


## Appendix F

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### Sample Output Files of the FDM Model

FDM - (DATED 91109)  
 IBM-PC VERSION (1.01)  
 (C) COPYRIGHT 1991, TRINITY CONSULTANTS, INC.  
 SERIAL NUMBER 9988 SOLD TO AXIS ENVIRONMENTAL  
 RUN BEGAN ON 1/06/00 AT 11:38:14

RUN TITLE:  
 East Rail, hual roads within worksite + underpass(6/1/2000)

INPUT FILE NAME: SAMFDM3.DAT  
 OUTPUT FILE NAME: SAMFDM3.LST

CONVERGENCE OPTION 1=OFF, 2=CN 1  
 MET OPTION SWITCH, 1=CARDS, 2=PREPROCESSED 1  
 PLOT FILE OUTPUT, 1=NO, 2=YES 1  
 MET DATA PRINT SWITCH, 1=NO, 2=YES 1  
 POST-PROCESSOR OUTPUT, 1=NO, 2=YES 1  
 DEP. VEL./GRAV. SETT. VEL., 1=DEFAULT, 2=USER 1  
 PRINT 1-HOUR AVERAGE CONCEN, 1=NO, 2=YES 3  
 PRINT 3-HOUR AVERAGE CONCEN, 1=NO, 2=YES 1  
 PRINT 8-HOUR AVERAGE CONCEN, 1=NO, 2=YES 1  
 PRINT 24-HOUR AVERAGE CONCEN, 1=NO, 2=YES 3  
 PRINT LONG-TERM AVERAGE CONCEN, 1=NO, 2=YES 3  
 BYPASS RAMMET CALMS RECOGNITION, 1=NO, 2=YES 2  
 NUMBER OF SOURCES PROCESSED 11  
 NUMBER OF RECEPTORS PROCESSED 39  
 NUMBER OF PARTICLE SIZE CLASSES 5  
 NUMBER OF HOURS OF MET DATA PROCESSED 8760  
 LENGTH IN MINUTES OF 1-HOUR OF MET DATA 60.  
 ROUGHNESS LENGTH IN CM 100.00  
 SCALING FACTOR FOR SOURCE AND RECEPTORS 1.0000  
 PARTICLE DENSITY IN G/CM\*\*3 2.00  
 ANEMOMETER HEIGHT IN M 73.00

GENERAL PARTICLE SIZE CLASS INFORMATION

PARTICLE SIZE CLASS	CHAR. DIA. (UM)	GRAV. SETTLING VELOCITY (M/SEC)	DEPOSITION VELOCITY (M/SEC)	FRACTION IN EACH SIZE CLASS
1	2.5000000	**	**	.0950
2	5.0000000	**	**	.1050
3	10.0000000	**	**	.1600
4	15.0000000	**	**	.1400
5	30.0000000	**	**	.5000

\*\* COMPUTED BY FDM

RECEPTOR COORDINATES (X,Y,Z)

836291., 817545., 2.)	(836205., 817514., 2.)	(836174., 817515., 2.)
835979., 817272., 2.)	(836158., 817334., 2.)	(835970., 817432., 2.)
835913., 817384., 2.)	(835910., 817420., 2.)	(835849., 817418., 2.)
835861., 817331., 2.)	(836380., 817610., 2.)	(836455., 817690., 2.)
836535., 817765., 2.)	(836065., 817600., 2.)	(836055., 817595., 2.)
836355., 817575., 2.)	(836025., 817600., 2.)	(836000., 817590., 2.)
835955., 817590., 2.)	(836000., 817550., 2.)	(835900., 817575., 2.)
835920., 817550., 2.)	(835865., 817575., 2.)	(835865., 817550., 2.)
836705., 817882., 2.)	(836580., 817967., 2.)	(836608., 817899., 2.)
836565., 817887., 2.)	(836579., 817864., 2.)	(836466., 817819., 2.)
836421., 817762., 2.)	(836386., 817730., 2.)	(836320., 817687., 2.)
835560., 817385., 2.)	(836500., 817840., 2.)	(835775., 817415., 2.)
835785., 817390., 2.)	(836555., 817405., 2.)	(835660., 817385., 2.)

SOURCE INFORMATION

TYPE	ENTERED EMIS. RATE (G/SEC OR G/SEC/M**2)	TOTAL EMISSION RATE (G/SEC)	WIND SPEED FAC.	X1 (M)	Y1 (M)	X2 (M)	Y2 (M)	HEIGHT (M)	WIDTH (M)
2	.001008000	.13446	.000	835941.	817364.	836070.	817396.	.50	3.00
****SOURCE RE-SIZED, SIZE DISTRIBUTION BY CLASS IS:									
.0310	.0000	.1310	.1560	.6820					
2	.001008000	.14219	.000	836143.	817580.	836147.	817439.	.50	3.00
****SOURCE RE-SIZED, SIZE DISTRIBUTION BY CLASS IS:									
.0310	.0000	.1310	.1560	.6820					
2	.001008000	.08415	.000	836147.	817439.	836211.	817492.	.50	3.00
****SOURCE RE-SIZED, SIZE DISTRIBUTION BY CLASS IS:									
.0310	.0000	.1310	.1560	.6820					
3	.000000196	.00093	.000	835955.	817329.	130.	36.	.50	12.89
3	.000000196	.00099	.000	836086.	817369.	145.	35.	.50	21.86
3	.000000196	.00080	.000	836203.	817434.	124.	33.	.50	38.63
3	.000000196	.00074	.000	836301.	817516.	133.	28.	.50	41.98
3	.000000189	.00090	.000	835955.	817329.	130.	36.	.50	12.86
3	.000000189	.00096	.000	836086.	817369.	145.	35.	.50	21.83
3	.000000189	.00217	.000	836203.	817455.	157.	73.	.50	36.65
3	.000000189	.00071	.000	836301.	817516.	133.	28.	.50	41.98
TOTAL EMISSIONS .36899									

TOP 50 TABLE FOR 1 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	1	836205.0	817514.0	140	206.1418	4.0823
2	1	836205.0	817514.0	90	206.1107	4.0569
3	2	836205.0	817514.0	212	205.9205	4.1151
4	1	836205.0	817514.0	196	205.9038	4.1176
5	2	836205.0	817514.0	4645	205.6561	4.1545
6	2	836205.0	817514.0	2928	205.6324	4.1579
7	2	836205.0	817514.0	4350	205.6071	4.1618
8	1	836205.0	817514.0	4327	205.5555	4.1695
9	1	836205.0	817514.0	4605	205.5049	4.1770
10	2	836205.0	817514.0	147	203.7661	3.3477

11	2	836205.0	817514.0	141	203.7212	3.3534
12	2	836205.0	817514.0	739	203.6934	3.3570
13	2	836205.0	817514.0	5212	203.1355	3.4285
14	2	836205.0	817514.0	4349	202.9777	3.4488
15	2	836205.0	817514.0	4920	202.9687	3.4500
16	2	836205.0	817514.0	4901	202.9419	3.4535
17	2	836205.0	817514.0	2738	196.6349	6.0097
18	2	836205.0	817514.0	3383	196.4871	6.0411
19	2	836205.0	817514.0	5252	196.4793	6.0428
20	2	836205.0	817514.0	362	195.8061	5.4909
21	2	836205.0	817514.0	282	195.7477	5.5022
22	2	836205.0	817514.0	260	195.6484	5.5214
23	2	836205.0	817514.0	7195	195.3395	5.5816
24	2	836205.0	817514.0	5474	195.2593	5.5973
25	2	836205.0	817514.0	5475	195.2593	5.5973
26	2	836205.0	817514.0	4342	195.1315	5.6224
27	2	836205.0	817514.0	93	194.8701	4.4270
28	2	836205.0	817514.0	2229	194.7876	4.4408
29	2	836205.0	817514.0	214	194.6975	4.4558
30	2	836205.0	817514.0	3020	194.5209	4.4854
31	2	836205.0	817514.0	7531	194.4878	4.4909
32	2	836205.0	817514.0	2933	194.4731	4.4934
33	2	836205.0	817514.0	2927	194.4525	4.4969
34	2	836205.0	817514.0	3914	194.4437	4.4983
35	2	836205.0	817514.0	3845	194.4408	4.4988
36	2	836205.0	817514.0	5279	194.4321	4.5003
37	2	836205.0	817514.0	3477	194.4235	4.5017
38	2	836205.0	817514.0	3836	194.4006	4.5056
39	2	836205.0	817514.0	5398	194.3978	4.5060
40	2	836205.0	817514.0	3835	194.3837	4.5084
41	2	836205.0	817514.0	3499	194.3640	4.5117
42	2	836205.0	817514.0	166	184.5612	4.5496
43	2	836205.0	817514.0	619	184.5359	4.5541
44	2	836205.0	817514.0	7678	184.4619	4.5675
45	2	836205.0	817514.0	7484	184.3800	4.5822
46	2	836205.0	817514.0	2132	184.3749	4.5831
47	2	836205.0	817514.0	5420	184.3493	4.5877
48	2	836205.0	817514.0	2592	184.3443	4.5886
49	2	836205.0	817514.0	2763	184.3417	4.5890
50	2	836205.0	817514.0	2719	184.3392	4.5895

HIGHEST AND SECOND HIGHEST VALUES FOR 1 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	836291.4	817545.4	118.9004	8217.	1.3061	118.8774	887.	1.3379
2	836205.0	817514.0	206.1418	140.	4.0823	206.1107	90.	4.0869
3	836174.0	817514.9	178.8843	864.	3.2428	178.2442	5499.	3.3182
4	835979.0	817272.3	66.8507	677.	7.235	66.8474	678.	.7237
5	836158.1	817333.8	120.7937	654.	1.3403	120.7606	123.	1.3431
6	835969.6	817432.4	79.2106	763.	1.1090	79.2081	666.	1.1093
7	835912.5	817384.0	172.9639	168.	2.6618	172.8358	8063.	2.6772
8	835910.4	817419.9	78.4783	1536.	1.0063	78.4122	7895.	1.0132
9	835849.1	817417.8	62.2127	703.	.6894	61.9608	7616.	.7113
10	835860.9	817331.3	141.5765	294.	1.6034	141.4803	8732.	1.6115
11	836380.0	817610.0	51.7129	8217.	.5276	51.7004	887.	.5284
12	836455.0	817690.0	29.1640	864.	.2884	28.9199	5499.	.3029
13	836535.0	817765.0	21.7244	864.	.2112	21.5275	5499.	.2220
14	836065.0	817500.0	108.6244	703.	1.3327	108.2525	7616.	1.3703
15	836055.0	817595.0	81.8271	763.	.9271	81.8235	666.	.9274
16	836055.0	817575.0	86.9434	763.	.9843	86.9396	666.	.9846
17	836025.0	817605.0	66.2706	763.	.7149	66.2674	666.	.7151
18	836000.0	817590.0	56.8566	1536.	.6099	56.7897	7895.	.6151
19	835955.0	817590.0	44.5905	1536.	.4669	44.5332	7895.	.4710
20	836000.0	817550.0	58.7001	703.	.6272	58.4401	7616.	.6480
21	835900.0	817575.0	36.1272	703.	.3684	35.9355	7616.	.3813
22	835920.0	817550.0	38.0738	703.	.3908	37.8782	7616.	.4043
23	835865.0	817575.0	29.8233	703.	.3013	29.6583	7616.	.3119
24	835865.0	817550.0	29.9304	168.	.3096	29.8858	8063.	.3125
25	836706.0	817882.0	11.2175	864.	.1057	11.1040	5499.	.1113
26	836580.0	817967.0	14.0748	867.	.1334	14.0624	863.	.1340
27	836608.0	817899.0	15.5236	864.	.1490	15.3721	5499.	.1567
28	836561.0	817887.0	15.3356	864.	.1483	15.1893	5499.	.1559
29	836579.0	817864.0	17.8303	864.	.1721	17.6601	5499.	.1810
30	836466.0	817819.0	21.6627	867.	.2108	21.6455	863.	.2118
31	836421.0	817762.0	26.4633	867.	.2607	26.4434	863.	.2619
32	836386.0	817730.0	32.2549	867.	.3212	32.2316	863.	.3226
33	836320.0	817687.0	45.5638	867.	.4627	45.5333	863.	.4647
34	835560.0	817385.0	18.2975	7896.	.1829	18.2610	7677.	.1849
35	836500.0	817840.0	17.6313	864.	.1724	17.4698	5499.	.1811
36	835775.0	817415.0	43.3766	168.	.4589	43.3184	8063.	.4631
37	835785.0	817390.0	47.9921	7896.	.5088	47.9180	7677.	.5141
38	835655.0	817405.0	23.5510	7896.	.2391	23.5069	7677.	.2417
39	835660.0	817385.0	26.5966	7896.	.2714	26.5481	7677.	.2743

TOP 50 TABLE FOR 24 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	2	836205.0	817514.0	4920C	103.4419	2.8389
2	3	836174.0	817514.9	4920C	96.5808	2.4898
3	2	836205.0	817514.0	4368C	88.5001	2.5659
4	2	836205.0	817514.0	744C	83.2178	2.7636
5	3	836174.0	817514.9	888C	82.0887	2.3804
6	2	836205.0	817514.0	2928C	81.1834	2.9868
7	3	836174.0	817514.9	8232C	80.2259	2.3548
8	2	836205.0	817514.0	2136C	79.9819	3.1686
9	3	836174.0	817514.9	4368C	79.3498	2.4091
10	2	836205.0	817514.0	888C	78.7364	2.3438
11	2	836205.0	817514.0	2760C	78.2775	2.8634
12	3	836174.0	817514.9	4896C	77.9678	2.8481
13	3	836174.0	817514.9	4608C	76.4332	2.2215
14	2	836205.0	817514.0	3384C	74.7256	2.8880
15	3	836174.0	817514.9	4344C	74.1113	2.1180
16	3	836174.0	817514.9	3912C	73.6529	2.3138
17	2	836205.0	817514.0	3840C	73.4626	2.0024
18	2	836205.0	817514.0	1096C	73.1546	3.3981
19	3	836174.0	817514.9	744C	72.4582	2.3604
20	3	836174.0	817514.9	4632C	71.7908	2.3219
21	2	836205.0	817514.0	4896C	70.3922	2.6897

22	3	836174.0	817514.9	5496C	69.8342	1.9806
23	3	836174.0	817514.9	5472C	69.2152	2.9944
24	3	836174.0	817514.9	5256C	68.1238	2.1366
25	2	836205.0	817514.0	3960C	67.6460	2.9705
26	3	836174.0	817514.9	2736	66.9318	2.2360
27	2	836205.0	817514.0	168C	66.8811	2.2622
28	3	836174.0	817514.9	5304C	66.6384	2.0273
29	3	836174.0	817514.9	5208C	66.3364	2.3995
30	3	836174.0	817514.9	4656C	64.8209	2.2247
31	3	836174.0	817514.9	2136C	64.6687	2.3750
32	3	836174.0	817514.9	4944C	64.0132	1.6451
33	3	836174.0	817514.9	2760C	63.9371	2.0799
34	2	836205.0	817514.0	5400C	63.9297	3.2957
35	3	836174.0	817514.9	4248C	63.6328	2.3573
36	3	836174.0	817514.9	4728C	63.2819	1.8441
37	3	836174.0	817514.9	2592C	63.2199	2.3796
38	3	836174.0	817514.9	5326C	63.2054	2.4485
39	3	836174.0	817514.9	3384C	63.1896	2.2411
40	2	836205.0	817514.0	2736	62.5153	2.4256
41	2	836205.0	817514.0	216C	62.2515	2.0478
42	3	836174.0	817514.9	3960C	62.2509	2.6417
43	3	836174.0	817514.9	1296C	61.6765	2.7482
44	3	836174.0	817514.9	3840C	61.4480	2.4634
45	2	836205.0	817514.0	3864C	60.8350	2.7317
46	3	836174.0	817514.9	2928C	60.3270	2.1430
47	3	836174.0	817514.9	3192C	60.0333	2.4691
48	2	836205.0	817514.0	5256C	59.9968	2.0341
49	2	836205.0	817514.0	4632C	59.4123	2.1634
50	3	836174.0	817514.9	3120C	58.8253	1.8595

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HIGHEST AND SECOND HIGHEST VALUES FOR 24 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	836291.4	817545.4	15.1470	4896.C	.3844	13.0171	888.C	.2058
2	836205.0	817514.0	103.4419	4920.C	2.8389	88.5001	4368.C	2.5659
3	836174.0	817514.9	96.5808	4920.C	2.4898	82.0887	888.C	2.3804
4	835979.0	817272.3	36.1523	8616.C	.7111	33.5381	7008.C	.7093
5	836158.1	817333.8	29.6301	144.C	.3989	27.1954	1824.C	.6088
6	835969.6	817432.4	49.5997	3912.C	1.3704	47.7434	2736.C	1.4870
7	835912.5	817384.0	41.2595	6984.C	1.1503	39.9322	4416.C	1.7032
8	835910.4	817419.9	31.1176	5040.C	1.1086	27.4310	4656.C	.8998
9	835849.1	817417.8	13.2611	6984.C	.2806	11.3847	4416.C	.4406
10	835860.9	817331.3	17.5651	6432.C	.2216	15.3810	8736.C	.2729
11	836380.0	817610.0	6.5805	4896.C	.1523	5.3950	888.C	.0747
12	836455.0	817690.0	3.7930	4896.C	.0910	3.4730	888.C	.0484
13	836535.0	817765.0	2.4590	4896.C	.0589	2.4551	4920.C	.0288
14	836065.0	817500.0	33.4725	6984.C	.9284	29.9918	4416.C	1.2184
15	836055.0	817595.0	30.6790	5040.C	.9902	27.7354	4656.C	.8182
16	836055.0	817575.0	30.3781	5040.C	.9884	25.8329	4656.C	.7900
17	836025.0	817605.0	21.3114	5040.C	.6647	19.9915	5016.C	.6232
18	836000.0	817590.0	16.0196	5016.C	.4618	14.5400	8232.C	.2528
19	835955.0	817590.0	12.5664	4728.C	.2026	11.8992	4824.C	.3264
20	836000.0	817550.0	15.9214	4728.C	.2889	15.5649	4824.C	.4612
21	835900.0	817575.0	11.1496	4752.C	.2341	10.4003	4728.C	.1563
22	835920.0	817550.0	13.4987	4752.C	.2877	12.9749	3912.C	.2402
23	835865.0	817575.0	10.4390	4752.C	.2050	8.2361	4656.C	.2149
24	835865.0	817550.0	11.5131	4752.C	.2242	8.7989	4656.C	.2353
25	836706.0	817882.0	1.2021	4920.C	.0135	1.1973	888.C	.0158
26	836580.0	817967.0	1.8784	4920.C	.0228	1.8239	8896.C	.0406
27	836608.0	817899.0	2.0502	4920.C	.0237	1.9380	8896.C	.0430
28	836561.0	817887.0	2.3731	4920.C	.0281	2.2803	8896.C	.0506
29	836579.0	817864.0	2.3081	4920.C	.0268	2.1734	8896.C	.0488
30	836466.0	817819.0	3.5549	4920.C	.0442	3.3344	8896.C	.0769
31	836421.0	817762.0	4.7604	4920.C	.0602	4.4198	8896.C	.1043
32	836386.0	817730.0	6.0380	4920.C	.0781	5.4429	8896.C	.1319
33	836320.0	817687.0	10.2375	4920.C	.1415	8.1117	888.C	.1428
34	835560.0	817385.0	2.5420	7512.C	.0356	1.9110	6984.C	.0419
35	836500.0	817840.0	3.0586	4920.C	.0373	2.9127	4896.C	.0661
36	835775.0	817415.0	7.0447	6984.C	.1428	6.2250	7392.C	.1122
37	835785.0	817390.0	7.2518	7512.C	.1251	6.5291	6984.C	.1510
38	835655.0	817405.0	3.5080	7512.C	.0540	3.0477	6984.C	.0644
39	835660.0	817385.0	3.7411	7512.C	.0554	2.9479	6984.C	.0668

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TOP 50 TABLE FOR LONG TERM AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	3	836174.0	817514.9	8760C	32.6523	1.4194
2	2	836205.0	817514.0	8760C	24.6372	1.1246
3	6	835969.6	817432.4	8760C	19.4546	.8056
4	14	836065.0	817500.0	8760C	10.9806	.4343
5	4	835979.0	817272.3	8760C	9.4617	.3278
6	16	836055.0	817575.0	8760C	8.5356	.3301
7	8	835910.4	817419.9	8760C	8.4282	.3325
8	15	836055.0	817595.0	8760C	8.3913	.3224
9	7	835912.5	817384.0	8760C	8.2392	.3347
10	17	836025.0	817605.0	8760C	6.0153	.2277
11	20	836000.0	817550.0	8760C	5.9346	.2254
12	5	836158.1	817333.8	8760C	5.3736	.1900
13	18	836000.0	817590.0	8760C	5.1822	.1952
14	22	835920.0	817550.0	8760C	4.2953	.1565
15	19	835955.0	817590.0	8760C	4.1913	.1545
16	21	835900.0	817575.0	8760C	3.3681	.1212
17	24	835865.0	817550.0	8760C	2.7932	.1003
18	23	835865.0	817575.0	8760C	2.6251	.0936
19	10	835860.9	817331.3	8760C	2.5229	.0908
20	9	835849.1	817417.8	8760C	2.1954	.0790
21	1	836291.4	817545.4	8760C	1.5600	.0537
22	37	835785.0	817390.0	8760C	.9027	.0310
23	36	835775.0	817415.0	8760C	.8885	.0301
24	33	836320.0	817687.0	8760C	.8090	.0303
25	32	836386.0	817730.0	8760C	.4254	.0155
26	11	836380.0	817610.0	8760C	.3875	.0126
27	39	835660.0	817385.0	8760C	.3843	.0127
28	35	836500.0	817840.0	8760C	.3611	.0126
29	31	836421.0	817762.0	8760C	.3250	.0117
30	30	836466.0	817819.0	8760C	.2424	.0087
31	54	835560.0	817385.0	8760C	.2412	.0078
32	12	836455.0	817690.0	8760C	.2303	.0081

33	35	836500.0	817840.0	8760C	.1991	.0070
34	13	836535.0	817765.0	8760C	.1516	.0052
35	28	836561.0	817887.0	8760C	.1466	.0051
36	26	836580.0	817967.0	8760C	.1352	.0047
37	29	836579.0	817864.0	8760C	.1322	.0046
38	27	836608.0	817899.0	8760C	.1175	.0041
39	25	836706.0	817882.0	8760C	.0740	.0025
40	0	.0	.0	0	.0000	.0000
41	0	.0	.0	0	.0000	.0000
42	0	.0	.0	0	.0000	.0000
43	0	.0	.0	0	.0000	.0000
44	0	.0	.0	0	.0000	.0000
45	0	.0	.0	0	.0000	.0000
46	0	.0	.0	0	.0000	.0000
47	0	.0	.0	0	.0000	.0000
48	0	.0	.0	0	.0000	.0000
49	0	.0	.0	0	.0000	.0000
50	0	.0	.0	0	.0000	.0000

RUN ENDED ON 1/06/00 AT 12:19:33

## KCRC East Rail Extension - Hung Hom to Tsim Sha Tsui

### Paved Road Dust Emission Factor Calculation

(i) According to Section 13.2.1 of AP-42, the emission factor for paved haul road is

$$E = k(sL/2)^{0.65} (W/3)^{1.5} \text{ g/VKT}$$

where

E = particulate emission factor

k = 24 g/VKT (for PM - 30)

sL = road surface silt loading (g m<sup>-2</sup>)

W = average weight of vehicles travelling the road (tons)

(ii) The road surface silt loading (sL) at industrial facilities such as quarries, coal mines, copper smelting, landfills and asphalt batching are given in the AP-42 but it is not provided for construction sites.

(iii) Excavation, loading and unloading of spoils are conducted at construction sites and quarries, and the nature of these activities are similar. However, the scale of these activities is much smaller in a construction site. The sL for a quarry is estimated between 2.4 gm<sup>-2</sup> and 14 gm<sup>-2</sup> according to Section 13.2.1 of AP-42. Accordingly, the minimum sL value is assumed for the construction sites of the East Rail Extension.

(iv) Assuming the weight of vehicle = 30 tons,

$$\begin{aligned} E &= k (sL/2)^{0.65} (W/3)^{1.5} \text{ g/VKT} \\ &= 24 (2.4/2)^{0.65} (30/3)^{1.5} \text{ g/VKT} \\ &= 854 \text{ g veh}^{-1}\text{km}^{-1} \\ &= 0.854 \text{ g veh}^{-1}\text{m}^{-1} \end{aligned}$$

(v) With the application of water on the haul road, the dust emission could be reduced by 50 %, thus, the controlled dust emission rate becomes:

$$E = 0.427 \text{ g veh}^{-1} \text{ m}^{-1}$$

(vi) The maximum excavation rates of soil and rock are 500 m<sup>3</sup>/day and 350 m<sup>3</sup>/day respectively. Assuming the spoil is removed for 10 hours per day and the capacity of each truck is 10 m<sup>3</sup>, the number of trucks employed for spoil removal is 85 trucks per day, or 8.5 trucks per hour. Therefore, the corresponding emission rate for a paved haul road is:

$$E = 1.008 \times 10^{-3} \text{ g m}^{-1}\text{s}^{-1}$$

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FDM - (DATED 91109)

IBM-PC VERSION (1.01)  
(C) COPYRIGHT 1991, TRINITY CONSULTANTS, INC.  
SERIAL NUMBER 9988 SOLD TO AXIS ENVIRONMENTAL  
RUN BEGAN ON 1/21/00 AT 11:13:01

RUN TITLE:

KCRC East Rail - BLASTING (TSP)

INPUT FILE NAME: BLAST.DAT  
OUTPUT FILE NAME: BLAST.LST

CONVERGENCE OPTION 1=OFF, 2=ON 1  
MET OPTION SWITCH, 1=CARDS, 2=PREPROCESSED 1  
PLOT FILE OUTPUT, 1=NO, 2=YES 1  
MET DATA PRINT SWITCH, 1=NO, 2=YES 1  
POST-PROCESSOR OUTPUT, 1=NO, 2=YES 1  
DEP. VEL./GRAV. SETL. VEL., 1=DEFAULT, 2=USER 1  
PRINT 1-HOUR AVERAGE CONCEN, 1=NO, 2=YES 3  
PRINT 3-HOUR AVERAGE CONCEN, 1=NO, 2=YES 1  
PRINT 8-HOUR AVERAGE CONCEN, 1=NO, 2=YES 1  
PRINT 24-HOUR AVERAGE CONCEN, 1=NO, 2=YES 3  
PRINT LONG-TERM AVERAGE CONCEN, 1=NO, 2=YES 3  
BYPASS RAMMET CALMS RECOGNITION, 1=NO, 2=YES 2  
NUMBER OF SOURCES PROCESSED 1  
NUMBER OF RECEPTORS PROCESSED 12  
NUMBER OF PARTICLE SIZE CLASSES 6  
NUMBER OF HOURS OF MET DATA PROCESSED 1  
LENGTH IN MINUTES OF 1-HOUR OF MET DATA 60.  
ROUGHNESS LENGTH IN CM .00  
SCALING FACTOR FOR SOURCE AND RECEPTORS 1.0000  
PARTICLE DENSITY IN G/CM\*\*3 2.00  
ANEMOMETER HEIGHT IN M 10.00

GENERAL PARTICLE SIZE CLASS INFORMATION

PARTICLE SIZE CLASS	CHAR. DIA. (UM)	GRAV. SETTLING VELOCITY (M/SEC)	DEPOSITION VELOCITY (M/SEC)	FRACTION IN EACH SIZE CLASS
1	65.0000000	**	**	.2000
2	23.0000000	**	**	.3000
3	13.0000000	**	**	.1400
4	8.0000000	**	**	.1600
5	3.8000000	**	**	.1050
6	1.3000000	**	**	.0950

\*\* COMPUTED BY FDM

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RECEPTOR COORDINATES (X,Y,Z)

( 10., 3., 2.) ( 15., 3., 2.) ( 20., 3., 2.)  
( 25., 3., 2.) ( 30., 3., 2.) ( 35., 3., 2.)  
( 40., 3., 2.) ( 45., 3., 2.) ( 50., 3., 2.)  
( 55., 3., 2.) ( 105., 3., 2.) ( 205., 3., 2.)

1

SOURCE INFORMATION

TYPE	ENTERED EMIS. RATE (G/SEC/M OR G/SEC/M**2)	TOTAL EMISSION RATE (G/SEC)	WIND SPEED FAC.	X1 (M)	Y1 (M)	X2 (M)	Y2 (M)	HEIGHT (M)	WIDTH (M)
3	.000310000	.00775	.000	3.	3.	5.	5.	2.00	.00

TOTAL EMISSIONS .00775

1

TOP 50 TABLE FOR 1 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	10	55.0	2.5	1	235.6822	6.7637
2	10	55.0	2.5	1	235.6822	6.7637
3	9	50.0	2.5	1	228.4200	6.9439
4	9	50.0	2.5	1	228.4200	6.9439
5	8	45.0	2.5	1	195.1713	6.1533
6	8	45.0	2.5	1	195.1713	6.1533
7	11	105.0	2.5	1	149.1889	1.5162
8	11	105.0	2.5	1	149.1889	1.5162
9	7	40.0	2.5	1	129.7413	4.1720
10	7	40.0	2.5	1	129.7413	4.1720
11	12	205.0	2.5	1	57.5667	.1673
12	12	205.0	2.5	1	57.5667	.1673
13	6	35.0	2.5	1	53.4757	1.7349
14	6	35.0	2.5	1	53.4757	1.7349
15	5	30.0	2.5	1	51.9636	.1924
16	5	37.0	2.5	1	51.9636	.1924
17	4	25.0	2.5	1	.1690	.1188
18	4	25.0	2.5	1	.1690	.1188
19	3	20.0	2.5	1	.1000	.0000
20	3	20.0	2.5	1	.1000	.0000
21	0	.0	.0	0	.0000	.0000
22	0	.0	.0	0	.0000	.0000
23	0	.0	.0	0	.0000	.0000

24	0	.0	.0	0	.0000	.0000
25	0	.0	.0	0	.0000	.0000
26	0	.0	.0	0	.0000	.0000
27	0	.0	.0	0	.0000	.0000
28	0	.0	.0	0	.0000	.0000
29	0	.0	.0	0	.0000	.0000
30	0	.0	.0	0	.0000	.0000
31	0	.0	.0	0	.0000	.0000
32	0	.0	.0	0	.0000	.0000
33	0	.0	.0	0	.0000	.0000
34	0	.0	.0	0	.0000	.0000
35	0	.0	.0	0	.0000	.0000
36	0	.0	.0	0	.0000	.0000
37	0	.0	.0	0	.0000	.0000
38	0	.0	.0	0	.0000	.0000
39	0	.0	.0	0	.0000	.0000
40	0	.0	.0	0	.0000	.0000
41	0	.0	.0	0	.0000	.0000
42	0	.0	.0	0	.0000	.0000
43	0	.0	.0	0	.0000	.0000
44	0	.0	.0	0	.0000	.0000
45	0	.0	.0	0	.0000	.0000
46	0	.0	.0	0	.0000	.0000
47	0	.0	.0	0	.0000	.0000
48	0	.0	.0	0	.0000	.0000
49	0	.0	.0	0	.0000	.0000
50	0	.0	.0	0	.0000	.0000

1

HIGHEST AND SECOND HIGHEST VALUES FOR 1 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	10.0	2.5	.0000	0.	.0000	.0000	0.	.0000
2	15.0	2.5	.0000	0.	.0000	.0000	0.	.0000
3	20.0	2.5	.0002	1.	.0000	.0002	1.	.0000
4	25.0	2.5	.2692	1.	.0068	.2692	1.	.0068
5	30.0	2.5	8.9836	1.	.2924	8.9536	1.	.2924
6	35.0	2.5	53.4757	1.	1.7349	53.4757	1.	1.7349
7	40.0	2.5	129.7413	1.	4.1720	129.7413	1.	4.1720
8	45.0	2.5	195.1713	1.	6.1533	195.1713	1.	6.1533
9	50.0	2.5	228.4200	1.	6.9439	228.4200	1.	6.9439
10	55.0	2.5	235.6822	1.	6.7637	235.6822	1.	6.7637
11	105.0	2.5	149.1889	1.	1.5162	149.1889	1.	1.5162
12	205.0	2.5	57.5687	1.	.2873	57.5687	1.	.2873

1

TOP 50 TABLE FOR 24 HOUR AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	0	.0	.0	0	.0000	.0000
2	0	.0	.0	0	.0000	.0000
3	0	.0	.0	0	.0000	.0000
4	0	.0	.0	0	.0000	.0000
5	0	.0	.0	0	.0000	.0000
6	0	.0	.0	0	.0000	.0000
7	0	.0	.0	0	.0000	.0000
8	0	.0	.0	0	.0000	.0000
9	0	.0	.0	0	.0000	.0000
10	0	.0	.0	0	.0000	.0000
11	0	.0	.0	0	.0000	.0000
12	0	.0	.0	0	.0000	.0000
13	0	.0	.0	0	.0000	.0000
14	0	.0	.0	0	.0000	.0000
15	0	.0	.0	0	.0000	.0000
16	0	.0	.0	0	.0000	.0000
17	0	.0	.0	0	.0000	.0000
18	0	.0	.0	0	.0000	.0000
19	0	.0	.0	0	.0000	.0000
20	0	.0	.0	0	.0000	.0000
21	0	.0	.0	0	.0000	.0000
22	0	.0	.0	0	.0000	.0000
23	0	.0	.0	0	.0000	.0000
24	0	.0	.0	0	.0000	.0000
25	0	.0	.0	0	.0000	.0000
26	0	.0	.0	0	.0000	.0000
27	0	.0	.0	0	.0000	.0000
28	0	.0	.0	0	.0000	.0000
29	0	.0	.0	0	.0000	.0000
30	0	.0	.0	0	.0000	.0000
31	0	.0	.0	0	.0000	.0000
32	0	.0	.0	0	.0000	.0000
33	0	.0	.0	0	.0000	.0000
34	0	.0	.0	0	.0000	.0000
35	0	.0	.0	0	.0000	.0000
36	0	.0	.0	0	.0000	.0000
37	0	.0	.0	0	.0000	.0000
38	0	.0	.0	0	.0000	.0000
39	0	.0	.0	0	.0000	.0000
40	0	.0	.0	0	.0000	.0000
41	0	.0	.0	0	.0000	.0000
42	0	.0	.0	0	.0000	.0000
43	0	.0	.0	0	.0000	.0000
44	0	.0	.0	0	.0000	.0000
45	0	.0	.0	0	.0000	.0000
46	0	.0	.0	0	.0000	.0000
47	0	.0	.0	0	.0000	.0000
48	0	.0	.0	0	.0000	.0000
49	0	.0	.0	0	.0000	.0000
50	0	.0	.0	0	.0000	.0000

1



HIGHEST AND SECOND HIGHEST VALUES FOR 24 HOUR AVERAGES

RECEPTOR	X-COORDINATE	Y-COORDINATE	HIGHEST VALUE	ENDING HOUR	DEPOSITION	SECOND HIGH	ENDING HOUR	DEPOSITION
1	10.0	2.5	.0000	0.	.0000	.0000	0.	.0000
2	15.0	2.5	.0000	0.	.0000	.0000	0.	.0000
3	20.0	2.5	.0000	0.	.0000	.0000	0.	.0000
4	25.0	2.5	.0000	0.	.0000	.0000	0.	.0000
5	30.0	2.5	.0000	0.	.0000	.0000	0.	.0000
6	35.0	2.5	.0000	0.	.0000	.0000	0.	.0000
7	40.0	2.5	.0000	0.	.0000	.0000	0.	.0000
8	45.0	2.5	.0000	0.	.0000	.0000	0.	.0000
9	50.0	2.5	.0000	0.	.0000	.0000	0.	.0000
10	55.0	2.5	.0000	0.	.0000	.0000	0.	.0000
11	105.0	2.5	.0000	0.	.0000	.0000	0.	.0000
12	205.0	2.5	.0000	0.	.0000	.0000	0.	.0000

1

TOP 50 TABLE FOR LONG TERM AVERAGES

RANK	RECEPTOR	X-COORDINATE	Y-COORDINATE	ENDING HOUR	CONCENTRATION	DEPOSITION
1	0	.0	.0	0	.0000	.0000
2	0	.0	.0	0	.0000	.0000
3	0	.0	.0	0	.0000	.0000
4	0	.0	.0	0	.0000	.0000
5	0	.0	.0	0	.0000	.0000
6	0	.0	.0	0	.0000	.0000
7	0	.0	.0	0	.0000	.0000
8	0	.0	.0	0	.0000	.0000
9	0	.0	.0	0	.0000	.0000
10	0	.0	.0	0	.0000	.0000
11	0	.0	.0	0	.0000	.0000
12	0	.0	.0	0	.0000	.0000
13	0	.0	.0	0	.0000	.0000
14	0	.0	.0	0	.0000	.0000
15	0	.0	.0	0	.0000	.0000
16	0	.0	.0	0	.0000	.0000
17	0	.0	.0	0	.0000	.0000
18	0	.0	.0	0	.0000	.0000
19	0	.0	.0	0	.0000	.0000
20	0	.0	.0	0	.0000	.0000
21	0	.0	.0	0	.0000	.0000
22	0	.0	.0	0	.0000	.0000
23	0	.0	.0	0	.0000	.0000
24	0	.0	.0	0	.0000	.0000
25	0	.0	.0	0	.0000	.0000
26	0	.0	.0	0	.0000	.0000
27	0	.0	.0	0	.0000	.0000
28	0	.0	.0	0	.0000	.0000
29	0	.0	.0	0	.0000	.0000
30	0	.0	.0	0	.0000	.0000
31	0	.0	.0	0	.0000	.0000
32	0	.0	.0	0	.0000	.0000
33	0	.0	.0	0	.0000	.0000
34	0	.0	.0	0	.0000	.0000
35	0	.0	.0	0	.0000	.0000
36	0	.0	.0	0	.0000	.0000
37	0	.0	.0	0	.0000	.0000
38	0	.0	.0	0	.0000	.0000
39	0	.0	.0	0	.0000	.0000
40	0	.0	.0	0	.0000	.0000
41	0	.0	.0	0	.0000	.0000
42	0	.0	.0	0	.0000	.0000
43	0	.0	.0	0	.0000	.0000
44	0	.0	.0	0	.0000	.0000
45	0	.0	.0	0	.0000	.0000
46	0	.0	.0	0	.0000	.0000
47	0	.0	.0	0	.0000	.0000
48	0	.0	.0	0	.0000	.0000
49	0	.0	.0	0	.0000	.0000
50	0	.0	.0	0	.0000	.0000

RUN ENDED ON 1/21/00 AT 11:13:01