 I.  SITE VARIABLES

       U=   1.0 M/S            Z0= 100. CM            ALT=     0. (M)
     BRG= WORST CASE           VD=   .0 CM/S
    CLAS=     7 (G)            VS=   .0 CM/S
    MIXH= 1000. M             AMB=   .0 PPM
   SIGTH=   10. DEGREES       TEMP= 12.0 DEGREE (C)


 II.  LINK VARIABLES

     LINK      *  LINK COORDINATES (M)   *              EF     H     W
  DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)   (M)
----------------*-------------------------*------------------------------
A. BC EBLA      *  -144   -55     0     0 *  AG    165   6.5     .0  10.0
B. BC EBTA      *  -144   -59     0    -4 *  AG    654   6.5     .0  10.0
C. BC EBD       *     0    -4   142    47 *  AG   1052   6.5     .0  10.0
D. BC WBTA      *   142    55     0     4 *  AG    327   6.5     .0  10.0
E. BC WBRA      *   142    56     0     6 *  AG    339   6.5     .0  10.0
F. BC WBD       *     0     4  -144   -52 *  AG    455   6.5     .0  10.0
G. MV SBLA      *     0   150     0     0 *  AG    398   6.5     .0  10.0
H. MV SBRA      *    -4   150    -4     0 *  AG    128   6.5     .0  10.0
I. MV NBD       *     4     0     4   150 *  AG    504   6.5     .0  10.0
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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Buena Creek and Monte Vista pm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	-60	-36	1.8
2. Recpt 2	-40	-29	1.8
3. Recpt 3	-20	-22	1.8
4. Recpt 4	0	-15	1.8
5. Recpt 5	20	-8	1.8
6. Recpt 6	40	-1	1.8
7. Recpt 7	60	6	1.8
8. Recpt 8	-14	12	1.8
9. Recpt 9	-34	5	1.8
10. Recpt 10	-54	-2	1.8
11. Recpt 11	14	22	1.8
12. Recpt 12	34	29	1.8
13. Recpt 13	54	36	1.8
14. Recpt 14	14	42	1.8
15. Recpt 15	14	62	1.8
16. Recpt 16	-14	32	1.8
17. Recpt 17	-14	52	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Buena Creek and Monte Vista pm
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Recpt 1	56.	.6	.0	.2	.0	.0	.0	.0	.0	.0
2. Recpt 2	55.	.6	.0	.2	.1	.0	.0	.0	.0	.0
3. Recpt 3	24.	.5	.0	.2	.0	.0	.0	.0	.0	.0
4. Recpt 4	2.	.8	.0	.0	.1	.0	.0	.0	.2	.0
5. Recpt 5	344.	.6	.0	.0	.2	.0	.0	.0	.0	.0
6. Recpt 6	280.	.5	.0	.0	.3	.0	.0	.0	.0	.0
7. Recpt 7	273.	.5	.0	.0	.3	.0	.0	.0	.0	.0
8. Recpt 8	86.	.6	.0	.0	.2	.1	.1	.0	.0	.0
9. Recpt 9	83.	.6	.0	.0	.2	.0	.0	.0	.0	.0
10. Recpt 10	82.	.5	.0	.0	.2	.0	.0	.0	.0	.0
11. Recpt 11	232.	.6	.0	.2	.0	.0	.0	.1	.0	.0
12. Recpt 12	235.	.5	.0	.1	.0	.0	.0	.0	.0	.0
13. Recpt 13	237.	.5	.0	.1	.0	.0	.0	.0	.0	.0
14. Recpt 14	209.	.5	.0	.0	.0	.0	.0	.0	.0	.0
15. Recpt 15	204.	.5	.0	.0	.0	.0	.0	.0	.1	.0
16. Recpt 16	96.	.4	.0	.0	.1	.0	.0	.0	.0	.0
17. Recpt 17	149.	.4	.0	.0	.0	.0	.0	.0	.1	.0

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   4

     JOB: Buena Creek and Monte Vista pm
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	(PPM) I
1. Recpt 1	.0
2. Recpt 2	.0
3. Recpt 3	.1
4. Recpt 4	.2
5. Recpt 5	.1
6. Recpt 6	.0
7. Recpt 7	.0
8. Recpt 8	.0
9. Recpt 9	.0
10. Recpt 10	.0
11. Recpt 11	.1
12. Recpt 12	.0
13. Recpt 13	.0
14. Recpt 14	.2
15. Recpt 15	.2
16. Recpt 16	.0
17. Recpt 17	.1

ISCST3 Model Outputs – Construction Health Risk Assessment

```
NO ECHO


 BEE-Line ISCST3 "BEEST" Version 8.10

 Input File - C:\Beework\Buena Creek construction.DTA
Output File - C:\Beework\Buena Creek construction.LST
   Met File - C:\MetData\ESCMIR00.ASC


***********************************
*** SETUP Finishes Successfully ***
***********************************
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   1
CONC                        RURAL  ELEV
MSGPRO

                                            ***     MODEL SETUP OPTIONS
SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses User-Specified Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Calms Processing Routine.
           5. Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates ANNUAL Averages Only

**This Run Includes:     1 Source(s);      1 Source Group(s); and       9
Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting
(PLOTFILE Keyword)
```

```
**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm
Hours
                                                                m for
Missing Hours
                                                                b for Both
Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =    10.00 ;    Decay Coef. =    0.000
;    Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC
;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =     1.2 MB of RAM.

**Input Runstream File:          C:\Beework\Buena Creek construction.DTA
**Output Print File:             C:\Beework\Buena Creek construction.LST
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   2
CONC                        RURAL  ELEV
MSGPRO



                                                   *** POINT SOURCE DATA ***


             NUMBER EMISSION RATE                     BASE     STACK
STACK    STACK     STACK    BUILDING EMISSION RATE
   SOURCE     PART.  (GRAMS/SEC)     X        Y      ELEV.    HEIGHT
TEMP.   EXIT VEL. DIAMETER   EXISTS   SCALAR VARY
     ID       CATS.               (METERS) (METERS) (METERS) (METERS)
(DEG.K)  (M/SEC)  (METERS)                BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

  STACK         0   0.41076E+00  482543.0 3671674.0   234.1     3.05
422.00     1.00     0.15      NO       HROFDY
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   3
CONC                        RURAL  ELEV
MSGPRO



                                          *** SOURCE IDs DEFINING SOURCE
GROUPS ***

GROUP ID                                                  SOURCE IDs


 ALL       STACK   ,
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   4
CONC                        RURAL  ELEV
MSGPRO

                           * SOURCE EMISSION RATE SCALARS WHICH VARY FOR
EACH HOUR OF THE DAY *


    HOUR    SCALAR      HOUR    SCALAR      HOUR    SCALAR      HOUR
SCALAR      HOUR    SCALAR      HOUR    SCALAR
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -


SOURCE ID = STACK    ;  SOURCE TYPE = POINT    :
      1   .00000E+00      2   .00000E+00      3   .00000E+00      4
.00000E+00      5   .00000E+00      6   .00000E+00
      7   .00000E+00      8   .10000E+01      9   .10000E+01     10
.10000E+01     11   .10000E+01     12   .10000E+01
     13   .10000E+01     14   .10000E+01     15   .10000E+01     16
.00000E+00     17   .00000E+00     18   .00000E+00
     19   .00000E+00     20   .00000E+00     21   .00000E+00     22
.00000E+00     23   .00000E+00     24   .00000E+00
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   5
CONC                        RURAL  ELEV
MSGPRO


                                                 *** DISCRETE CARTESIAN
RECEPTORS ***
                                                   (X-COORD, Y-COORD, ZELEV,
ZFLAG)
                                                               (METERS)

    ( 482500.0, 3671930.0,     240.7,       0.0);          ( 482269.0,
3671972.0,     223.0,       0.0);
    ( 482324.0, 3671909.0,     223.1,       0.0);          ( 482393.0,
3671985.0,     217.4,       0.0);
    ( 482538.0, 3672075.0,     217.2,       0.0);          ( 482586.0,
3672062.0,     218.6,       0.0);
    ( 482900.0, 3671665.0,     275.6,       0.0);          ( 482192.0,
3672130.0,     188.7,       0.0);
    ( 481826.0, 3671273.0,     183.8,       0.0);
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   6
CONC                        RURAL  ELEV
MSGPRO


                                          *** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
                                                                (1=YES;
0=NO)

          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO
DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.



                                     *** UPPER BOUND OF FIRST THROUGH FIFTH
WIND SPEED CATEGORIES ***
                                                          (METERS/SEC)

                                                 1.54,   3.09,   5.14,
8.23,  10.80,


                                                   *** WIND PROFILE
EXPONENTS ***


               STABILITY                              WIND SPEED CATEGORY
               CATEGORY         1              2              3
4              5              6
                  A          .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01     .70000E-01
```

```
                 B          .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01     .70000E-01
                 C          .10000E+00     .10000E+00     .10000E+00
.10000E+00     .10000E+00     .10000E+00
                 D          .15000E+00     .15000E+00     .15000E+00
.15000E+00     .15000E+00     .15000E+00
                 E          .35000E+00     .35000E+00     .35000E+00
.35000E+00     .35000E+00     .35000E+00
                 F          .55000E+00     .55000E+00     .55000E+00
.55000E+00     .55000E+00     .55000E+00


                                         *** VERTICAL POTENTIAL
TEMPERATURE GRADIENTS ***
                                                  (DEGREES KELVIN PER
METER)


               STABILITY                            WIND SPEED CATEGORY
               CATEGORY         1              2              3
4              5              6
                 A          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                 B          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                 C          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                 D          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                 E          .20000E-01     .20000E-01     .20000E-01
.20000E-01     .20000E-01     .20000E-01
                 F          .35000E-01     .35000E-01     .35000E-01
.35000E-01     .35000E-01     .35000E-01
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   7
CONC                        RURAL  ELEV
MSGPRO


                     *** THE FIRST  24 HOURS OF METEOROLOGICAL DATA ***

     FILE:   C:\MetData\ESCMIR00.ASC
     FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
     SURFACE STATION NO.:  72293                    UPPER AIR STATION NO.:
3190
                    NAME: UNKNOWN                                   NAME:
UNKNOWN
                    YEAR:   2000                                    YEAR:
2000

             FLOW   SPEED  TEMP  STAB  MIXING HEIGHT (M)  USTAR  M-O
LENGTH   Z-0 IPCODE PRATE
YR MN DY HR VECTOR  (M/S)   (K)  CLASS   RURAL   URBAN    (M/S)     (M)
(M)       (mm/HR)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

00 01 01 01  286.0   1.00  281.1   5     933.2   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 02  268.0   1.00  280.1   5     943.5   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 03  252.0   1.00  281.1   5     953.9   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 04  236.0   1.00  281.1   5     964.3   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 05  268.0   1.00  281.1   5     974.7   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 06  271.0   1.00  281.1   6     985.0   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 07    0.0   0.00  281.1   5       9.1   831.0    0.0000       0.0
0.0000   0   0.00
00 01 01 08  288.0   1.00  281.1   4     160.4   864.9    0.0000       0.0
0.0000   0   0.00
00 01 01 09  291.0   1.00  282.1   3     311.6   898.7    0.0000       0.0
0.0000   0   0.00
00 01 01 10  272.0   1.00  282.1   3     462.9   932.6    0.0000       0.0
0.0000   0   0.00
00 01 01 11  275.0   1.00  284.1   4     614.2   966.4    0.0000       0.0
0.0000   0   0.00
00 01 01 12  313.0   1.00  285.1   3     765.5  1000.3    0.0000       0.0
0.0000   0   0.00
00 01 01 13   55.0   1.80  285.1   3     916.7  1034.1    0.0000       0.0
0.0000   0   0.00
```

```
00 01 01 14   83.0   3.10  284.1   4    1068.0  1068.0    0.0000       0.0
0.0000   0   0.00
00 01 01 15   76.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0
0.0000   0   0.00
00 01 01 16   81.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0
0.0000   0   0.00
00 01 01 17   68.0   1.80  285.1   5    1072.3  1080.7    0.0000       0.0
0.0000   0   0.00
00 01 01 18   41.0   1.30  284.1   6    1092.8  1141.1    0.0000       0.0
0.0000   0   0.00
00 01 01 19   20.0   1.00  284.1   6    1113.3  1201.4    0.0000       0.0
0.0000   0   0.00
00 01 01 20   26.0   1.00  284.1   6    1133.9  1261.7    0.0000       0.0
0.0000   0   0.00
00 01 01 21  354.0   1.00  284.1   6    1154.4  1322.0    0.0000       0.0
0.0000   0   0.00
00 01 01 22   53.0   1.30  283.1   6    1174.9  1382.4    0.0000       0.0
0.0000   0   0.00
00 01 01 23   49.0   1.30  282.1   6    1195.4  1442.7    0.0000       0.0
0.0000   0   0.00
00 01 01 24   67.0   2.20  282.1   5    1215.9  1503.0    0.0000       0.0
0.0000   0   0.00


*** NOTES:  STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
            FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   8
CONC                        RURAL  ELEV
MSGPRO

                             *** THE ANNUAL (   1 YRS) AVERAGE
CONCENTRATION   VALUES FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):      STACK   ,

                                          *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                       ** CONC OF OTHER    IN
MICROGRAMS/M**3                          **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD
(M)   Y-COORD (M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        482500.00    3671930.00        0.74752
482269.00    3671972.00        0.39935
        482324.00    3671909.00        0.55054
482393.00    3671985.00        0.37891
        482538.00    3672075.00        0.24550
482586.00    3672062.00        0.37205
        482900.00    3671665.00        3.69222
482192.00    3672130.00        0.06834
        481826.00    3671273.00        0.11776
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE   9
CONC                        RURAL  ELEV
MSGPRO

                                          *** THE SUMMARY OF MAXIMUM
ANNUAL (   1 YRS) RESULTS ***


                                       ** CONC OF OTHER    IN
MICROGRAMS/M**3                          **


NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR,
YR, ZELEV, ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -

ALL      1ST HIGHEST VALUE IS       3.69222 AT (  482900.00,  3671665.00,
275.60,      0.00)  DC      NA
         2ND HIGHEST VALUE IS       0.74752 AT (  482500.00,  3671930.00,
240.70,      0.00)  DC      NA
         3RD HIGHEST VALUE IS       0.55054 AT (  482324.00,  3671909.00,
223.10,      0.00)  DC      NA
         4TH HIGHEST VALUE IS       0.39935 AT (  482269.00,  3671972.00,
223.00,      0.00)  DC      NA
         5TH HIGHEST VALUE IS       0.37891 AT (  482393.00,  3671985.00,
217.40,      0.00)  DC      NA
         6TH HIGHEST VALUE IS       0.37205 AT (  482586.00,  3672062.00,
218.60,      0.00)  DC      NA
         7TH HIGHEST VALUE IS       0.24550 AT (  482538.00,  3672075.00,
217.20,      0.00)  DC      NA
         8TH HIGHEST VALUE IS       0.11776 AT (  481826.00,  3671273.00,
183.80,      0.00)  DC      NA
         9TH HIGHEST VALUE IS       0.06834 AT (  482192.00,  3672130.00,
188.70,      0.00)  DC      NA
        10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,
0.00,      0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/25/03
                                   *** Diesel Particulate Risk Evaluation
***        18:05:21
**MODELOPTs:
PAGE  10
CONC                        RURAL  ELEV
MSGPRO


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            3 Warning Message(s)
A Total of          281 Informational Message(s)

A Total of          195 Calm Hours Identified

A Total of           86 Missing Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W410  8175 METQA :Flow Vector Out-of-Range.   KURDAT=
00120615
MX W420  8175 METQA :Wind Speed Out-of-Range.   KURDAT=
00120615
MX W430  8175 METQA :Ambient Temperature Data Out-of-Range.  KURDAT=
00120615

   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
```

```
NO ECHO


 BEE-Line ISCST3 "BEEST" Version 8.10

 Input File - C:\Beework\Buena Creek diesel.DTA
Output File - C:\Beework\Buena Creek diesel.LST
   Met File - C:\MetData\ESCMIR00.ASC


***********************************
*** SETUP Finishes Successfully ***
***********************************
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   1
CONC                        RURAL  ELEV   FLGPOL
MSGPRO

                                            ***     MODEL SETUP OPTIONS
SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses User-Specified Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Calms Processing Routine.
           5. Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.

**Model Accepts Receptors on ELEV Terrain.

**Model Accepts FLAGPOLE Receptor Heights.

**Model Calculates ANNUAL Averages Only

**This Run Includes:    37 Source(s);      1 Source Group(s); and       9
Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plotting
(PLOTFILE Keyword)
```

```
**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm
Hours
                                                                m for
Missing Hours
                                                                b for Both
Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =    10.00 ;    Decay Coef. =    0.000
;    Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC
;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =     1.2 MB of RAM.

**Input Runstream File:          C:\Beework\Buena Creek diesel.DTA
**Output Print File:             C:\Beework\Buena Creek diesel.LST
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   2
CONC                        RURAL  ELEV   FLGPOL
MSGPRO



                                                   *** VOLUME SOURCE DATA
***

             NUMBER EMISSION RATE                     BASE    RELEASE
INIT.    INIT.   EMISSION RATE
   SOURCE     PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT
SY       SZ      SCALAR VARY
     ID       CATS.               (METERS) (METERS) (METERS) (METERS)
(METERS) (METERS)        BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

  VOL1          0   0.35532E-07  482486.0 3672200.0   194.1     0.00
2.12     4.40
  VOL2          0   0.35532E-07  482486.0 3672190.0   194.5     0.00
2.12     4.25
  VOL3          0   0.35532E-07  482486.0 3672180.0   194.9     0.00
2.12     4.25
  VOL4          0   0.35532E-07  482486.0 3672170.0   196.5     0.00
2.12     4.25
  VOL5          0   0.35532E-07  482486.0 3672160.0   198.1     0.00
2.12     4.25
  VOL6          0   0.35532E-07  482486.0 3672150.0   199.7     0.00
2.12     4.25
  VOL7          0   0.35532E-07  482486.0 3672140.0   201.6     0.00
2.12     4.25
  VOL8          0   0.35532E-07  482486.0 3672130.0   203.6     0.00
2.12     4.25
  VOL9          0   0.35532E-07  482486.0 3672120.0   205.5     0.00
2.12     4.25
  VOL10         0   0.35532E-07  482486.0 3672110.0   207.1     0.00
2.12     4.25
  VOL11         0   0.35532E-07  482486.0 3672100.0   208.7     0.00
2.12     4.25
  VOL12         0   0.35532E-07  482486.0 3672090.0   210.3     0.00
2.12     4.25
  VOL13         0   0.35532E-07  482486.0 3672080.0   210.4     0.00
2.12     4.25
  VOL14         0   0.35532E-07  482476.0 3672069.0   209.9     0.00
2.12     4.25
  VOL15         0   0.35532E-07  482466.0 3672058.0   210.4     0.00
2.12     4.25
```

```
  VOL16          0   0.35532E-07  482456.0 3672046.0   211.2     0.00
2.12     4.25
  VOL17          0   0.35532E-07  482449.0 3672036.0   212.1     0.00
2.12     4.25
  VOL18          0   0.35532E-07  482443.0 3672026.0   213.3     0.00
2.12     4.25
  VOL19          0   0.35532E-07  482436.0 3672017.0   214.2     0.00
2.12     4.25
  VOL20          0   0.35532E-07  482431.0 3672009.0   214.4     0.00
2.12     4.25
  VOL21          0   0.35532E-07  482425.0 3672001.0   215.0     0.00
2.12     4.25
  VOL22          0   0.35532E-07  482420.0 3671992.0   215.9     0.00
2.12     4.25
  VOL23          0   0.35532E-07  482414.0 3671984.0   216.6     0.00
2.12     4.25
  VOL24          0   0.35532E-07  482408.0 3671975.0   217.0     0.00
2.12     4.25
  VOL25          0   0.35532E-07  482403.0 3671967.0   217.1     0.00
2.12     4.25
  VOL26          0   0.35532E-07  482399.0 3671956.0   217.1     0.00
2.12     4.25
  VOL27          0   0.35532E-07  482395.0 3671945.0   217.2     0.00
2.12     4.25
  VOL28          0   0.35532E-07  482392.0 3671934.0   216.6     0.00
2.12     4.25
  VOL29          0   0.35532E-07  482390.0 3671926.0   215.8     0.00
2.12     4.25
  VOL30          0   0.35532E-07  482388.0 3671918.0   214.9     0.00
2.12     4.25
  VOL31          0   0.35532E-07  482386.0 3671909.0   213.9     0.00
2.12     4.25
  VOL32          0   0.35532E-07  482386.0 3671899.0   213.9     0.00
2.12     4.25
  VOL33          0   0.35532E-07  482386.0 3671889.0   213.3     0.00
2.12     4.25
  VOL34          0   0.35532E-07  482386.0 3671879.0   213.1     0.00
2.12     4.25
  VOL35          0   0.35532E-07  482386.0 3671869.0   213.0     0.00
2.12     4.25
  VOL36          0   0.35532E-07  482386.0 3671859.0   213.0     0.00
2.12     4.25
  VOL37          0   0.35532E-07  482386.0 3671849.0   213.0     0.00
2.12     4.25
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   3
CONC                        RURAL  ELEV   FLGPOL
MSGPRO



                                          *** SOURCE IDs DEFINING SOURCE
GROUPS ***

GROUP ID                                                  SOURCE IDs


 ALL       VOL1    , VOL2    , VOL3    , VOL4    , VOL5    , VOL6    ,
VOL7    , VOL8    , VOL9    , VOL10   , VOL11   , VOL12   ,

           VOL13   , VOL14   , VOL15   , VOL16   , VOL17   , VOL18   ,
VOL19   , VOL20   , VOL21   , VOL22   , VOL23   , VOL24   ,

           VOL25   , VOL26   , VOL27   , VOL28   , VOL29   , VOL30   ,
VOL31   , VOL32   , VOL33   , VOL34   , VOL35   , VOL36   ,

           VOL37   ,
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   4
CONC                        RURAL  ELEV   FLGPOL
MSGPRO


                                                *** DISCRETE CARTESIAN
RECEPTORS ***
                                                  (X-COORD, Y-COORD, ZELEV,
ZFLAG)
                                                              (METERS)

    ( 482500.0, 3671930.0,     240.7,       1.8);          ( 482269.0,
3671972.0,     223.0,       1.8);
    ( 482324.0, 3671909.0,     223.1,       1.8);          ( 482387.3,
3671982.5,     217.4,       1.8);
    ( 482538.0, 3672075.0,     217.2,       1.8);          ( 482586.0,
3672062.0,     218.6,       1.8);
    ( 482900.0, 3671665.0,     275.6,       1.8);          ( 482192.0,
3672130.0,     188.7,       1.8);
    ( 481826.0, 3671273.0,     183.8,       1.8);
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   5
CONC                        RURAL  ELEV   FLGPOL
MSGPRO


                                          *** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
                                                                (1=YES;
0=NO)

          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1

               NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO
DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.



                                     *** UPPER BOUND OF FIRST THROUGH FIFTH
WIND SPEED CATEGORIES ***
                                                          (METERS/SEC)

                                                 1.54,   3.09,   5.14,
8.23,  10.80,


                                                   *** WIND PROFILE
EXPONENTS ***


               STABILITY                              WIND SPEED CATEGORY
               CATEGORY         1              2              3
4              5              6
                  A          .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01     .70000E-01
```

```
                  B          .70000E-01     .70000E-01     .70000E-01
.70000E-01     .70000E-01     .70000E-01
                  C          .10000E+00     .10000E+00     .10000E+00
.10000E+00     .10000E+00     .10000E+00
                  D          .15000E+00     .15000E+00     .15000E+00
.15000E+00     .15000E+00     .15000E+00
                  E          .35000E+00     .35000E+00     .35000E+00
.35000E+00     .35000E+00     .35000E+00
                  F          .55000E+00     .55000E+00     .55000E+00
.55000E+00     .55000E+00     .55000E+00


                                          *** VERTICAL POTENTIAL
TEMPERATURE GRADIENTS ***
                                                  (DEGREES KELVIN PER
METER)


               STABILITY                            WIND SPEED CATEGORY
               CATEGORY         1              2              3
4              5              6
                  A          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                  B          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                  C          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                  D          .00000E+00     .00000E+00     .00000E+00
.00000E+00     .00000E+00     .00000E+00
                  E          .20000E-01     .20000E-01     .20000E-01
.20000E-01     .20000E-01     .20000E-01
                  F          .35000E-01     .35000E-01     .35000E-01
.35000E-01     .35000E-01     .35000E-01
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   6
CONC                        RURAL  ELEV   FLGPOL
MSGPRO


                     *** THE FIRST  24 HOURS OF METEOROLOGICAL DATA ***

     FILE:   C:\MetData\ESCMIR00.ASC
     FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
     SURFACE STATION NO.:  72293                    UPPER AIR STATION NO.:
3190
                    NAME: UNKNOWN                                   NAME:
UNKNOWN
                    YEAR:   2000                                    YEAR:
2000

             FLOW   SPEED  TEMP  STAB  MIXING HEIGHT (M)  USTAR  M-O
LENGTH   Z-0 IPCODE PRATE
YR MN DY HR VECTOR  (M/S)   (K)  CLASS   RURAL   URBAN    (M/S)     (M)
(M)       (mm/HR)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

00 01 01 01  286.0   1.00  281.1   5     933.2   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 02  268.0   1.00  280.1   5     943.5   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 03  252.0   1.00  281.1   5     953.9   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 04  236.0   1.00  281.1   5     964.3   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 05  268.0   1.00  281.1   5     974.7   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 06  271.0   1.00  281.1   6     985.0   829.0    0.0000       0.0
0.0000   0   0.00
00 01 01 07    0.0   0.00  281.1   5       9.1   831.0    0.0000       0.0
0.0000   0   0.00
00 01 01 08  288.0   1.00  281.1   4     160.4   864.9    0.0000       0.0
0.0000   0   0.00
00 01 01 09  291.0   1.00  282.1   3     311.6   898.7    0.0000       0.0
0.0000   0   0.00
00 01 01 10  272.0   1.00  282.1   3     462.9   932.6    0.0000       0.0
0.0000   0   0.00
00 01 01 11  275.0   1.00  284.1   4     614.2   966.4    0.0000       0.0
0.0000   0   0.00
00 01 01 12  313.0   1.00  285.1   3     765.5  1000.3    0.0000       0.0
0.0000   0   0.00
00 01 01 13   55.0   1.80  285.1   3     916.7  1034.1    0.0000       0.0
0.0000   0   0.00
```

```
00 01 01 14   83.0   3.10  284.1   4    1068.0  1068.0    0.0000       0.0
0.0000   0   0.00
00 01 01 15   76.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0
0.0000   0   0.00
00 01 01 16   81.0   3.10  285.1   4    1068.0  1068.0    0.0000       0.0
0.0000   0   0.00
00 01 01 17   68.0   1.80  285.1   5    1072.3  1080.7    0.0000       0.0
0.0000   0   0.00
00 01 01 18   41.0   1.30  284.1   6    1092.8  1141.1    0.0000       0.0
0.0000   0   0.00
00 01 01 19   20.0   1.00  284.1   6    1113.3  1201.4    0.0000       0.0
0.0000   0   0.00
00 01 01 20   26.0   1.00  284.1   6    1133.9  1261.7    0.0000       0.0
0.0000   0   0.00
00 01 01 21  354.0   1.00  284.1   6    1154.4  1322.0    0.0000       0.0
0.0000   0   0.00
00 01 01 22   53.0   1.30  283.1   6    1174.9  1382.4    0.0000       0.0
0.0000   0   0.00
00 01 01 23   49.0   1.30  282.1   6    1195.4  1442.7    0.0000       0.0
0.0000   0   0.00
00 01 01 24   67.0   2.20  282.1   5    1215.9  1503.0    0.0000       0.0
0.0000   0   0.00


*** NOTES:  STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
            FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   7
CONC                        RURAL  ELEV   FLGPOL
MSGPRO

                             *** THE ANNUAL (   1 YRS) AVERAGE
CONCENTRATION   VALUES FOR SOURCE GROUP: ALL      ***
                                 INCLUDING SOURCE(S):      VOL1    , VOL2
, VOL3    , VOL4    , VOL5    , VOL6    , VOL7    ,
         VOL8    , VOL9    , VOL10   , VOL11   , VOL12   , VOL13   , VOL14
, VOL15   , VOL16   , VOL17   , VOL18   , VOL19   ,
         VOL20   , VOL21   , VOL22   , VOL23   , VOL24   , VOL25   , VOL26
, VOL27   , VOL28   , VOL29   , VOL30   ,  . . .  ,

                                              *** DISCRETE CARTESIAN
RECEPTOR POINTS ***

                                        ** CONC OF OTHER    IN
MICROGRAMS/M**3                           **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD
(M)   Y-COORD (M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        482500.00    3671930.00        0.00013
482269.00    3671972.00        0.00010
        482324.00    3671909.00        0.00017
482387.28    3671982.50        0.00025
        482538.00    3672075.00        0.00017
482586.00    3672062.00        0.00011
        482900.00    3671665.00        0.00002
482192.00    3672130.00        0.00001
        481826.00    3671273.00        0.00000
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   8
CONC                        RURAL  ELEV   FLGPOL
MSGPRO

                                          *** THE SUMMARY OF MAXIMUM
ANNUAL (   1 YRS) RESULTS ***


                                       ** CONC OF OTHER    IN
MICROGRAMS/M**3                          **


NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR,
YR, ZELEV, ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - -

ALL      1ST HIGHEST VALUE IS       0.00025 AT (  482387.28,  3671982.50,
217.40,      1.80)  DC      NA
         2ND HIGHEST VALUE IS       0.00017 AT (  482538.00,  3672075.00,
217.20,      1.80)  DC      NA
         3RD HIGHEST VALUE IS       0.00017 AT (  482324.00,  3671909.00,
223.10,      1.80)  DC      NA
         4TH HIGHEST VALUE IS       0.00013 AT (  482500.00,  3671930.00,
240.70,      1.80)  DC      NA
         5TH HIGHEST VALUE IS       0.00011 AT (  482586.00,  3672062.00,
218.60,      1.80)  DC      NA
         6TH HIGHEST VALUE IS       0.00010 AT (  482269.00,  3671972.00,
223.00,      1.80)  DC      NA
         7TH HIGHEST VALUE IS       0.00002 AT (  482900.00,  3671665.00,
275.60,      1.80)  DC      NA
         8TH HIGHEST VALUE IS       0.00001 AT (  482192.00,  3672130.00,
188.70,      1.80)  DC      NA
         9TH HIGHEST VALUE IS       0.00000 AT (  481826.00,  3671273.00,
183.80,      1.80)  DC      NA
        10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,
0.00,      0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 00101 ***    *** Buena Creek Construction Evaluation
***        08/23/03
                                   *** Diesel Particulate Risk Evaluation
***        15:36:34
**MODELOPTs:
PAGE   9
CONC                        RURAL  ELEV   FLGPOL
MSGPRO


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            3 Warning Message(s)
A Total of          281 Informational Message(s)

A Total of          195 Calm Hours Identified

A Total of           86 Missing Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
MX W410  8175 METQA :Flow Vector Out-of-Range.   KURDAT=
00120615
MX W420  8175 METQA :Wind Speed Out-of-Range.   KURDAT=
00120615
MX W430  8175 METQA :Ambient Temperature Data Out-of-Range.  KURDAT=
00120615

   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
```