

Appendix H

Measurement Data for Individual Commutes

- Data for Sacramento Commutes 1 thru 13, and LA Commutes 14 thru 29

Commute Number I
 Location Sac
 Test Day Tu
 Test Date 9/9/1997
 AM / PM AM
 Scenario FNR
 AER Hi

H-1

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	1.1	6.6	4.5	5.4	3.4	1.1	1.4
1,3-Butadiene, µg/m3	< 0.6	2.2	1.3	1.8	1.0	< 0.6	< 0.6
TCFM, µg/m3	1.9	1.7	1.4	1.5	1.5	1.5	1.6
Acetonitrile, µg/m3	43.6	27.4	36.7	1.9	44.8	33.1	100.9
DCM, µg/m3	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
MTBE, µg/m3	2.9	9.3	7.5	10.8	9.7	3.0	3.9
ETBE, µg/m3	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Benzene, µg/m3	< 2.2	7.4	7.6	6.8	7.8	< 2.2	< 2.2
Toluene, µg/m3	7.6	9.3	15.7	12.1	20.1	4.5	9.3
Ethylbenzene, µg/m3	6.0	3.0	2.5	2.7	2.4	< 1.6	< 1.6
M,P-Xylene, µg/m3	< 2.4	12.7	11.0	11.2	10.5	< 2.4	3.5
O-Xylene, µg/m3	< 2.2	4.5	4.0	3.9	3.7	< 2.2	< 2.2
Formaldehyde, µg/m3	4.0	7.7	7.5	N/A	N/A	5.7	4.9
CO avg, ppm	< 2	< 2	4.2	NS	4.8	< 2	< 2
CO peak, ppm	< 2	7.0	15.0	NS	16.0	< 2	< 2
PM10 mass, µg/m3	28.5	30.6	< 19.74	N/A	N/A	28.5	57.7
PM2.5 mass, µg/m3	< 19.74	< 19.74	< 19.74	< 19.74	< 19.74	< 19.74	19.9
PM2.5 S, µg/m3	0.78	0.88	0.58	0.87	0.81	0.80	0.73
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	0.90	0.80	0.70	N/A	N/A	0.86	1.12
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	1164	N/A	2100	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	7.6	N/A	3.3	N/A	N/A	N/A
Vehicle Speed, mph	N/A	50.2	50.2	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	97.0	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.5	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	35.8%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	50.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	104.2	104.2	N/A	N/A	N/A	N/A
Wind speed, mph	5.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	79.7	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: All concentrations are in µg/m3 unless otherwise noted.
 N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 2
 Location Sac
 Test Day Tu
 Test Date 9/9/1997
 AM / PM PM
 Scenario FNR
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	1.2	5.3	5.5	5.9	5.9	1.3	2.1
1,3-Butadiene, µg/m3	< 0.6	1.6	1.5	0.8	1.5	< 0.6	< 0.6
TCFM, µg/m3	1.7	1.6	1.6	1.8	1.6	1.8	1.8
Acetonitrile, µg/m3	1.5	62.0	44.0	2.1	< 2.2	2.3	< 2.2
DCM, µg/m3	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2	< 2
MTBE, µg/m3	< 2	12.0	15.3	15.7	13.7	< 2	< 2
ETBE, µg/m3	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Benzene, µg/m3	< 2.2	5.7	6.9	6.3	6.6	< 2.2	< 2.2
Toluene, µg/m3	3.9	17.0	14.8	16.1	16.5	3.7	7.2
Ethylbenzene, µg/m3	< 1.6	2.8	2.4	2.4	2.5	< 1.6	< 1.6
m,p-Xylene, µg/m3	< 2.4	12.5	11.1	10.4	11.1	< 2.4	3.4
o-Xylene, µg/m3	< 2.2	4.4	3.8	3.7	3.8	< 2.2	< 2.2
Formaldehyde, µg/m3	NS	8.358	8.414	N/A	N/A	5.421	4.895
CO avg, ppm	< 2	< 2	2.8	2.2	3.0	< 2	< 2
CO peak, ppm	< 2	19.0	10.0	14.0	10.0	< 2	< 2
PM10 mass, µg/m3	30.3	28.7	< 19.74	N/A	N/A	23.7	27.6
PM2.5 mass, µg/m3	< 19.74	< 19.74	< 19.74	27.5	< 19.74	< 19.74	< 19.74
PM2.5 S, µg/m3	0.40	0.46	0.46	0.46	0.49	0.39	0.44
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	0.46	0.42	0.27	N/A	N/A	0.51	0.43
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	818	N/A	1614	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	9.0	N/A	4.7	N/A	N/A	N/A
Vehicle Speed, mph	N/A	47.0	47.0	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	83.7	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.6	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	82.5%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	94.0	94.0	N/A	N/A	N/A	N/A
Windspeed, mph	7.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	85.1	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	29.0	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: All concentrations are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 3
 Location Sac
 Test Day We
 Test Date 9/10/1997
 AM / PM AM
 Scenario FR
 AER Hi

H-3

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	1.3	6.8	8.7	7.0	8.5	1.7	2.6
1,3-Butadiene, µg/m3	< 0.6	2.2	2.5	1.4	2.0	< 0.6	< 0.6
TCFM, µg/m3	2.2	1.6	2.1	1.9	2.1	1.8	1.9
Acetonitrile, µg/m3	16.0	31.0	41.6	1.6	42.6	44.1	64.1
DCM, µg/m3	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2	< 2.2
MTBE, µg/m3	2.6	18.6	19.0	16.9	20.1	2.1	8.9
ETBE, µg/m3	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Benzene, µg/m3	< 2.2	7.4	11.7	8.1	10.5	< 2.2	2.4
Toluene, µg/m3	5.3	23.7	20.2	21.1	23.7	6.8	8.1
Ethylbenzene, µg/m3	< 1.6	3.7	3.8	3.3	3.7	< 1.6	< 1.6
M,P-Xylene, µg/m3	< 2.4	17.0	17.3	15.0	17.2	2.7	5.7
O-Xylene, µg/m3	< 2.2	5.9	6.0	5.1	6.0	< 2.2	2.2
Formaldehyde, µg/m3	3.14	11.805	9.304	N/A	N/A	3.798	3.989
CO avg, ppm	< 2	2.3	2.6	2.5	3.2	< 2	< 2
CO peak, ppm	< 2	12.0	8.0	14.0	10.0	< 2	< 2
PM10 mass, µg/m3	< 19.74	39.4	< 19.74	N/A	N/A	< 19.74	22.5
PM2.5 mass, µg/m3	< 19.74	< 19.74	< 19.74	< 19.74	< 19.74	< 19.74	< 19.74
PM2.5 S, µg/m3	0.22	0.34	0.16	0.41	0.26	0.21	0.35
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	0.29	0.35	0.19	N/A	N/A	0.31	0.39
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	542	N/A	1325	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	5.0	N/A	4.7	N/A	N/A	N/A
Vehicle Speed, mph	N/A	37.3	37.3	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	79.1	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.8	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	12.5%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	74.6	74.6	N/A	N/A	N/A	N/A
Windspeed, mph	5.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	70.7	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	90	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: All concentrations are in µg/m³ unless otherwise noted
 N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 4
 Location Sac
 Test Day We
 Test Date 9/10/1997
 AM / PM PM
 Scenario FR
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	1.8	10.7	14.2	9.2	12.9	1.6	2.1
1,3-Butadiene, µg/m3	<0.6	1.6	1.7	2.6	3.4	<0.6	<0.6
TCFM, µg/m3	2.1	2.2	2.4	1.9	2.6	1.9	2.2
Acetonitrile, µg/m3	4.7	17.6	85.0	<1.4	33.0	41.8	78.9
DCM, µg/m3	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2
MTBE, µg/m3	2.9	29.4	26.8	29.7	24.7	<2	3.9
ETBE, µg/m3	<2	<2	<2	<2	<2	<2	<2
Benzene, µg/m3	<2.2	10.8	15.6	10.5	13.9	<2.2	<2.2
Toluene, µg/m3	4.0	29.0	35.8	21.7	33.6	3.1	6.8
Ethylbenzene, µg/m3	<1.6	5.1	5.8	4.4	5.7	<1.6	<1.6
M,P-Xylene, µg/m3	<2.4	23.8	26.7	20.7	26.3	<2.4	4.4
O-Xylene, µg/m3	<2.2	8.3	9.0	7.3	9.0	<2.2	<2.2
Formaldehyde, µg/m3	NS	12.291	11.437	N/A	N/A	6.581	6.282
CO avg, ppm	<2	2.1	4.1	2.2	5.4	<2	<2
CO peak, ppm	<2	10.0	52.0	11.0	67.0	<2	2.0
PM10 mass, µg/m3	<19.74	25.8	<19.74	N/A	N/A	<19.74	<19.74
PM2.5 mass, µg/m3	<19.74	<19.74	<19.74	20.1	<19.74	<19.74	<19.74
PM2.5 S, µg/m3	0.16	0.14	0.09	0.21	0.30	0.25	0.16
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.21	0.21	0.16	N/A	N/A	0.24	0.27
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 um),	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	9.2	N/A	9.5	N/A	N/A	N/A
Vehicle Speed, mph	N/A	26.3	26.3	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	69.6	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	5.2	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	20.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	43.3%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	56.0	56.0	N/A	N/A	N/A	N/A
Windspeed, mph	6.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	76.1	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES: All concentrations are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 5
 Location Sac
 Test Day Th
 Test Date 9/11/1997
 AM / PM AM
 Scenario FR
 AER Low

H-5

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	2.9	10.1	9.2	9.0	8.3	3.2	2.8
1,3-Butadiene, µg/m3	<0.6	2.9	2.5	2.9	2.1	<0.6	<0.6
TCFM, µg/m3	2.3	2.7	2.5	2.5	2.9	2.6	2.6
Acetonitrile, µg/m3	152.5	279.2	136.7	<1.4	92.4	27.9	92.7
DCM, µg/m3	3.1	<2.2	<2.2	<2.2	3.6	2.6	<2.2
MTBE, µg/m3	5.3	16.3	10.9	16.6	18.5	7.6	5.4
ETBE, µg/m3	<2	<2	<2	<2	<2	<2	<2
Benzene, µg/m3	2.8	9.1	12.4	10.9	15.6	3.1	<2.2
Toluene, µg/m3	6.0	36.8	22.2	20.6	22.4	7.3	7.2
Ethylbenzene, µg/m3	<1.6	5.9	4.3	4.1	4.0	<1.6	<1.6
M,P-Xylene, µg/m3	4.5	28.1	16.9	15.6	15.5	4.9	5.6
O-Xylene, µg/m3	2.5	9.8	6.0	5.7	5.4	2.6	2.8
Formaldehyde, µg/m3	3.206	11.983	11.435	N/A	N/A	3.844	2.995
CO avg, ppm	<2	<2	2.6	<2	4.5	<2	<2
CO peak, ppm	<2	3.0	7.0	7.0	12.0	2.0	4.0
PM10 mass, µg/m3	39.1	36.0	<19.74	N/A	N/A	42.5	40.5
PM2.5 mass, µg/m3	<19.74	21.8	<19.74	35.9	26.1	<19.74	<19.74
PM2.5 S, µg/m3	0.84	0.83	0.68	0.91	0.73	0.81	0.80
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.93	0.88	0.59	N/A	N/A	1.01	1.04
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 um),	N/A	976	N/A	2559	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	9.5	N/A	13.5	N/A	N/A	N/A
Vehicle Speed, mph	N/A	44.3	44.3	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	56.2	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.9	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	90.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	88.5	88.5	N/A	N/A	N/A	N/A
Windspeed, mph	1.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	67.1	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	83.0	N/A	N/A	N/A	N/A	N/A	N/A

NOTES: All concentrations are in µg/m3 unless otherwise noted.
 N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 6
 Location Sac
 Test Day Th
 Test Date 9/11/1997
 AM / PM PM
 Scenario FR
 AER Low

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	1.7	14.1	17.7	15.8	9.0	6.2	5.3
1,3-Butadiene, µg/m3	<0.6	4.1	4.4	4.4	1.7	1.1	<0.6
TCFM, µg/m3	2.1	3.0	5.0	2.9	3.3	2.2	2.6
Acetonitrile, µg/m3	8.0	138.8	626.6	4.7	263.3	3.7	37.3
DCM, µg/m3	<2.2	<2.2	3.4	<2.2	<2.2	2.3	4.4
MTBE, µg/m3	<2	27.7	26.7	21.6	11.1	11.8	10.9
ETBE, µg/m3	<2	<2	<2	<2	<2	<2	<2
Benzene, µg/m3	<2.2	13.9	15.9	15.3	9.4	5.3	4.2
Toluene, µg/m3	3.2	38.4	32.0	33.2	21.3	10.6	8.8
Ethylbenzene, µg/m3	<1.6	7.1	6.0	6.4	4.3	2.2	1.7
M,P-Xylene, µg/m3	<2.4	30.1	23.2	26.1	16.2	8.0	6.3
O-Xylene, µg/m3	<2.2	9.5	7.7	8.6	5.9	3.6	2.9
Formaldehyde, µg/m3	5.707	11.328	17.415	N/A	N/A	8.268	7.254
CO avg, ppm	<2	<2	3.2	2.1	3.8	<2	<2
CO peak, ppm	<2	17.0	22.0	14.0	14.0	4.0	3.0
PM10 mass, µg/m3	22.9	19.9	<19.74	N/A	N/A	31.4	36.8
PM2.5 mass, µg/m3	<19.74	<19.74	<19.74	<19.74	<19.74	<19.74	<19.74
PM2.5 S, µg/m3	0.37	0.37	0.24	0.32	0.37	0.45	0.42
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.51	0.44	0.25	N/A	N/A	0.44	0.55
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	3.3	N/A	4.0	N/A	N/A	N/A
Vehicle Speed, mph	N/A	25.4	25.4	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	70.8	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	4.5	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	7.5%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	26.7%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	53.9	53.9	N/A	N/A	N/A	N/A
Windspeed, mph	2.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	81.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative humidity, %	40	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:
 All contaminants are reported in µg/m3 unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 7
 Location Sac
 Test Day Fr
 Test Date 9/12/1997
 AM / PM AM
 Scenario AR
 AER Hi

H-7

Measure	AMB	INI	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	3.7	14.1	10.5	9.5	10.3	6.1	6.5
1,3-Butadiene, µg/m3	< 0.6	3.5	1.9	2.1	2.2	1.1	1.1
TCFM, µg/m3	2.4	5.3	3.0	3.6	3.7	2.1	2.4
Acetonitrile, µg/m3	23.0	167.0	52.7	2.3	39.4	9.7	109.1
DCM, µg/m3	3.3	3.7	< 2.2	2.3	2.4	2.7	3.0
MTBE, µg/m3	8.5	30.6	22.8	20.9	22.5	13.4	14.1
ETBE, µg/m3	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Benzene, µg/m3	2.7	15.2	11.7	9.3	11.4	4.7	5.9
Toluene, µg/m3	8.8	26.3	26.6	21.9	26.9	14.8	14.7
Ethylbenzene, µg/m3	1.7	6.4	6.2	5.6	6.2	3.1	3.3
M,P-Xylene, µg/m3	5.2	27.4	21.1	19.3	21.6	10.4	10.9
O-Xylene, µg/m3	< 2.2	9.0	7.7	7.1	8.1	3.7	3.8
Formaldehyde, µg/m3	3.181	10.231	8.767	N/A	N/A	5.225	5.435
CO avg, ppm	< 2	2.5	2.1	3.1	2.5	< 2	< 2
CO peak, ppm	< 2	16.0	12.0	30.0	14.0	2.0	3.0
PM10 mass, µg/m3	25.2	< 19.74	< 19.74	N/A	N/A	38.8	43.0
PM2.5 mass, µg/m3	< 19.74	< 19.74	< 19.74	22.1	< 19.74	< 19.74	< 19.74
PM2.5 S, µg/m3	0.66	0.61	0.39	0.69	0.58	0.12	0.68
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	0.87	0.74	0.55	N/A	N/A	0.84	0.71
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	3.3	N/A	3.0	N/A	N/A	N/A
Vehicle Speed, mph	N/A	23.5	23.5	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	62.8	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	1.0	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	49.3	49.3	N/A	N/A	N/A	N/A
Windspeed, mph	4.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	69.8	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	66	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

All contaminants are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 8
 Location Sac
 Test Day Fr
 Test Date 9/12/1997
 AM / PM PM
 Scenario AR
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	2.0	10.5	10.0	10.6	8.7	3.3	4.5
1,3-Butadiene, µg/m3	<0.6	2.4	1.6	2.2	1.9	0.7	1.1
TCFM, µg/m3	6.8	2.9	3.0	3.0	9.8	6.3	6.7
Acetonitrile, µg/m3	18.6	53.2	52.0	2.0	27.1	11.2	27.5
DCM, µg/m3	5.9	<2.2	<2.2	<2.2	5.3	5.3	5.5
MTBE, µg/m3	4.1	28.6	24.3	25.8	20.0	8.8	8.5
ETBE, µg/m3	<2	<2	<2	<2	2.4	<2	<2
Benzene, µg/m3	2.8	10.2	13.9	9.4	12.8	4.2	5.2
Toluene, µg/m3	5.6	28.1	27.7	24.2	23.0	9.4	10.5
Ethylbenzene, µg/m3	1.7	6.5	6.2	5.7	6.2	2.5	2.9
M,P-Xylene, µg/m3	3.5	22.9	22.1	19.9	18.8	6.5	7.6
O-Xylene, µg/m3	2.2	8.3	7.8	7.3	8.3	3.2	3.8
Formaldehyde, µg/m3	6.48	10.948	9.065	N/A	N/A	7.197	7.369
CO avg, ppm	<2	2.0	5.1	NS	6.0	<2	<2
CO peak, ppm	<2	10.0	14.0	NS	13.0	8.0	5.0
PM10 mass, µg/m3	23.1	<19.74	<19.74	N/A	N/A	22.6	<19.74
PM2.5 mass, µg/m3	<19.74	<19.74	<19.74	<19.74	<19.74	<19.74	<19.74
PM2.5 S, µg/m3	0.57	0.52	0.30	0.62	0.26	0.44	0.44
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.44	0.53	0.30	N/A	N/A	0.45	0.56
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	<0.6	N/A	3.1	N/A	N/A	N/A
Vehicle Speed, mph	N/A	24.6	24.6	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	91.8	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.8	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	49.2	49.2	N/A	N/A	N/A	N/A
Windspeed, mph	5.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	81.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	90	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

All contaminants in µg/m3 unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 9
 Location Sac
 Test Day Sa
 Test Date 9/13/1997
 AM / PM midday
 Scenario R
 AER Hi

H-9

Measure	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	3.6	1.1	1.7	1.3	0.9	0.7
1,3-Butadiene, µg/m3	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
TCFM, µg/m3	2.2	2.2	1.9	2.2	2.8	3.2
Acetonitrile, µg/m3	29.8	39.9	3.0	12.4	2.2	3.4
DCM, µg/m3	<2.2	2.6	<2.2	<2.2	2.4	2.8
MTBE, µg/m3	2.6	<2	2.2	<2	<2	<2
ETBE, µg/m3	<2	<2	<2	<2	<2	<2
Benzene, µg/m3	3.1	<2.2	<2.2	<2.2	<2.2	<2.2
Toluene, µg/m3	7.4	3.2	4.1	3.0	<2.2	2.2
Ethylbenzene, µg/m3	1.6	<1.6	<1.6	<1.6	<1.6	<1.6
M,P-Xylene, µg/m3	5.3	<2.4	2.6	<2.4	<2.4	<2.4
O-Xylene, µg/m3	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2
Formaldehyde, µg/m3	4.902	5.772	N/A	N/A	4.997	4.282
CO avg, ppm	<2	<2	<2	<2	<2	<2
CO peak, ppm	22.0	6.0	8.0	11.0	<2	<2
PM10 mass, µg/m3	26.2	<19.74	N/A	N/A	84.6	29.8
PM2.5 mass, µg/m3	<19.74	<19.74	<19.74	<19.74	<19.74	<19.74
PM2.5 S, µg/m3	0.23	0.10	0.23	0.29	0.29	0.19
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.29	0.24	N/A	N/A	0.30	0.39
PM10 Cr, µg/m3	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 um),	10	N/A	32	N/A	N/A	N/A
Black Carbon, µg/m3	<0.6	N/A	1.4	N/A	N/A	N/A
Vehicle Speed, mph	53.2	53.2	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	122.1	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	1.0	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	152.0	152.0	N/A	N/A	N/A	N/A
Windspeed, mph	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	29.0	N/A	N/A	N/A	N/A	N/A

NOTES:

All contaminant concentrations otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 10
 Location Sac
 Test Day Mo
 Test Date 9/15/1997
 AM / PM AM
 Scenario AR
 AER Low

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	3.6	11.0	8.4	10.2	9.1
1,3-Butadiene, µg/m3	0.9	2.8	1.7	2.8	2.4
TCFM, µg/m3	3.8	24.6	3.1	2.7	2.9
Acetonitrile, µg/m3	62.2	344.6	120.4	1.8	66.1
DCM, µg/m3	<2.2	<2.2	<2.2	<2.2	<2.2
MTBE, µg/m3	11.7	36.3	22.0	33.4	22.0
ETBE, µg/m3	<2	<2	<2	<2	<2
Benzene, µg/m3	4.2	12.1	10.0	11.2	9.9
Toluene, µg/m3	11.5	41.2	23.6	30.1	23.1
Ethylbenzene, µg/m3	2.9	9.7	5.7	8.0	5.8
M,P-Xylene, µg/m3	8.3	35.4	19.4	28.6	20.0
O-Xylene, µg/m3	3.4	12.4	7.1	10.4	7.2
Formaldehyde, µg/m3	3.263	13.945	11.105	N/A	N/A
CO avg, ppm	<2	2.1	2.2	2.5	3.8
CO peak, ppm	3.0	8.0	8.0	18.0	11.0
PM10 mass, µg/m3	22.5	20.7	<19.74	N/A	N/A
PM2.5 mass, µg/m3	<19.74	<19.74	<19.74	20.2	25.9
PM2.5 S, µg/m3	0.16	0.12	<0.08	0.12	<0.08
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	0.10	<0.06
PM10 S, µg/m3	0.22	0.12	0.14	N/A	N/A
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A
PM10 Pb, µg/m3	<0.06	0.08	<0.06	N/A	N/A
Total Count (0.15-2.5 µm),	N/A	33	N/A	139	N/A
Black Carbon, µg/m3	N/A	1.4	N/A	4.2	N/A
Vehicle Speed, mph	N/A	25.3	25.3	N/A	N/A
Vehicle Spacing, feet	N/A	53.1	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	1.9	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	52.1	52.1	N/A	N/A
Windspeed, mph	5.0	N/A	N/A	N/A	N/A
Temperature, deg. F	68.9	N/A	N/A	N/A	N/A
Relative Humidity, %	85.0	N/A	N/A	N/A	N/A

NOTES:
 All contaminants in table that are not noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 11
 Location Sac
 Test Day Mo
 Test Date 9/15/1997
 AM / PM PM
 Scenario AR
 AER Low

H-11

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	1.6	10.9	9.1	11.1	8.8
1,3-Butadiene, µg/m3	< 0.6	2.6	1.6	2.6	1.7
TCFM, µg/m3	3.8	2.8	2.8	3.0	2.2
Acetonitrile, µg/m3	43.0	131.6	455.9	1.9	244.6
DCM, µg/m3	5.3	< 2.2	< 2.2	< 2.2	< 2.2
MTBE, µg/m3	2.6	25.9	18.9	25.9	18.2
ETBE, µg/m3	< 2	< 2	< 2	< 2	< 2
Benzene, µg/m3	< 2.2	11.1	9.4	10.0	9.2
Toluene, µg/m3	7.0	45.9	19.8	25.7	20.2
Ethylbenzene, µg/m3	< 1.6	10.1	4.8	6.5	4.8
M,P-Xylene, µg/m3	2.9	38.2	16.7	23.0	16.6
O-Xylene, µg/m3	< 2.2	13.0	5.9	8.3	5.9
Formaldehyde, µg/m3	3.369	12.483	18.481	N/A	N/A
CO avg, ppm	< 2	2.6	2.7	2.7	4.0
CO peak, ppm	< 2	9.0	4.0	23.0	16.0
PM10 mass, µg/m3	< 19.74	< 19.74	< 19.74	N/A	N/A
PM2.5 mass, µg/m3	< 19.74	< 19.74	< 19.74	< 19.74	< 19.74
PM2.5 S, µg/m3	0.19	0.09	0.08	0.15	0.17
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	0.22	0.09	0.13	N/A	N/A
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A
PM10 Mn, µg/m3	< 0.07	0.07	< 0.07	N/A	N/A
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A
Total Count (0.15-2.5 µm),	N/A	N/A	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	< 0.6	N/A	2.1	N/A
Vehicle Speed, mph	N/A	22.9	22.9	N/A	N/A
Vehicle Spacing, feet	N/A	90.3	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.3	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	14.2%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	45.8	45.8	N/A	N/A
Windspeed, mph	4.5	N/A	N/A	N/A	N/A
Temperature, deg. F	68.0	N/A	N/A	N/A	N/A
Relative Humidity, %	43.0	N/A	N/A	N/A	N/A

NOTES:

All contaminants in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 12
 Location Sac
 Test Day Tu
 Test Date 9/16/1997
 AM / PM AM
 Scenario SB
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	1.3	3.3	3.1	2.7	3.2
1,3-Butadiene, µg/m3	<0.6	0.7	0.8	<0.6	0.9
TCFM, µg/m3	2.6	1.9	1.9	2.0	2.3
Acetonitrile, µg/m3	68.7	38.1	25.1	3.0	29.2
DCM, µg/m3	2.6	<2.2	<2.2	<2.2	2.9
MTBE, µg/m3	2.8	8.7	7.4	7.6	7.0
ETBE, µg/m3	<2	<2	<2	<2	<2
Benzene, µg/m3	<2.2	3.7	3.6	3.2	3.4
Toluene, µg/m3	4.0	13.3	8.1	9.6	8.4
Ethylbenzene, µg/m3	<1.6	2.8	1.9	2.1	1.8
M,P-Xylene, µg/m3	2.4	9.9	6.1	7.0	5.9
O-Xylene, µg/m3	<2.2	3.7	2.4	2.6	2.3
Formaldehyde, µg/m3	<3.1	4.598	10.869	N/A	N/A
CO avg, ppm	<2	<2	<2	<2	<2
CO peak, ppm	<2	2.0	3.0	3.0	4.0
PM10 mass, µg/m3	30.1	20.4	43.4	N/A	N/A
PM2.5 mass, µg/m3	<19.74	<19.74	22.8	<19.74	<19.74
PM2.5 S, µg/m3	0.28	0.24	0.21	0.09	0.26
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.28	0.33	0.28	N/A	N/A
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A
Total Count (0.15-2.5 µm),	N/A	18	N/A	63	N/A
Black Carbon, µg/m3	N/A	0.9	N/A	4.8	N/A
Vehicle Speed, mph	N/A	14.6	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	129.1	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	1.0	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	0.0	N/A	N/A	N/A
Windspeed, mph	2.5	N/A	N/A	N/A	N/A
Temperature, deg. F	67.1	N/A	N/A	N/A	N/A
Relative Humidity, %	94.0	N/A	N/A	N/A	N/A

NOTES:
 All contaminants in significant amounts are noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 13
 Location Sac
 Test Day Tu
 Test Date 9/16/1997
 AM / PM PM
 Scenario SB
 AER Hi

H-13

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	1.0	3.1	1.4	2.9	1.1
1,3-Butadiene, µg/m3	< 0.6	0.6	< 0.6	0.6	< 0.6
TCFM, µg/m3	1.5	1.3	1.3	1.5	1.0
Acetonitrile, µg/m3	64.7	30.2	10.0	2.2	28.8
DCM, µg/m3	7.6	< 2.2	< 2.2	< 2.2	< 2.2
MTBE, µg/m3	< 2	6.0	3.1	4.8	2.3
ETBE, µg/m3	< 2	< 2	< 2	< 2	< 2
Benzene, µg/m3	< 2.2	3.2	< 2.2	2.4	< 2.2
Toluene, µg/m3	3.3	11.0	3.8	6.5	3.7
Ethylbenzene, µg/m3	< 1.6	2.3	< 1.6	< 1.6	< 1.6
M,P-Xylene, µg/m3	< 2.4	7.8	2.4	4.5	< 2.4
O-Xylene, µg/m3	< 2.2	2.8	< 2.2	< 2.2	< 2.2
Formaldehyde, µg/m3	3.214	9.477	6.416	N/A	N/A
CO avg, ppm	< 2	< 2	NS	< 2	< 2
CO peak, ppm	< 2	3.0	NS	2.0	< 2
PM10 mass, µg/m3	28.9	31.9	20.7	N/A	N/A
PM2.5 mass, µg/m3	< 19.74	22.0	< 19.74	< 19.74	< 19.74
PM2.5 S, µg/m3	0.19	0.24	0.22	0.21	0.11
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	0.23	0.24	0.16	N/A	N/A
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A
Total Count (0.15-2.5 um),	N/A	29	N/A	129	N/A
Black Carbon, µg/m3	N/A	8.9	N/A	9.2	N/A
Vehicle Speed, mph	N/A	13.1	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	78.1	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	1.7	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	0.0	N/A	N/A	N/A
Windspeed, mph	3.0	N/A	N/A	N/A	N/A
Temperature, deg. F	75.2	N/A	N/A	N/A	N/A
Relative Humidity, %	36.0	N/A	N/A	N/A	N/A

NOTES:

All contaminants in this table unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 14
 Location LA
 Test Day Th
 Test Date 9/25/1997
 AM / PM AM
 Scenario FNR
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	4.0	15.3	13.4	15.1	13.5
1,3-Butadiene, µg/m3	0.7	4.1	3.4	4.0	3.5
TCFM, µg/m3	1.3	1.7	1.7	1.7	1.7
Acetonitrile, µg/m3	17.5	43.9	64.1	4.6	57.0
DCM, µg/m3	31.5	5.1	4.8	4.9	5.0
MTBE, µg/m3	9.9	32.1	28.1	31.1	28.9
ETBE, µg/m3	<1	<1	<1	<1	<1
Benzene, µg/m3	3.3	13.8	12.2	13.4	12.0
Toluene, µg/m3	67.9	42.3	37.5	43.2	41.5
Ethylbenzene, µg/m3	2.1	7.2	6.3	7.1	6.3
M,P-Xylene, µg/m3	6.7	27.7	23.4	26.7	23.8
O-Xylene, µg/m3	2.7	9.7	8.2	9.3	8.4
Formaldehyde, µg/m3	18.57	14.421	10.358	N/A	N/A
CO avg, ppm	<2	4.1	3.9	4.8	4.0
CO peak, ppm	3.0	39.0	20.0	72.0	23.0
PM10 mass, µg/m3	36.9	61.0	58.6	N/A	N/A
PM2.5 mass, µg/m3	20.6	59.0	42.8	67.5	49.3
PM2.5 S, µg/m3	0.58	0.74	0.80	0.71	0.82
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	0.73	0.72	0.76	N/A	N/A
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A
Total Count (0.15-2.5 µm),	N/A	4341	N/A	9227	N/A
Black Carbon, µg/m3	N/A	14.7	N/A	26.2	N/A
Vehicle Speed, mph	N/A	37.0	37.0	N/A	N/A
Vehicle Spacing, feet	N/A	18.9	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	4.3	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	90.8%	N/A	N/A	N/A
Total Mileage	N/A	74.1	74.0	N/A	N/A
Windspeed, mph	4.0	N/A	N/A	N/A	N/A
Temperature, deg. F	74.5	N/A	N/A	N/A	N/A
Relative Humidity, %	54.5	N/A	N/A	N/A	N/A

NOTES:

All contaminants in red are not otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 15
 Location LA
 Test Day Fr
 Test Date 9/26/1997
 AM / PM AM
 Scenario FR
 AER Hi

H-15

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	2.0	11.6	15.1	16.1	14.3	16.6	7.4
1,3-Butadiene, µg/m3	0.3	2.9	3.6	4.3	3.5	3.7	1.5
TCFM, µg/m3	1.3	0.9	1.7	2.2	1.7	2.0	1.9
Acetonitrile, µg/m3	19.3	43.3	52.1	4.5	45.9	6.3	8.3
DCM, µg/m3	1.3	1.4	4.6	5.4	4.7	2.1	2.2
MTBE, µg/m3	5.4	19.7	29.0	30.6	26.3	32.9	17.7
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	1.8	9.8	14.3	14.1	12.9	14.5	6.8
Toluene, µg/m3	25.0	22.6	29.1	31.2	27.4	70.5	58.5
Ethylbenzene, µg/m3	1.1	4.7	5.9	6.3	5.2	6.6	3.1
M,P-Xylene, µg/m3	3.6	17.3	22.8	24.4	20.2	23.5	10.3
O-Xylene, µg/m3	1.4	6.1	8.2	8.6	7.3	8.6	3.8
Formaldehyde, µg/m3	<3.1	17	20.722	N/A	N/A	9.122	NS
CO avg, ppm	< 2	6.0	4.4	5.4	5.0	4.4	< 2
CO peak, ppm	< 2	67.0	12.0	41.0	13.0	11.0	3.0
PM10 mass, µg/m3	49.3	64.8	45.2	N/A	N/A	55.8	67.6
PM2.5 mass, µg/m3	24.8	47.8	38.9	60.8	47.9	42.9	35.3
PM2.5 S, µg/m3	1.56	1.40	1.44	1.45	1.41	1.50	1.64
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	1.64	1.44	1.32	N/A	N/A	1.53	1.79
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	3606	N/A	6784	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	13.4	N/A	20.1	N/A	N/A	N/A
Vehicle Speed, mph	N/A	48.0	47.5	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	5.2	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.7	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	84.2%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	93.4	95.0	N/A	N/A	N/A	N/A
Windspeed, mph	2.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	71.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES

All concentrations are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 16
 Location LA
 Test Day Fr
 Test Date 9/26/1997
 AM / PM PM
 Scenario FR
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	2.6	13.4	16.7	14.4	15.4	12.1	6.0
1,3-Butadiene, µg/m3	0.4	2.8	3.5	3.1	3.2	2.8	1.2
TCFM, µg/m3	1.6	1.5	1.7	1.6	1.7	1.8	1.7
Acetonitrile, µg/m3	27.6	42.1	39.3	2.8	29.1	4.6	111.7
DCM, µg/m3	1.2	1.2	1.5	1.3	1.5	1.9	1.4
MTBE, µg/m3	7.3	30.0	33.5	32.3	31.3	25.1	15.3
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	2.5	12.4	15.6	12.5	14.5	11.1	5.4
Toluene, µg/m3	18.0	29.5	32.4	28.4	30.7	46.7	35.5
Ethylbenzene, µg/m3	1.5	6.3	6.7	6.0	6.2	5.2	2.7
M,P-Xylene, µg/m3	4.6	23.5	25.2	22.5	23.4	17.7	9.0
O-Xylene, µg/m3	1.9	8.6	8.9	8.1	8.2	6.6	3.4
Formaldehyde, µg/m3	6.916	16.872	16.292	N/A	N/A	15.409	9.356
CO avg, ppm	<2	4.3	5.1	4.3	3.9	3.3	<2
CO peak, ppm	<2	49.0	22.0	33.0	20.0	5.0	5.0
PM10 mass, µg/m3	51.8	46.0	44.1	N/A	N/A	60.6	43.9
PM2.5 mass, µg/m3	20.8	38.0	28.1	37.9	32.9	37.2	37.6
PM2.5 S, µg/m3	1.33	1.54	1.49	1.35	1.47	1.85	1.32
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	1.46	1.53	1.35	N/A	N/A	1.97	1.38
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	2430	N/A	5202	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	7.9	N/A	14.5	N/A	N/A	N/A
Vehicle Speed, mph	N/A	37.4	38.0	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	66.4	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.3	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	20.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	70.8%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	74.8	76.0	N/A	N/A	N/A	N/A
Windspeed, mph	8.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	74.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: All concentrations are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 17
 Location LA
 Test Day Sa
 Test Date 9/27/1997
 AM / PM PM
 Scenario ANR
 AER Hi

H-17

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	4.2	19.5	17.1	18.9	13.1
1,3-Butadiene, µg/m3	<0.3	3.4	2.3	3.2	1.7
TCFM, µg/m3	2.0	1.8	2.1	1.7	1.6
Acetonitrile, µg/m3	8.7	100.1	50.7	3.6	40.9
DCM, µg/m3	2.9	2.1	2.5	1.9	2.1
MTBE, µg/m3	17.6	41.8	33.5	38.9	28.2
ETBE, µg/m3	<1	<1	<1	<1	<1
Benzene, µg/m3	4.8	14.3	13.0	13.2	10.5
Toluene, µg/m3	19.3	35.0	27.5	31.5	23.2
Ethylbenzene, µg/m3	2.4	7.6	5.5	6.8	4.7
M,P-Xylene, µg/m3	5.4	27.5	20.1	24.4	16.8
O-Xylene, µg/m3	2.5	9.8	7.4	8.9	6.2
Formaldehyde, µg/m3	15.415	17.3	7.244	N/A	N/A
CO avg, ppm	<2	3.1	4.1	2.9	4.8
CO peak, ppm	<2	17.0	13.0	18.0	18.0
PM10 mass, µg/m3	59.2	53.7	37.1	N/A	N/A
PM2.5 mass, µg/m3	42.3	49.3	41.1	52.1	42.2
PM2.5 S, µg/m3	1.97	1.77	1.77	1.76	1.60
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	2.26	1.80	1.73	N/A	N/A
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A
Total Count (0.15-2.5 µm),	N/A	2621	N/A	4610	N/A
Black Carbon, µg/m3	N/A	7.6	N/A	7.7	N/A
Vehicle Speed, mph	N/A	22.1	22.8	N/A	N/A
Vehicle Spacing, feet	N/A	56.7	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.1	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	5.0%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	94.2	45.5	N/A	N/A
Windspeed, mph	9.0	N/A	N/A	N/A	N/A
Temperature, deg. F	83.5	N/A	N/A	N/A	N/A
Relative Humidity, %	42.5	N/A	N/A	N/A	N/A

NOTES:

All contaminants in relative priority, % noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 18
 Location LA
 Test Day Su
 Test Date 9/28/1997
 AM / PM AM
 Scenario ANR
 AER Hi

H-18

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m ³	7.5	23.5	19.0	24.5	21.8
1,3-Butadiene, µg/m ³	0.8	3.7	2.4	3.8	2.8
TCFM, µg/m ³	1.9	1.8	1.8	1.9	2.0
Acetonitrile, µg/m ³	8.0	27.7	24.2	2.5	27.0
DCM, µg/m ³	4.4	3.3	3.0	3.2	3.5
MTBE, µg/m ³	34.9	78.1	52.2	79.5	57.5
ETBE, µg/m ³	<1	<1	<1	<1	<1
Benzene, µg/m ³	8.5	19.0	14.7	18.9	15.8
Toluene, µg/m ³	27.1	53.9	38.2	53.2	40.6
Ethylbenzene, µg/m ³	4.6	11.8	7.5	11.8	8.1
M,P-Xylene, µg/m ³	13.4	43.6	27.3	43.5	28.7
O-Xylene, µg/m ³	5.4	15.9	10.3	16.6	10.5
Formaldehyde, µg/m ³	22.764	22.183	23.626	N/A	N/A
CO avg, ppm	<2	5.2	5.0	6.0	6.2
CO peak, ppm	3.0	31.0	12.0	39.0	16.0
PM10 mass, µg/m ³	139.2	85.5	79.7	N/A	N/A
PM2.5 mass, µg/m ³	84.6	86.0	71.7	94.1	56.1
PM2.5 S, µg/m ³	1.98	1.69	1.47	1.75	1.40
PM2.5 Cr, µg/m ³	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m ³	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m ³	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m ³	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m ³	<0.06	<0.06	<0.06	0.07	<0.06
PM10 S, µg/m ³	2.27	1.63	1.51	N/A	N/A
PM10 Cr, µg/m ³	<0.8	<0.8	<0.8	N/A	N/A
PM10 Mn, µg/m ³	<0.07	<0.07	<0.07	N/A	N/A
PM10 Ni, µg/m ³	<0.05	<0.05	<0.05	N/A	N/A
PM10 Cd, µg/m ³	<0.2	<0.2	<0.2	N/A	N/A
PM10 Pb, µg/m ³	<0.06	<0.06	<0.06	N/A	N/A
Total Count (0.15-2.5 µm), #/m ³	N/A	4606	N/A	7457	N/A
Black Carbon, µg/m ³	N/A	22.9	N/A	16.5	N/A
Vehicle Speed, mph	N/A	26.3	26.0	N/A	N/A
Vehicle Spacing, feet	N/A	54.2	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	1.0	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	7.5%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	22.0	52.0	N/A	N/A
Windspeed, mph	2.0	N/A	N/A	N/A	N/A
Temperature, deg. F	90.0	N/A	N/A	N/A	N/A
Relative Humidity, %	31	N/A	N/A	N/A	N/A

NOTES:

All contaminants in µg/m³ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 19
 Location LA
 Test Day Su
 Test Date 9/28/1997
 AM / PM PM
 Scenario FNR
 AER Hi

H-19

Measure	AMB	IN1	IN2	OUT1	OUT2
Isobutylene, µg/m3	7.6	19.2	16.0	20.4	20.7
1,3-Butadiene, µg/m3	<0.3	4.1	3.1	4.1	3.8
TCFM, µg/m3	1.4	1.6	1.7	1.7	2.0
Acetonitrile, µg/m3	1.8	6.3	27.8	2.4	22.5
DCM, µg/m3	2.3	2.0	2.5	2.0	2.3
MTBE, µg/m3	20.6	50.7	40.7	52.3	51.9
ETBE, µg/m3	<1	<1	<1	<1	<1
Benzene, µg/m3	4.5	15.1	12.8	15.6	15.9
Toluene, µg/m3	11.9	35.3	28.4	35.3	35.8
Ethylbenzene, µg/m3	2.2	7.5	5.8	7.6	7.3
M,P-Xylene, µg/m3	4.7	26.1	19.6	26.6	25.3
O-Xylene, µg/m3	2.2	9.6	7.3	9.8	9.4
Formaldehyde, µg/m3	23.718	NS	16.191	N/A	N/A
CO avg, ppm	2.3	4.6	5.0	3.9	5.4
CO peak, ppm	3.0	14.0	15.0	17.0	17.0
PM10 mass, µg/m3	70.7	72.1	67.3	N/A	N/A
PM2.5 mass, µg/m3	46.0	50.5	47.0	69.1	45.0
PM2.5 S, µg/m3	2.85	2.47	1.89	2.87	2.81
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	2.64	2.57	2.73	N/A	N/A
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A
Total Count (0.15-2.5 um),	N/A	3733	N/A	7830	N/A
Black Carbon, µg/m3	N/A	9.4	N/A	6.7	N/A
Vehicle Speed, mph	N/A	57.7	57.5	N/A	N/A
Vehicle Spacing, feet	N/A	72.6	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.0	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A
Total Mileage	N/A	116.4	115.0	N/A	N/A
Windspeed, mph	9.0	N/A	N/A	N/A	N/A
Temperature, deg. F	91.0	N/A	N/A	N/A	N/A
Relative Humidity, %	36	N/A	N/A	N/A	N/A

NOTES:

All contaminants in relative humidity, % noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 20
 Location LA
 Test Day Mo
 Test Date 9/29/1997
 AM / PM AM
 Scenario FR
 AER Low

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	12.6	25.0	25.0	23.2	24.7	22.7	20.6
1,3-Butadiene, µg/m3	1.7	5.7	5.1	5.0	5.3	4.9	4.2
TCFM, µg/m3	2.0	2.2	2.1	2.0	2.0	2.0	1.8
Acetonitrile, µg/m3	25.5	142.0	258.9	8.3	132.6	3.0	12.2
DCM, µg/m3	4.0	4.3	3.6	3.8	3.9	2.4	3.9
MTBE, µg/m3	30.3	64.1	54.6	61.9	56.3	58.5	47.0
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	8.6	21.9	20.2	19.5	20.3	19.5	15.5
Toluene, µg/m3	22.7	52.4	39.7	46.7	42.9	48.4	39.0
Ethylbenzene, µg/m3	4.4	11.5	7.7	10.0	8.5	9.7	7.5
M,P-Xylene, µg/m3	15.4	45.4	28.9	38.4	32.9	36.9	27.7
O-Xylene, µg/m3	5.6	15.9	10.7	13.5	11.8	13.2	9.9
Formaldehyde, µg/m3	7.28	14.742	17.663	N/A	N/A	14.793	15.564
CO avg, ppm	< 2	5.8	7.6	7.4	9.0	5.2	4.6
CO peak, ppm	3.0	13.0	10.0	36.0	17.0	10.0	8.0
PM10 mass, µg/m3	70.1	56.3	32.6	N/A	N/A	93.0	129.8
PM2.5 mass, µg/m3	43.3	56.0	38.5	65.7	58.2	53.1	76.0
PM2.5 S, µg/m3	0.93	0.97	0.73	1.03	0.80	0.99	1.15
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	1.16	0.88	0.71	N/A	N/A	1.29	1.35
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	3547	N/A	8849	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	10.6	N/A	26.6	N/A	N/A	N/A
Vehicle Speed, mph	N/A	40.8	40.4	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	66.1	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.9	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	79.2%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	81.6	80.8	N/A	N/A	N/A	N/A
Windspeed, mph	2.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	76.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	50.5	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: All concentrations are in µg/m3 unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 21
 Location LA
 Test Day Mo
 Test Date 9/29/1997
 AM / PM PM
 Scenario FR
 AER Low

H-21

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	3.8	16.1	14.1	17.3	14.7	13.5	11.0
1,3-Butadiene, µg/m3	0.4	3.7	2.6	3.9	2.9	2.9	1.7
TCFM, µg/m3	2.2	1.7	1.3	1.6	1.5	1.8	1.8
Acetonitrile, µg/m3	7.1	375.3	374.8	7.3	179.5	3.1	9.7
DCM, µg/m3	5.3	3.5	2.4	2.5	2.3	2.9	3.4
MTBE, µg/m3	10.9	37.2	28.8	41.0	31.5	31.6	29.5
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	3.1	13.5	11.9	13.9	12.9	11.8	9.5
Toluene, µg/m3	10.5	31.6	23.7	31.4	26.9	30.2	22.5
Ethylbenzene, µg/m3	2.0	7.3	4.5	6.7	5.1	5.9	4.3
M,P-Xylene, µg/m3	6.1	26.5	16.7	25.5	19.2	20.6	15.6
O-Xylene, µg/m3	2.4	9.6	6.3	9.3	7.0	8.0	6.1
Formaldehyde, µg/m3	10.936	16.7	17.485	N/A	N/A	16.884	15.421
CO avg, ppm	<2	4.0	4.4	4.2	4.3	3.2	2.4
CO peak, ppm	<2	7.0	7.0	16.0	9.0	6.0	5.0
PM10 mass, µg/m3	66.9	52.4	22.9	N/A	N/A	83.8	83.6
PM2.5 mass, µg/m3	39.7	36.1	22.7	50.4	29.4	37.5	37.6
PM2.5 S, µg/m3	1.53	1.40	1.06	1.83	1.30	1.82	1.66
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	1.96	1.46	1.00	N/A	N/A	1.93	2.19
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	2258	N/A	6059	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	9.9	N/A	9.7	N/A	N/A	N/A
Vehicle Speed, mph	N/A	42.7	43.1	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	64.1	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.4	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	72.5%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	86.9	86.1	N/A	N/A	N/A	N/A
Windspeed, mph	6.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	79.0	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES

All concentrations are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 22
 Location LA
 Test Day Tu
 Test Date 9/30/1997
 AM / PM AM
 Scenario FRC
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	3.0	16.4	20.3	15.8	21.1	13.2	14.6
1,3-Butadiene, µg/m3	0.4	3.8	4.4	3.6	4.3	2.5	3.3
TCFM, µg/m3	1.5	1.5	1.5	1.5	1.5	1.4	1.7
Acetonitrile, µg/m3	104.0	50.8	75.3	2.4	51.3	1.9	4.5
DCM, µg/m3	<2.2	<2.2	3.2	<2.2	3.9	<2.2	<2.2
MTBE, µg/m3	8.2	35.0	46.5	34.6	45.5	30.8	29.2
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	2.5	14.8	18.6	13.8	18.3	11.6	12.5
Toluene, µg/m3	8.3	36.1	57.6	32.6	56.5	28.3	27.2
Ethylbenzene, µg/m3	1.3	7.2	8.0	6.3	7.9	5.4	5.2
M,P-Xylene, µg/m3	4.5	28.9	30.9	25.1	30.2	20.6	20.2
O-Xylene, µg/m3	1.7	10.3	11.2	9.1	10.7	7.6	7.3
Formaldehyde, µg/m3	4.925	14.126	18.627	N/A	N/A	10.966	12.462
CO avg, ppm	<2	4.2	4.9	3.2	5.5	2.8	4.2
CO peak, ppm	<2	12.0	15.0	13.0	18.0	8.0	9.0
PM10 mass, µg/m3	109.5	49.1	67.5	N/A	N/A	126.1	124.0
PM2.5 mass, µg/m3	53.9	39.3	39.1	<19.74	99.8	61.8	78.1
PM2.5 S, µg/m3	2.87	2.22	2.03	0.29	2.18	2.55	2.83
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	0.06	<0.06
PM10 S, µg/m3	3.35	2.19	2.20	N/A	N/A	3.26	3.20
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	2817	N/A	5289	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	3.3	N/A	13.3	N/A	N/A	N/A
Vehicle Speed, mph	N/A	47.4	29.3	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	89.0	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.8	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	98.3	58.6	N/A	N/A	N/A	N/A
Windspeed, mph	2.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	74.0	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:
 All concentrations are in µg/m3 unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 23
 Location LA
 Test Day Tu
 Test Date 9/30/1997
 AM / PM PM
 Scenario FRC
 AER Hi

H-23

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	4.7	12.1	18.5	12.7	19.0	13.2	10.9
1,3-Butadiene, µg/m3	0.4	2.2	3.7	2.2	3.4	2.7	2.1
TCFM, µg/m3	1.5	1.5	1.5	1.5	1.8	1.6	2.4
Acetonitrile, µg/m3	49.9	41.6	62.9	1.8	45.5	2.1	14.4
DCM, µg/m3	2.8	3.4	3.5	3.5	4.0	3.9	7.7
MTBE, µg/m3	12.2	27.4	47.5	27.9	50.1	28.3	22.2
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	3.6	10.6	16.1	10.8	16.5	11.7	9.2
Toluene, µg/m3	12.4	26.8	44.0	27.0	36.1	28.8	21.2
Ethylbenzene, µg/m3	2.0	4.9	8.0	5.0	7.3	5.1	3.8
M,P-Xylene, µg/m3	5.9	18.3	31.0	18.8	28.4	18.7	13.7
O-Xylene, µg/m3	2.3	6.7	11.1	6.8	10.3	7.0	5.1
Formaldehyde, µg/m3	12.95	13.941	15.414	N/A	N/A	20.25	18.001
CO avg, ppm	<2	2.9	4.9	2.5	5.7	3.3	4.0
CO peak, ppm	<2	6.0	22.0	9.0	30.0	7.0	10.0
PM10 mass, µg/m3	95.6	73.2	74.6	N/A	N/A	119.2	120.9
PM2.5 mass, µg/m3	62.4	54.6	47.5	80.4	58.0	64.1	74.8
PM2.5 S, µg/m3	5.30	3.94	3.62	4.37	4.27	4.65	4.44
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	6.11	4.15	3.94	N/A	N/A	5.02	5.13
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	NS	N/A	NS	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	5.5	N/A	NS	N/A	N/A	N/A
Vehicle Speed, mph	N/A	47.9	38.4	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	87.1	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.8	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	95.9	76.8	N/A	N/A	N/A	N/A
Windspeed, mph	8.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	73.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	95	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

All contaminants in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 24
 Location LA
 Test Day We
 Test Date 10/1/1997
 AM / PM AM
 Scenario AR
 AER Low

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	4.8	23.3	20.5	24.0	19.9	10.4	7.4
1,3-Butadiene, µg/m3	0.5	4.5	3.5	4.9	3.5	1.7	1.0
TCFM, µg/m3	1.7	1.6	1.7	1.6	1.6	1.7	1.7
Acetonitrile, µg/m3	107.1	237.4	520.0	2.6	316.8	9.7	103.6
DCM, µg/m3	3.4	3.2	2.4	2.5	< 2.2	2.8	2.5
MTBE, µg/m3	13.4	50.3	38.6	51.4	39.2	22.4	18.1
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	3.9	20.7	14.9	21.5	15.2	8.5	6.2
Toluene, µg/m3	12.2	49.6	34.0	51.4	36.0	22.7	17.0
Ethylbenzene, µg/m3	2.0	10.2	6.2	10.4	6.8	4.0	3.1
M,P-Xylene, µg/m3	6.7	40.6	24.4	42.9	26.8	14.8	11.5
O-Xylene, µg/m3	2.6	14.1	8.9	15.2	9.6	5.6	4.2
Formaldehyde, µg/m3	NS	15.835	19.871	N/A	N/A	18.81	9.315
CO avg, ppm	< 2	6.0	5.0	6.6	6.2	< 2	< 2
CO peak, ppm	< 2	23.0	9.0	40.0	15.0	7.0	2.0
PM10 mass, µg/m3	159.1	53.1	111.0	N/A	N/A	143.5	166.0
PM2.5 mass, µg/m3	106.0	53.1	45.1	112.9	70.9	102.8	102.2
PM2.5 S, µg/m3	4.48	2.98	2.46	4.14	3.02	4.23	4.30
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	5.55	3.45	4.05	N/A	N/A	4.94	5.24
PM10 Cr, µg/m3	< 0.8	< 0.8	< 0.8	N/A	N/A	< 0.8	< 0.8
PM10 Mn, µg/m3	< 0.07	< 0.07	< 0.07	N/A	N/A	< 0.07	< 0.07
PM10 Ni, µg/m3	< 0.05	< 0.05	< 0.05	N/A	N/A	< 0.05	< 0.05
PM10 Cd, µg/m3	< 0.2	< 0.2	< 0.2	N/A	N/A	< 0.2	< 0.2
PM10 Pb, µg/m3	< 0.06	< 0.06	< 0.06	N/A	N/A	< 0.06	< 0.06
Total Count (0.15-2.5 µm),	N/A	2868	N/A	6954	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	4.1	N/A	15.5	N/A	N/A	N/A
Vehicle Speed, mph	N/A	23.1	23.0	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	50.1	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.9	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	48.1	46.0	N/A	N/A	N/A	N/A
Windspeed, mph	2.5	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	71.0	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:

All concentrations are in µg/m3 unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 25
 Location LA
 Test Day We
 Test Date 10/1/1997
 AM / PM PM
 Scenario AR
 AER Low

H-25

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	5.3	13.8	16.2	16.7	14.7	8.8	7.1
1,3-Butadiene, µg/m3	0.4	2.1	2.1	3.0	2.1	1.3	1.0
TCFM, µg/m3	2.4	1.5	1.7	1.9	1.8	1.7	1.8
Acetonitrile, µg/m3	2.1	495.9	444.4	2.2	280.7	2.7	3.7
DCM, µg/m3	4.2	3.4	3.4	3.0	3.7	3.5	4.1
MTBE, µg/m3	12.4	24.3	24.9	32.1	23.8	18.5	15.4
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	3.4	10.2	10.6	12.9	10.3	6.3	5.2
Toluene, µg/m3	12.2	28.1	26.8	34.4	26.4	18.3	15.9
Ethylbenzene, µg/m3	2.0	5.9	5.3	6.7	5.1	3.5	2.8
M,P-Xylene, µg/m3	6.3	19.4	19.9	26.3	19.6	12.3	9.7
O-Xylene, µg/m3	2.5	7.1	7.9	9.4	7.5	4.7	3.7
Formaldehyde, µg/m3	17.142	19.6	22.625	N/A	N/A	15.229	13.23
CO avg, ppm	<2	3.8	4.3	3.3	5.0	<2	<2
CO peak, ppm	<2	7.0	6.0	25.0	10.0	3.0	3.0
PM10 mass, µg/m3	66.9	51.7	39.3	N/A	N/A	78.0	67.5
PM2.5 mass, µg/m3	35.6	43.5	31.2	56.4	37.6	55.8	50.8
PM2.5 S, µg/m3	3.20	2.59	2.54	3.11	2.64	4.04	2.99
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	3.27	2.72	2.86	N/A	N/A	4.49	3.45
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	0.06	<0.06
Total Count (0.15-2.5 µm),	N/A	2788	N/A	4746	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	12.9	N/A	11.6	N/A	N/A	N/A
Vehicle Speed, mph	N/A	19.1	28.5	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	54.0	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	3.0	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	37.5	57.0	N/A	N/A	N/A	N/A
Windspeed, mph	9.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	73.0	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTE: All concentrations are in µg/m3, unless otherwise noted.
 N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 26
 Location LA
 Test Day Th
 Test Date 10/2/1997
 AM / PM AM
 Scenario AR
 AER Hi

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	2.9	20.4	16.2	15.3	14.5	6.6	3.2
1,3-Butadiene, µg/m3	0.4	4.4	3.1	3.3	2.7	1.3	0.4
TCFM, µg/m3	1.4	1.7	1.7	1.5	1.4	1.5	1.7
Acetonitrile, µg/m3	2.0	48.1	122.0	2.0	53.4	3.9	167.2
DCM, µg/m3	2.8	2.7	5.0	4.0	3.8	4.1	4.1
MTBE, µg/m3	6.4	41.4	33.4	34.5	29.0	14.3	6.9
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	2.1	16.5	14.1	13.8	12.1	5.6	2.3
Toluene, µg/m3	6.9	41.4	32.0	30.5	28.5	14.6	6.9
Ethylbenzene, µg/m3	1.1	8.3	6.2	6.1	5.5	2.8	1.2
M,P-Xylene, µg/m3	4.1	33.5	24.9	24.9	22.2	11.0	4.3
O-Xylene, µg/m3	1.5	11.6	8.8	8.7	7.8	4.1	1.6
Formaldehyde, µg/m3	5.381	13.876	13.453	N/A	N/A	8.623	4.41
CO avg, ppm	<2	4.1	4.7	4.7	4.5	<2	<2
CO peak, ppm	<2	48.0	10.0	77.0	16.0	6.0	<2
PM10 mass, µg/m3	31.0	42.9	26.6	N/A	N/A	61.7	31.0
PM2.5 mass, µg/m3	<19.74	38.9	32.7	45.7	<19.74	39.3	<19.74
PM2.5 S, µg/m3	1.27	1.68	1.49	1.80	1.59	1.82	1.38
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	1.75	1.63	1.68	N/A	N/A	2.15	1.59
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 um),	N/A	2850	N/A	4950	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	7.5	N/A	16.0	N/A	N/A	N/A
Vehicle Speed, mph	N/A	25.1	40.0	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	67.3	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.6	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	50.2	80.0	N/A	N/A	N/A	N/A
Windspeed, mph	3.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	71.5	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES:
 All concentrations are in µg/m3 unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 27
 Location LA
 Test Day Th
 Test Date 10/2/1997
 AM / PM PM
 Scenario AR
 AER Hi

H-27

Measure	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Isobutylene, µg/m3	4.2	13.1	13.5	12.6	14.1	7.2	6.1
1,3-Butadiene, µg/m3	0.3	2.5	2.2	2.3	2.4	1.0	0.5
TCFM, µg/m3	1.4	1.4	1.4	1.3	1.5	1.8	1.5
Acetonitrile, µg/m3	9.1	38.9	23.1	1.7	22.0	2.4	30.7
DCM, µg/m3	3.9	3.0	3.3	3.0	3.3	13.9	3.9
MTBE, µg/m3	6.7	28.0	25.5	26.5	25.5	15.7	8.4
ETBE, µg/m3	<1	<1	<1	<1	<1	<1	<1
Benzene, µg/m3	2.0	10.6	10.5	10.1	10.6	5.2	2.8
Toluene, µg/m3	7.2	28.8	27.5	27.5	27.9	27.4	8.4
Ethylbenzene, µg/m3	1.2	5.5	5.1	5.3	5.2	3.0	1.5
M,P-Xylene, µg/m3	4.0	22.0	20.3	20.3	20.7	10.8	5.1
O-Xylene, µg/m3	1.5	7.7	7.2	7.3	7.5	4.1	1.9
Formaldehyde, µg/m3	6.646	12.679	11.293	N/A	N/A	11.187	9.119
CO avg, ppm	<2	3.0	3.6	2.8	3.7	<2	<2
CO peak, ppm	<2	15.0	11.0	19.0	17.0	4.0	2.0
PM10 mass, µg/m3	52.1	34.6	28.9	N/A	N/A	57.9	52.0
PM2.5 mass, µg/m3	33.8	28.5	22.6	41.0	27.0	35.1	26.9
PM2.5 S, µg/m3	3.43	2.50	2.60	3.03	2.24	2.98	3.82
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
PM10 S, µg/m3	3.91	2.70	2.48	N/A	N/A	3.56	4.40
PM10 Cr, µg/m3	<0.8	<0.8	<0.8	N/A	N/A	<0.8	<0.8
PM10 Mn, µg/m3	<0.07	<0.07	<0.07	N/A	N/A	<0.07	<0.07
PM10 Ni, µg/m3	<0.05	<0.05	<0.05	N/A	N/A	<0.05	<0.05
PM10 Cd, µg/m3	<0.2	<0.2	<0.2	N/A	N/A	<0.2	<0.2
PM10 Pb, µg/m3	<0.06	<0.06	<0.06	N/A	N/A	<0.06	<0.06
Total Count (0.15-2.5 um),	N/A	2253	N/A	4029	N/A	N/A	N/A
Black Carbon, µg/m3	N/A	5.4	N/A	9.0	N/A	N/A	N/A
Vehicle Speed, mph	N/A	19.7	18.0	N/A	N/A	N/A	N/A
Vehicle Spacing, feet	N/A	49.2	N/A	N/A	N/A	N/A	N/A
Level of Congestion (unitless)	N/A	2.4	N/A	N/A	N/A	N/A	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A	N/A	N/A	N/A	N/A
Total Mileage	N/A	36.1	36.0	N/A	N/A	N/A	N/A
Windspeed, mph	8.0	N/A	N/A	N/A	N/A	N/A	N/A
Temperature, deg. F	72.0	N/A	N/A	N/A	N/A	N/A	N/A
Relative Humidity, %	59.9	N/A	N/A	N/A	N/A	N/A	N/A

NOTES

All concentrations are mass unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute Number 28
 Location LA
 Test Day Fr
 Test Date 10/3/1997
 AM / PM AM
 Scenario MC
 AER Hi

H-28

Measure	AMB	IN1	OUT1
Isobutylene, µg/m3	4.5	23.9	19.9
1,3-Butadiene, µg/m3	0.5	4.4	3.8
TCFM, µg/m3	1.8	1.8	1.5
Acetonitrile, µg/m3	103.0	27.3	2.2
DCM, µg/m3	5.6	5.4	4.2
MTBE, µg/m3	11.2	90.0	72.4
ETBE, µg/m3	<1	<1	<1
Benzene, µg/m3	3.0	18.1	15.7
Toluene, µg/m3	10.8	42.0	41.5
Ethylbenzene, µg/m3	1.7	9.3	8.8
M,P-Xylene, µg/m3	6.0	39.5	36.1
O-Xylene, µg/m3	2.3	13.9	12.8
Formaldehyde, µg/m3	6.033	16.908	N/A
CO avg, ppm	<2	4.4	4.6
CO peak, ppm	<2	30.0	31.0
PM10 mass, µg/m3	63.8	73.2	N/A
PM2.5 mass, µg/m3	32.1	59.3	81.1
PM2.5 S, µg/m3	1.80	2.17	2.49
PM2.5 Cr, µg/m3	<0.8	<0.8	<0.8
PM2.5 Mn, µg/m3	<0.07	<0.07	<0.07
PM2.5 Ni, µg/m3	<0.05	<0.05	<0.05
PM2.5 Cd, µg/m3	<0.2	<0.2	<0.2
PM2.5 Pb, µg/m3	<0.06	<0.06	<0.06
PM10 S, µg/m3	2.57	2.58	N/A
PM10 Cr, µg/m3	<0.8	<0.8	N/A
PM10 Mn, µg/m3	<0.07	<0.07	N/A
PM10 Ni, µg/m3	<0.05	<0.05	N/A
PM10 Cd, µg/m3	<0.2	<0.2	N/A
PM10 Pb, µg/m3	<0.06	<0.06	N/A
Total Count (0.15-2.5 µm),	N/A	4237	7339
Black Carbon, µg/m3	N/A	21.4	21.6
Vehicle Speed, mph	N/A	21.6	N/A
Vehicle Spacing, feet	N/A	71.2	N/A
Level of Congestion (unitless)	N/A	2.9	N/A
Diesel Bus Influence (% of commute)	N/A	10.0%	N/A
HD Diesel Truck Influence (% of commute)	N/A	0.0%	N/A
Other Diesel Influence (% of commute)	N/A	0.0%	N/A
Total Mileage	N/A	43.1	N/A
Windspeed, mph	3.5	N/A	N/A
Temperature, deg. F	70.5	N/A	N/A
Relative Humidity, %	54.5	N/A	N/A

NOTES:

All contaminants in µg/m³ unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute Number 29
 Location LA
 Test Day Fr
 Test Date 10/3/1997
 AM / PM PM
 Scenario MC
 AER Hi

H-29

Measure	AMB	IN1	OUT1
Isobutylene, µg/m3	4.1	19.1	19.2
1,3-Butadiene, µg/m3	<0.3	5.0	4.9
TCFM, µg/m3	1.7	2.5	2.5
Acetonitrile, µg/m3	2.6	28.6	2.6
DCM, µg/m3	5.4	3.7	3.9
MTBE, µg/m3	10.2	30.3	29.4
ETBE, µg/m3	<1	<1	<1
Benzene, µg/m3	2.8	16.2	15.4
Toluene, µg/m3	9.7	33.6	32.2
Ethylbenzene, µg/m3	1.6	6.7	6.3
M,P-Xylene, µg/m3	4.5	25.6	23.3
O-Xylene, µg/m3	1.9	9.1	8.4
Formaldehyde, µg/m3	14.141	14.286	N/A
CO avg, ppm	< 2	4.6	4.4
CO peak, ppm	< 2	21.0	23.0
PM10 mass, µg/m3	50.0	105.0	N/A
PM2.5 mass, µg/m3	< 19.74	106.7	96.6
PM2.5 S, µg/m3	2.32	2.03	2.09
PM2.5 Cr, µg/m3	< 0.8	< 0.8	< 0.8
PM2.5 Mn, µg/m3	< 0.07	< 0.07	< 0.07
PM2.5 Ni, µg/m3	< 0.05	< 0.05	< 0.05
PM2.5 Cd, µg/m3	< 0.2	< 0.2	< 0.2
PM2.5 Pb, µg/m3	< 0.06	< 0.06	< 0.06
PM10 S, µg/m3	2.92	2.02	N/A
PM10 Cr, µg/m3	< 0.8	< 0.8	N/A
PM10 Mn, µg/m3	< 0.07	< 0.07	N/A
PM10 Ni, µg/m3	< 0.05	< 0.05	N/A
PM10 Cd, µg/m3	< 0.2	< 0.2	N/A
PM10 Pb, µg/m3	< 0.06	< 0.06	N/A
Total Count (0.15-2.5 µm),	N/A	4413	7326
Black Carbon, µg/m3	N/A	20.4	18.1
Vehicle Speed, mph	N/A	20.0	N/A
Vehicle Spacing, feet	N/A	64.4	N/A
Level of Congestion (unitless)	N/A	3.5	N/A
Diesel Bus Influence (% of commute)	N/A	0.0%	N/A
HD Diesel Truck Influence (% of commute)	N/A	25.8%	N/A
Other Diesel Influence (% of commute)	N/A	11.7%	N/A
Total Mileage	N/A	38.6	N/A
Windspeed, mph	9.5	N/A	N/A
Temperature, deg. F	76.0	N/A	N/A
Relative Humidity, %	47.5	N/A	N/A

NOTES:

All contaminants in µg/m³ unless otherwise specified
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Appendix I

Measurement Data for Individual Commutes (Non-Target Elements)

- Data for Sacramento Commutes 1 thru 13, and LA Commutes 14 thru 29

Commute # 1
 Location Sac
 Test Day Tu
 Test Date 9/9/97
 AM / PM AM
 Scenario FNR
 AER Hi

I-1

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	0.75	0.90	< 0.68	< 0.68	< 0.68	< 0.68	1.55
Mg, PM2.5	< 0.29	0.83	0.62	< 0.29	0.81	0.30	0.62
Al, PM2.5	0.22	0.28	< 0.16	< 0.16	< 0.16	< 0.16	0.31
Si, PM2.5	0.16	0.56	0.30	0.56	0.36	0.35	0.37
P, PM2.5	< 0.08	< 0.08	0.12	< 0.08	0.13	< 0.08	0.09
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	0.15	< 0.12	< 0.12
Ca, PM2.5	< 0.13	0.15	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.10	0.50	0.11	0.58	0.75	0.05	0.07
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.06	0.04	< 0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 1
 Location Sac
 Test Day Tu
 Test Date 9/9/97
 AM / PM AM
 Scenario FNR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	1.60	< 0.68	0.73	< 0.68	0.98
Mg, PM10	0.32	0.35	0.59	0.38	0.67
Al, PM10	1.49	1.01	0.37	1.74	3.66
Si, PM10	3.59	1.77	0.63	4.71	8.88
P, PM10	0.17	< 0.08	0.14	0.21	0.10
Cl, PM10	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM10	0.23	0.15	0.18	0.39	0.61
Ca, PM10	0.46	0.39	< 0.13	0.67	0.99
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.64	0.58	0.16	0.82	1.56
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.14	0.04	< 0.04	< 0.04
Zn, PM10	< 0.05	< 0.05	< 0.05	< 0.05	0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 2
 Location Sac
 Test Day Tu
 Test Date 9/9/97
 AM / PM PM
 Scenario FNR
 AER Hi

I-3

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	< 0.68	0.77	< 0.68	< 0.68	2.02	< 0.68	< 0.68
Mg, PM2.5	0.42	< 0.29	0.46	< 0.29	< 0.29	1.16	< 0.29
Al, PM2.5	0.17	< 0.16	0.23	< 0.16	0.24	< 0.16	< 0.16
Si, PM2.5	0.31	0.54	< 0.06	0.44	0.44	0.22	0.44
P, PM2.5	< 0.08	< 0.08	< 0.08	< 0.08	0.08	< 0.08	0.13
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.07	0.54	0.13	0.64	0.30	0.09	0.19
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	< 0.04	0.06	< 0.04	0.05	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 2
 Location Sac
 Test Day Tu
 Test Date 9/9/97
 AM / PM PM
 Scenario FNR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	< 0.68	< 0.68	< 0.68	0.70	< 0.68
Mg, PM10	< 0.29	< 0.29	0.59	0.38	1.20
Al, PM10	2.03	1.21	0.93	1.63	1.88
Si, PM10	5.08	1.87	0.99	4.33	5.65
P, PM10	0.15	< 0.08	0.32	< 0.08	0.22
Cl, PM10	0.18	< 0.17	0.22	< 0.17	< 0.17
K, PM10	0.29	0.22	0.19	0.34	0.32
Ca, PM10	0.37	0.29	< 0.13	0.37	0.66
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.86	0.88	0.17	0.66	1.00
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.05	0.07	< 0.04	< 0.04
Zn, PM10	< 0.05	0.05	< 0.05	0.05	0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 3
 Location Sac
 Test Day We
 Test Date 9/10/97
 AM / PM AM
 Scenario FR
 AER Hi

I-5

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	< 0.68	< 0.68	1.28	0.70	< 0.68	1.59	1.06
Mg, PM2.5	0.52	< 0.29	< 0.29	1.12	< 0.29	0.77	0.70
Al, PM2.5	< 0.16	0.35	0.17	0.41	0.42	< 0.16	< 0.16
Si, PM2.5	0.08	0.52	0.15	0.50	0.36	0.10	0.10
P, PM2.5	0.10	0.12	< 0.08	0.15	0.08	< 0.08	0.10
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	0.18	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.06	0.63	0.12	0.63	0.33	0.07	0.09
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.06	0.10	< 0.04	0.06	< 0.04	< 0.04
Zn, PM2.5	< 0.05	0.10	< 0.05	0.09	< 0.05	0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 3
 Location Sac
 Test Day We
 Test Date 9/10/97
 AM / PM AM
 Scenario FR
 AER Hi

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Mg, PM10	0.59	0.73	0.42	0.47	0.60
Al, PM10	0.30	2.73	< 0.16	1.39	0.99
Si, PM10	1.93	6.32	0.82	3.50	3.80
P, PM10	0.09	0.15	0.11	0.11	< 0.08
Cl, PM10	0.74	0.22	< 0.17	0.80	0.75
K, PM10	< 0.12	0.46	< 0.12	0.35	0.23
Ca, PM10	0.18	0.65	< 0.13	0.34	0.55
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.38	1.56	0.10	0.67	0.86
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.05	0.09	< 0.04	< 0.04
Zn, PM10	0.07	0.06	< 0.05	0.07	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 4
 Location Sac
 Test Day We
 Test Date 9/10/97
 AM / PM PM
 Scenario FR
 AER Hi

I-7

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	< 0.68	1.19	< 0.68	1.22	0.79	1.24	1.54
Mg, PM2.5	< 0.29	0.96	0.59	0.78	0.76	0.58	0.54
Al, PM2.5	0.26	0.22	< 0.16	0.26	0.22	0.24	0.43
Si, PM2.5	< 0.06	0.47	0.14	0.34	0.11	0.31	0.08
P, PM2.5	0.11	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.09	0.37	0.04	0.41	0.23	< 0.03	0.07
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.09	0.04	< 0.04	0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 4
 Location Sac
 Test Day We
 Test Date 9/10/97
 AM / PM PM
 Scenario FR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	< 0.68	1.12	1.79	< 0.68	0.88
Mg, PM10	0.86	0.51	0.53	0.62	0.65
Al, PM10	1.07	0.36	1.02	1.02	2.23
Si, PM10	2.92	1.28	0.97	3.21	3.41
P, PM10	0.30	0.12	< 0.08	0.14	0.14
Cl, PM10	< 0.17	< 0.17	< 0.17	0.29	0.17
K, PM10	0.28	0.14	< 0.12	0.29	0.31
Ca, PM10	0.34	0.22	< 0.13	0.21	0.35
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.51	0.62	0.16	0.52	0.65
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.13	0.10	< 0.04	< 0.04
Zn, PM10	< 0.05	0.07	0.07	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 5
 Location Sac
 Test Day Th
 Test Date 9/11/97
 AM / PM AM
 Scenario FR
 AER Low

I-9

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.58	< 0.68	< 0.68	< 0.68	0.73	1.59	1.42
Mg, PM2.5	0.52	0.77	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29
Al, PM2.5	< 0.16	< 0.16	< 0.16	< 0.16	0.25	0.27	< 0.16
Si, PM2.5	0.14	0.41	0.35	0.49	0.33	0.28	0.22
P, PM2.5	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	0.18	< 0.13	0.15	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.06	0.61	0.22	0.84	0.49	0.31	0.11
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.04	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute # 5
 Location Sac
 Test Day Th
 Test Date 9/11/97
 AM / PM AM
 Scenario FR
 AER Low

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.95	1.42	1.38	0.95	2.25
Mg, PM10	< 0.29	0.80	1.04	0.44	0.34
Al, PM10	0.95	1.18	0.58	1.69	1.46
Si, PM10	3.07	2.69	0.98	5.29	3.44
P, PM10	0.09	0.10	0.23	0.15	0.17
Cl, PM10	1.80	0.90	< 0.17	1.49	1.79
K, PM10	0.27	0.29	< 0.12	0.44	0.46
Ca, PM10	0.48	0.54	0.14	0.81	0.45
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.66	1.09	0.34	1.40	0.66
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.06	0.05	< 0.04	< 0.04
Zn, PM10	0.06	0.06	< 0.05	0.07	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	0.03	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 6
 Location Sac
 Test Day Th
 Test Date 9/11/97
 AM / PM PM
 Scenario FR
 AER Low

I-11

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.58	< 0.68	< 0.68	< 0.68	< 0.68	0.76	0.89
Mg, PM2.5	< 0.29	0.37	0.38	0.49	0.53	< 0.29	0.41
Al, PM2.5	0.34	0.30	< 0.16	0.27	0.30	0.21	0.24
Si, PM2.5	0.24	0.40	0.17	0.36	0.46	0.37	0.14
P, PM2.5	< 0.08	< 0.08	< 0.08	0.14	0.13	0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.07	0.35	0.45	0.61	0.38	0.46	0.32
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.07	0.07	< 0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 6
 Location Sac
 Test Day Th
 Test Date 9/11/97
 AM / PM PM
 Scenario FR
 AER Low

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	< 0.68	1.33	< 0.68	< 0.68	0.82
Mg, PM10	0.39	0.68	1.04	< 0.29	1.01
Al, PM10	1.62	0.49	0.21	2.27	2.91
Si, PM10	5.44	1.05	0.83	5.25	5.80
P, PM10	0.25	< 0.08	0.09	0.25	0.20
Cl, PM10	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM10	0.31	0.21	< 0.12	0.31	0.37
Ca, PM10	0.30	0.21	< 0.13	0.42	0.34
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.82	0.60	0.49	1.81	1.30
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.10	0.12	0.06	< 0.04
Zn, PM10	< 0.05	< 0.05	0.07	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 7
 Location Sac
 Test Day Fr
 Test Date 9/12/97
 AM / PM AM
 Scenario AR
 AER Hi

I-13

Element, Size ug/m ³	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	0.97	< 0.68	< 0.68	1.54	< 0.68	< 0.68	0.75
Mg, PM2.5	0.89	0.36	0.44	< 0.29	0.67	< 0.29	1.02
Al, PM2.5	< 0.16	0.37	0.22	0.34	0.20	< 0.16	< 0.16
Si, PM2.5	0.25	0.43	< 0.06	0.42	0.39	< 0.06	0.73
P, PM2.5	0.12	0.09	< 0.08	< 0.08	< 0.08	< 0.08	0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	0.19	< 0.17	< 0.17	< 0.17
K, PM2.5	0.15	< 0.12	< 0.12	0.18	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	0.16	< 0.13	< 0.13	< 0.13	< 0.13	0.16
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.09	0.26	0.09	0.39	0.24	< 0.03	0.37
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.05	0.07	< 0.04	0.05	< 0.04	< 0.04
Zn, PM2.5	< 0.05	0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 7
 Location Sac
 Test Day Fr
 Test Date 9/12/97
 AM / PM AM
 Scenario AR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	< 0.68	0.72	< 0.68	2.25	1.97
Mg, PM10	0.66	0.89	0.50	0.49	0.94
Al, PM10	0.82	0.92	0.52	1.87	3.05
Si, PM10	2.85	1.44	0.69	3.83	7.96
P, PM10	0.12	< 0.08	0.11	< 0.08	0.10
Cl, PM10	1.95	0.30	< 0.17	1.92	1.49
K, PM10	0.22	0.13	< 0.12	0.25	0.56
Ca, PM10	0.38	0.15	< 0.13	0.57	1.04
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.61	0.45	0.15	1.58	1.92
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.11	0.11	< 0.04	0.04
Zn, PM10	0.07	< 0.05	< 0.05	< 0.05	0.06
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 8
 Location Sac
 Test Day Fr
 Test Date 9/12/97
 AM / PM PM
 Scenario AR
 AER Hi

I-15

Element, Size ug/m ³	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	0.94	< 0.68	< 0.68	< 0.68	1.31	1.54	< 0.68
Mg, PM2.5	0.70	0.59	< 0.29	1.08	0.51	< 0.29	0.32
Al, PM2.5	< 0.16	0.22	< 0.16	0.27	0.20	0.23	< 0.16
Si, PM2.5	0.25	0.23	0.08	0.14	0.13	0.38	0.45
P, PM2.5	0.08	0.10	0.13	< 0.08	< 0.08	< 0.08	0.12
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.13	0.16	< 0.12	0.19	0.13	< 0.12	< 0.12
Ca, PM2.5	0.15	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.12	0.31	0.06	0.41	0.18	0.05	0.24
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.05	0.05	< 0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	0.05	0.07	0.06	0.05	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in µg/m³ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 8
 Location Sac
 Test Day Fr
 Test Date 9/12/97
 AM / PM PM
 Scenario AR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	0.82	< 0.68	1.17	< 0.68	0.75
Mg, PM10	0.93	0.60	1.03	0.55	< 0.29
Al, PM10	0.96	1.21	0.34	1.46	1.72
Si, PM10	2.92	0.90	0.63	3.26	3.88
P, PM10	0.15	< 0.08	< 0.08	< 0.08	0.18
Cl, PM10	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM10	0.20	0.31	0.24	0.27	0.21
Ca, PM10	0.21	0.24	0.15	0.31	0.37
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.51	0.48	0.11	0.69	1.32
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.10	0.04	< 0.04	0.06
Zn, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	0.05	0.04	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 9
 Location Sac
 Test Day Sa
 Test Date 9/13/97
 AM / PM midday
 Scenario R
 AER Hi

I-17

Element, Size ug/m3	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	0.86	< 0.68	< 0.68	< 0.68	1.18	1.28
Mg, PM2.5	1.00	0.52	0.88	0.66	0.53	0.63
Al, PM2.5	< 0.16	< 0.16	< 0.16	0.42	0.18	0.45
Si, PM2.5	0.33	< 0.06	0.49	0.75	0.45	0.30
P, PM2.5	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	0.15
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	0.16	0.13	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	0.14	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.13	< 0.03	0.12	0.22	0.09	< 0.03
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.07	< 0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 9
 Location Sac
 Test Day Sa
 Test Date 9/13/97
 AM / PM midday
 Scenario R
 AER Hi

Element, Size ug/m3	IN1	IN2	ROAD1	ROAD2
Na, PM10	< 0.68	0.80	0.75	< 0.68
Mg, PM10	0.83	0.33	< 0.29	< 0.29
Al, PM10	1.27	1.31	1.43	2.04
Si, PM10	2.93	3.20	4.97	4.54
P, PM10	0.23	< 0.08	< 0.08	0.23
Cl, PM10	< 0.17	< 0.17	0.61	0.51
K, PM10	0.22	0.27	0.29	0.30
Ca, PM10	0.42	0.19	0.23	0.19
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.41	0.28	0.65	0.62
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	0.08	0.09	< 0.04	< 0.04
Zn, PM10	< 0.05	< 0.05	< 0.05	0.08
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 10
 Location Sac
 Test Day Mo
 Test Date 9/15/97
 AM / PM AM
 Scenario AR
 AER Low

I-19

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	1.05	< 0.68	< 0.68	1.49	< 0.68
Mg, PM2.5	0.32	0.71	0.65	1.01	0.29
Al, PM2.5	0.19	< 0.16	0.22	< 0.16	0.36
Si, PM2.5	< 0.06	0.35	0.14	0.34	0.43
P, PM2.5	0.11	0.08	< 0.08	0.17	0.14
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.08	0.27	0.17	0.36	0.24
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.06	0.05	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	0.09	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 10
 Location Sac
 Test Day Mo
 Test Date 9/15/97
 AM / PM AM
 Scenario AR
 AER Low

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	< 0.68	< 0.68	< 0.68
Mg, PM10	0.41	0.57	0.92
Al, PM10	1.56	0.96	0.70
Si, PM10	2.69	2.25	1.39
P, PM10	0.19	< 0.08	0.22
Cl, PM10	< 0.17	< 0.17	< 0.17
K, PM10	0.25	0.20	0.16
Ca, PM10	0.37	0.36	< 0.13
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	0.57	0.71	0.43
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.05	0.11
Zn, PM10	0.05	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 11
 Location Sac
 Test Day Mo
 Test Date 9/15/97
 AM / PM PM
 Scenario AR
 AER Low

I-21

Element, Size ug/m ³	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	1.20	< 0.68	< 0.68	< 0.68	< 0.68
Mg, PM2.5	0.76	< 0.29	< 0.29	0.38	< 0.29
Al, PM2.5	0.23	0.37	< 0.16	0.23	0.36
Si, PM2.5	0.22	< 0.06	< 0.06	0.13	0.34
P, PM2.5	0.09	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	< 0.03	0.09	0.22	0.25	0.29
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.10	0.06	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 11
 Location Sac
 Test Day Mo
 Test Date 9/15/97
 AM / PM PM
 Scenario AR
 AER Low

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	< 0.68	1.03	< 0.68
Mg, PM10	< 0.29	< 0.29	0.38
Al, PM10	0.76	0.63	0.68
Si, PM10	2.14	0.86	1.43
P, PM10	0.13	0.13	< 0.08
Cl, PM10	< 0.17	< 0.17	< 0.17
K, PM10	0.18	0.24	0.20
Ca, PM10	0.16	< 0.13	0.21
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	0.44	0.19	0.52
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.10	0.15
Zn, PM10	< 0.05	0.06	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 12
 Location Sac
 Test Day Tu
 Test Date 9/16/97
 AM / PM AM
 Scenario SB
 AER Hi

I-23

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	1.12	< 0.68	< 0.68	0.98	< 0.68
Mg, PM2.5	0.41	0.52	0.32	0.79	0.61
Al, PM2.5	< 0.16	0.17	0.19	0.48	< 0.16
Si, PM2.5	0.42	0.39	0.37	0.30	0.43
P, PM2.5	< 0.08	< 0.08	< 0.08	0.11	0.09
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.10	0.15	0.31	0.12	0.27
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	0.07	< 0.05	0.07
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute # 12
 Location Sac
 Test Day Tu
 Test Date 9/16/97
 AM / PM AM
 Scenario SB
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	1.01	< 0.68	< 0.68
Mg, PM10	< 0.29	0.58	< 0.29
Al, PM10	0.72	< 0.16	1.71
Si, PM10	2.68	1.29	4.91
P, PM10	0.14	0.10	< 0.08
Cl, PM10	0.43	< 0.17	0.41
K, PM10	0.22	0.22	0.36
Ca, PM10	0.34	0.27	0.96
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	0.55	0.30	1.33
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.11	0.06
Zn, PM10	< 0.05	< 0.05	0.09
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 13
 Location Sac
 Test Day Tu
 Test Date 9/16/97
 AM / PM PM
 Scenario SB
 AER Hi

I-25

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Mg, PM2.5	0.33	0.51	0.78	0.50	0.52
Al, PM2.5	< 0.16	< 0.16	0.31	0.23	0.23
Si, PM2.5	0.19	0.22	0.29	0.43	0.33
P, PM2.5	0.09	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	< 0.03	0.16	0.16	0.19	0.08
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 13
 Location Sac
 Test Day Tu
 Test Date 9/16/97
 AM / PM PM
 Scenario SB
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	2.04	1.01	0.74
Mg, PM10	0.60	< 0.29	0.62
Al, PM10	0.66	0.41	0.74
Si, PM10	3.51	1.78	3.55
P, PM10	< 0.08	< 0.08	< 0.08
Cl, PM10	< 0.17	< 0.17	< 0.17
K, PM10	0.27	0.17	0.30
Ca, PM10	0.25	0.18	0.26
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	0.39	0.28	0.70
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.06	< 0.04
Zn, PM10	< 0.05	< 0.05	0.05
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 14
 Location LA
 Test Day Th
 Test Date 9/25/97
 AM / PM AM
 Scenario FNR
 AER Hi

I-27

Element, Size ug/m ³	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	1.02	2.41	< 0.68	0.90	< 0.68
Mg, PM2.5	< 0.29	0.52	< 0.29	0.34	0.57
Al, PM2.5	0.16	< 0.16	0.31	0.20	< 0.16
Si, PM2.5	0.32	0.74	0.53	0.72	0.47
P, PM2.5	< 0.08	< 0.08	0.10	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	0.26	0.27	0.21	0.13
Ca, PM2.5	< 0.13	0.55	0.35	0.51	0.27
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.22	0.82	0.54	0.98	0.58
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.12	0.07	< 0.04	0.06
Zn, PM2.5	0.11	0.14	0.10	0.10	0.08
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in µg/m³ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 14
 Location LA
 Test Day Th
 Test Date 9/25/97
 AM / PM AM
 Scenario FNR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	1.90	< 0.68	1.28
Mg, PM10	< 0.29	< 0.29	< 0.29
Al, PM10	0.90	1.10	0.49
Si, PM10	3.60	2.15	1.46
P, PM10	0.15	< 0.08	0.08
Cl, PM10	< 0.17	< 0.17	0.30
K, PM10	0.56	0.49	0.40
Ca, PM10	0.87	0.83	0.65
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	1.08	0.98	0.77
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.12	0.09
Zn, PM10	0.12	0.15	0.35
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 15
 Location LA
 Test Day Fr
 Test Date 9/26/97
 AM / PM AM
 Scenario FR
 AER Hi

I-29

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.56	2.75	< 0.68	2.02	1.23	3.01	1.55
Mg, PM2.5	< 0.29	< 0.29	< 0.29	0.81	< 0.29	< 0.29	0.34
Al, PM2.5	< 0.16	0.18	0.20	< 0.16	< 0.16	< 0.16	0.34
Si, PM2.5	0.17	0.56	0.42	0.54	0.51	0.36	0.45
P, PM2.5	0.09	0.09	0.12	0.18	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	0.20	< 0.17	< 0.17	0.27	< 0.17	< 0.17
K, PM2.5	0.14	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.07	0.76	0.62	0.95	0.67	0.42	0.42
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.11	0.08	0.08	< 0.04	< 0.04	< 0.04
Zn, PM2.5	< 0.05	0.06	0.08	0.08	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute # 15
 Location LA
 Test Day Fr
 Test Date 9/26/97
 AM / PM AM
 Scenario FR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.68	1.82	3.31	3.36	2.40
Mg, PM10	0.58	0.63	< 0.29	< 0.29	0.85
Al, PM10	0.57	0.54	1.05	0.42	1.73
Si, PM10	1.65	1.43	1.56	1.90	2.52
P, PM10	0.15	0.16	< 0.08	< 0.08	0.24
Cl, PM10	3.32	0.65	0.43	1.75	2.47
K, PM10	0.39	0.26	0.16	0.30	0.33
Ca, PM10	0.40	0.41	0.30	0.53	0.54
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.42	0.89	0.75	1.31	1.22
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.09	0.07	0.08	< 0.04
Zn, PM10	< 0.05	0.06	< 0.05	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 16
 Location LA
 Test Day Fr
 Test Date 9/26/97
 AM / PM PM
 Scenario FR
 AER Hi

I-31

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.02	0.82	1.99	1.02	< 0.68	0.77	< 0.68
Mg, PM2.5	0.51	0.40	< 0.29	0.91	< 0.29	< 0.29	< 0.29
Al, PM2.5	< 0.16	0.44	< 0.16	< 0.16	0.43	< 0.16	< 0.16
Si, PM2.5	0.07	0.32	0.31	0.49	0.27	0.31	0.38
P, PM2.5	< 0.08	< 0.08	0.19	0.09	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.13	0.52	0.42	0.76	0.44	0.65	0.37
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.08	0.07	0.13	< 0.04	< 0.04	0.07
Zn, PM2.5	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 16
 Location LA
 Test Day Fr
 Test Date 9/26/97
 AM / PM PM
 Scenario FR
 AER Hi

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.41	1.44	< 0.68	1.88	2.39
Mg, PM10	0.36	< 0.29	0.65	0.91	0.44
Al, PM10	0.89	0.80	0.40	0.97	1.13
Si, PM10	2.70	1.24	0.92	2.44	1.58
P, PM10	0.12	0.21	0.14	< 0.08	0.11
Cl, PM10	0.61	< 0.17	< 0.17	0.27	0.38
K, PM10	0.34	0.13	0.12	0.37	0.30
Ca, PM10	0.53	0.24	0.16	0.66	0.46
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.61	0.70	0.54	1.83	1.01
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.12	0.08	0.08	< 0.04
Zn, PM10	< 0.05	0.05	< 0.05	0.07	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 17
 Location LA
 Test Day Sa
 Test Date 9/27/97
 AM / PM PM
 Scenario ANR
 AER Hi

I-33

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	3.17	< 0.68	1.74	0.72	2.33
Mg, PM2.5	0.55	< 0.29	< 0.29	< 0.29	0.30
Al, PM2.5	0.38	< 0.16	0.22	< 0.16	0.25
Si, PM2.5	0.23	0.48	0.36	0.33	0.34
P, PM2.5	< 0.08	< 0.08	0.13	0.12	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.10	0.24	0.18	0.37	0.21
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.09	0.06	0.05	0.07
Zn, PM2.5	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 17
 Location LA
 Test Day Sa
 Test Date 9/27/97
 AM / PM PM
 Scenario ANR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	1.38	1.03	1.48
Mg, PM10	< 0.29	< 0.29	< 0.29
Al, PM10	0.92	< 0.16	0.55
Si, PM10	3.03	1.30	1.27
P, PM10	0.10	0.18	0.37
Cl, PM10	< 0.17	< 0.17	< 0.17
K, PM10	0.43	< 0.12	0.16
Ca, PM10	0.61	0.25	0.19
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	0.77	0.45	0.33
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.11	0.07
Zn, PM10	0.07	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 18
 Location LA
 Test Day Su
 Test Date 9/28/97
 AM / PM AM
 Scenario ANR
 AER Hi

I-35

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	< 0.68	1.68	0.92	< 0.68	< 0.68
Mg, PM2.5	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29
Al, PM2.5	< 0.16	0.41	0.23	0.17	< 0.16
Si, PM2.5	0.31	0.48	0.15	0.55	0.30
P, PM2.5	0.18	< 0.08	< 0.08	< 0.08	0.12
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.17	< 0.12	0.13	0.14	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.31	0.50	0.30	0.69	0.29
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.09	0.11	0.05	0.07
Zn, PM2.5	0.07	0.06	< 0.05	0.06	0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 18
 Location LA
 Test Day Su
 Test Date 9/28/97
 AM / PM AM
 Scenario ANR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2
Na, PM10	1.84	1.75	< 0.68
Mg, PM10	0.64	< 0.29	0.34
Al, PM10	1.35	0.46	0.86
Si, PM10	3.26	1.70	1.25
P, PM10	0.20	0.12	0.35
Cl, PM10	< 0.17	< 0.17	< 0.17
K, PM10	0.39	0.14	0.19
Ca, PM10	0.65	0.33	0.25
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	1.35	0.68	0.46
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	0.06	0.13	0.12
Zn, PM10	0.14	0.10	0.06
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 19
 Location LA
 Test Day Su
 Test Date 9/28/97
 AM / PM PM
 Scenario FNR
 AER Hi

I-37

Element, Size ug/m ³	AMB	IN1	IN2	OUT1	OUT2
Na, PM2.5	1.44	1.49	1.88	< 0.68	< 0.68
Mg, PM2.5	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29
Al, PM2.5	0.21	< 0.16	< 0.16	0.41	0.38
Si, PM2.5	0.48	0.48	0.27	0.41	0.37
P, PM2.5	0.11	0.15	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.15	0.13	< 0.12	0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	0.15	0.14
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.10	0.36	0.28	0.60	0.46
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.09	< 0.04	< 0.04	0.08
Zn, PM2.5	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	0.26
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 19
 Location LA
 Test Day Su
 Test Date 9/28/97
 AM / PM PM
 Scenario FNR
 AER Hi

Element, Size ug/m ³	AMB	IN1	IN2
Na, PM10	3.44	1.89	1.44
Mg, PM10	< 0.29	< 0.29	0.43
Al, PM10	1.82	0.61	< 0.16
Si, PM10	3.44	1.38	1.08
P, PM10	0.21	0.09	< 0.08
Cl, PM10	< 0.17	< 0.17	0.21
K, PM10	0.56	0.33	0.31
Ca, PM10	0.62	0.40	0.34
Ti, PM10	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23
Fe, PM10	0.81	0.54	0.64
Co, PM10	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.09	0.08
Zn, PM10	0.07	< 0.05	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 20
 Location LA
 Test Day Mo
 Test Date 9/29/97
 AM / PM AM
 Scenario FR
 AER Low

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	< 0.68	1.93	1.90	< 0.68	1.97	1.42	0.79
Mg, PM2.5	< 0.29	< 0.29	0.42	< 0.29	0.29	< 0.29	0.73
Al, PM2.5	< 0.16	0.22	0.21	0.29	0.35	< 0.16	0.20
Si, PM2.5	0.36	0.41	0.45	0.63	0.57	0.39	0.66
P, PM2.5	0.10	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.36	0.16	0.15	< 0.12	0.18	< 0.12	0.21
Ca, PM2.5	< 0.13	< 0.13	< 0.13	0.14	0.19	< 0.13	0.19
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.42	0.90	0.87	1.36	0.80	0.44	1.05
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	0.05	0.07	0.08	0.04	0.05	< 0.04	0.05
Zn, PM2.5	< 0.05	< 0.05	< 0.05	0.08	0.05	< 0.05	0.07
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 20
 Location LA
 Test Day Mo
 Test Date 9/29/97
 AM / PM AM
 Scenario FR
 AER Low

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.13	< 0.68	< 0.68	2.37	1.74
Mg, PM10	0.62	0.71	< 0.29	< 0.29	0.57
Al, PM10	1.89	< 0.16	0.98	1.60	1.35
Si, PM10	5.84	1.93	1.39	4.76	5.02
P, PM10	< 0.08	0.17	0.08	0.15	0.12
Cl, PM10	0.27	0.37	0.26	0.23	0.43
K, PM10	0.86	0.29	0.22	0.64	0.76
Ca, PM10	1.35	0.55	0.31	0.89	1.48
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	2.05	1.28	1.53	2.04	3.25
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.08	0.12	0.06	0.06
Zn, PM10	0.06	0.05	0.07	0.08	0.14
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 21
 Location LA
 Test Day Mo
 Test Date 9/29/97
 AM / PM PM
 Scenario FR
 AER Low

I-41

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	2.35	0.73	< 0.68	0.69	2.02	1.52	2.19
Mg, PM2.5	0.35	< 0.29	< 0.29	0.78	0.70	< 0.29	< 0.29
Al, PM2.5	< 0.16	< 0.16	0.25	< 0.16	< 0.16	0.31	< 0.16
Si, PM2.5	0.31	0.35	0.36	0.52	0.31	0.41	0.52
P, PM2.5	< 0.08	< 0.08	0.08	0.14	< 0.08	0.12	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.14	0.13	< 0.12	0.18	< 0.12	< 0.12	< 0.12
Ca, PM2.5	0.14	< 0.13	< 0.13	0.20	< 0.13	< 0.13	0.20
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.13	0.53	0.42	0.93	0.53	0.55	0.48
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.04	0.08	< 0.04	0.05	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 21
 Location LA
 Test Day Mo
 Test Date 9/29/97
 AM / PM PM
 Scenario FR
 AER Low

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.53	2.81	1.17	4.43	5.29
Mg, PM10	0.65	< 0.29	< 0.29	1.12	1.11
Al, PM10	0.75	0.56	< 0.16	2.08	1.83
Si, PM10	3.84	1.57	0.89	4.16	3.38
P, PM10	0.21	0.10	0.22	0.19	0.17
Cl, PM10	0.62	0.27	< 0.17	0.24	0.73
K, PM10	0.56	0.32	< 0.12	0.57	0.64
Ca, PM10	0.86	0.42	0.21	1.01	1.04
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.89	0.89	0.77	2.14	1.74
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.08	0.12	0.07	0.06
Zn, PM10	< 0.05	< 0.05	< 0.05	0.07	0.08
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 22
 Location LA
 Test Day Tu
 Test Date 9/30/97
 AM / PM AM
 Scenario FRC
 AER Hi

I-43

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.93	1.79	1.90	< 0.68	1.19	< 0.68	1.47
Mg, PM2.5	< 0.29	< 0.29	0.64	< 0.29	< 0.29	0.34	0.49
Al, PM2.5	0.19	0.18	< 0.16	0.26	0.25	0.31	0.36
Si, PM2.5	0.39	0.31	0.22	0.09	0.42	0.38	0.57
P, PM2.5	0.08	< 0.08	< 0.08	0.08	< 0.08	0.12	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	0.17	0.12	< 0.12	< 0.12	< 0.12	0.16	0.21
Ca, PM2.5	< 0.13	0.15	< 0.13	< 0.13	< 0.13	< 0.13	0.14
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.08	0.44	0.38	0.05	0.41	0.25	0.70
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.12	0.08	< 0.04	0.07	0.04	0.04
Zn, PM2.5	0.06	< 0.05	0.05	< 0.05	0.07	0.10	0.06
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 22
 Location LA
 Test Day Tu
 Test Date 9/30/97
 AM / PM AM
 Scenario FRC
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	3.08	1.18	1.78	2.76	3.00
Mg, PM10	0.50	< 0.29	< 0.29	0.39	0.59
Al, PM10	1.55	1.24	0.74	2.87	0.73
Si, PM10	3.69	1.62	1.49	6.72	3.33
P, PM10	0.19	0.14	< 0.08	< 0.08	0.12
Cl, PM10	0.46	< 0.17	< 0.17	0.60	0.31
K, PM10	0.68	0.25	0.25	0.72	0.48
Ca, PM10	0.82	0.28	0.23	1.10	0.80
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.78	0.67	0.55	2.31	2.23
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.15	0.10	0.06	0.11
Zn, PM10	0.05	0.08	0.07	0.17	0.08
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	0.03
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	0.34	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 23
 Location LA
 Test Day Tu
 Test Date 9/30/97
 AM / PM PM
 Scenario FRC
 AER Hi

I-45

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	< 0.68	1.36	2.12	< 0.68	< 0.68	2.01	1.15
Mg, PM2.5	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29
Al, PM2.5	< 0.16	0.17	< 0.16	< 0.16	< 0.16	< 0.16	0.40
Si, PM2.5	0.27	0.60	0.36	0.50	0.46	0.55	0.70
P, PM2.5	< 0.08	< 0.08	0.12	0.09	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	0.13	< 0.12	0.20	< 0.12	0.13	< 0.12
Ca, PM2.5	< 0.13	0.14	< 0.13	0.16	< 0.13	0.17	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.12	0.32	0.27	0.52	0.51	0.59	0.52
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.07	0.08	0.05	0.06	0.08	0.05
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted
 N/A - No sample scheduled
 NS - No sample, data lost or voided
 < values are referenced to MDL's or MQL's defined in Table 3-3
 Abbreviations defined in Section 7

Commute # 23
 Location LA
 Test Day Tu
 Test Date 9/30/97
 AM / PM PM
 Scenario FRC
 AER Hi

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	1.13	1.47	1.52	2.07	1.58
Mg, PM10	0.80	< 0.29	0.79	0.87	0.76
Al, PM10	2.09	0.43	0.61	0.97	1.14
Si, PM10	5.09	1.50	1.66	5.18	4.39
P, PM10	< 0.08	< 0.08	0.31	< 0.08	< 0.08
Cl, PM10	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM10	0.55	0.25	0.17	0.59	0.55
Ca, PM10	0.94	0.30	0.29	0.92	1.06
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	1.07	0.58	0.58	2.30	2.08
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.12	0.12	0.07	0.07
Zn, PM10	0.05	< 0.05	< 0.05	0.11	0.08
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 24
 Location LA
 Test Day We
 Test Date 10/1/97
 AM / PM AM
 Scenario AR
 AER Low

I-47

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	< 0.68	1.19	2.62	< 0.68	1.47	< 0.68	< 0.68
Mg, PM2.5	< 0.29	0.67	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29
Al, PM2.5	< 0.16	0.29	0.36	0.21	< 0.16	< 0.16	< 0.16
Si, PM2.5	0.32	0.54	0.21	0.49	0.42	0.24	0.34
P, PM2.5	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM2.5	0.37	< 0.17	< 0.17	< 0.17	< 0.17	0.21	< 0.17
K, PM2.5	0.21	< 0.12	< 0.12	< 0.12	0.12	0.17	0.14
Ca, PM2.5	< 0.13	< 0.13	< 0.13	0.15	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.11	0.37	0.41	0.67	0.39	0.18	0.16
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.06	0.17	0.04	0.11	< 0.04	< 0.04
Zn, PM2.5	0.09	< 0.05	< 0.05	0.10	< 0.05	0.07	0.06
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 24
 Location LA
 Test Day We
 Test Date 10/1/97
 AM / PM AM
 Scenario AR
 AER Low

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.49	1.11	< 0.68	2.06	1.55
Mg, PM10	0.65	< 0.29	< 0.29	0.96	0.33
Al, PM10	1.71	< 0.16	1.24	2.05	1.55
Si, PM10	3.90	1.63	3.82	4.17	4.44
P, PM10	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM10	0.29	< 0.17	0.46	< 0.17	0.68
K, PM10	0.66	0.21	0.57	0.58	0.56
Ca, PM10	0.95	0.28	0.91	0.62	0.90
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.94	0.79	1.52	1.16	1.29
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.17	0.28	0.07	< 0.04
Zn, PM10	0.10	0.09	0.14	0.11	0.09
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 25
 Location LA
 Test Day We
 Test Date 10/1/97
 AM / PM PM
 Scenario AR
 AER Low

I-49

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.96	1.58	< 0.68	1.58	< 0.68	0.68	< 0.68
Mg, PM2.5	0.48	< 0.29	< 0.29	< 0.29	0.36	< 0.29	< 0.29
Al, PM2.5	< 0.16	0.27	< 0.16	< 0.16	< 0.16	< 0.16	0.19
Si, PM2.5	0.44	0.34	0.25	0.62	0.39	0.24	0.47
P, PM2.5	< 0.08	0.09	< 0.08	< 0.08	0.11	0.20	0.09
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	0.15	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.10	0.25	0.32	0.48	0.31	0.20	0.21
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.05	0.13	0.04	0.09	< 0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 25
 Location LA
 Test Day We
 Test Date 10/1/97
 AM / PM PM
 Scenario AR
 AER Low

Element, Size ug/m ³	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.72	< 0.68	1.76	1.45	1.69
Mg, PM10	< 0.29	0.33	0.31	0.59	0.65
Al, PM10	1.60	0.95	0.76	2.15	1.74
Si, PM10	3.81	2.24	1.67	4.36	4.46
P, PM10	< 0.08	0.18	0.09	0.09	< 0.08
Cl, PM10	< 0.17	< 0.17	< 0.17	0.18	< 0.17
K, PM10	0.35	0.16	0.15	0.47	0.41
Ca, PM10	0.71	0.30	0.30	0.83	0.76
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.80	0.54	1.15	1.36	1.14
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.12	0.23	0.04	0.05
Zn, PM10	< 0.05	0.06	< 0.05	< 0.05	0.06
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 26
 Location LA
 Test Day Th
 Test Date 10/2/97
 AM / PM AM
 Scenario AR
 AER Hi

I-51

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.65	< 0.68	< 0.68	< 0.68	< 0.68	1.66	1.90
Mg, PM2.5	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	0.51	< 0.29
Al, PM2.5	< 0.16	0.33	< 0.16	< 0.16	< 0.16	< 0.16	0.28
Si, PM2.5	0.17	0.43	0.40	0.41	0.36	0.29	0.15
P, PM2.5	< 0.08	< 0.08	0.19	< 0.08	0.15	0.11	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	0.14	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.07	0.34	0.31	0.49	0.32	0.18	0.07
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.08	0.13	< 0.04	0.06	< 0.04	0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 26
 Location LA
 Test Day Th
 Test Date 10/2/97
 AM / PM AM
 Scenario AR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	2.64	0.71	< 0.68	2.96	1.76
Mg, PM10	< 0.29	< 0.29	0.35	< 0.29	< 0.29
Al, PM10	1.44	0.23	1.00	1.05	1.74
Si, PM10	2.18	1.18	1.62	3.25	2.41
P, PM10	0.42	< 0.08	0.29	0.12	0.12
Cl, PM10	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM10	< 0.12	< 0.12	0.16	0.36	0.19
Ca, PM10	0.48	0.34	0.26	0.47	0.47
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.47	0.60	0.53	1.13	0.54
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.14	0.13	< 0.04	< 0.04
Zn, PM10	< 0.05	0.07	< 0.05	0.07	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 27
 Location LA
 Test Day Th
 Test Date 10/2/97
 AM / PM PM
 Scenario AR
 AER Hi

I-53

Element, Size ug/m3	AMB	IN1	IN2	OUT1	OUT2	ROAD1	ROAD2
Na, PM2.5	1.89	1.33	< 0.68	1.14	0.86	2.15	1.55
Mg, PM2.5	< 0.29	0.40	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29
Al, PM2.5	0.35	< 0.16	< 0.16	0.26	< 0.16	< 0.16	0.22
Si, PM2.5	0.46	0.31	0.29	0.49	0.15	0.14	0.30
P, PM2.5	< 0.08	0.09	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.09	0.32	0.19	0.40	0.18	0.16	0.18
Co, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.10	0.09	0.04	0.11	0.04	< 0.04
Zn, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ga, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 27
 Location LA
 Test Day Th
 Test Date 10/2/97
 AM / PM PM
 Scenario AR
 AER Hi

Element, Size ug/m3	AMB	IN1	IN2	ROAD1	ROAD2
Na, PM10	1.65	0.79	1.54	1.12	0.72
Mg, PM10	0.51	< 0.29	0.48	< 0.29	0.59
Al, PM10	1.54	0.68	< 0.16	1.46	1.92
Si, PM10	3.23	1.90	1.10	3.26	3.36
P, PM10	< 0.08	0.13	0.11	< 0.08	< 0.08
Cl, PM10	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
K, PM10	0.32	0.22	0.17	0.35	0.32
Ca, PM10	0.55	0.33	0.22	0.67	0.57
Ti, PM10	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23	< 0.23	< 0.23	< 0.23
Fe, PM10	0.75	0.61	0.30	1.05	0.82
Co, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Cu, PM10	< 0.04	0.16	0.13	0.04	< 0.04
Zn, PM10	0.06	< 0.05	< 0.05	0.07	< 0.05
Ga, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44	< 1.44	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97	< 1.97	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 28 I-55
 Location LA
 Test Day Fr
 Test Date 10/3/97
 AM / PM AM
 Scenario MC
 AER Hi

Element, Size ug/m3	AMB	IN1	OUT1
Na, PM2.5	1.55	< 0.68	< 0.68
Mg, PM2.5	< 0.29	< 0.29	< 0.29
Al, PM2.5	0.21	< 0.16	< 0.16
Si, PM2.5	0.38	0.39	0.54
P, PM2.5	< 0.08	0.08	0.16
Cl, PM2.5	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	0.15
Ti, PM2.5	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.24	0.48	0.69
Co, PM2.5	< 0.05	< 0.05	< 0.05
Cu, PM2.5	< 0.04	0.11	0.08
Zn, PM2.5	< 0.05	0.10	0.11
Ga, PM2.5	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 28
 Location LA
 Test Day Fr
 Test Date 10/3/97
 AM / PM AM
 Scenario MC
 AER Hi

I-56

Element, Size ug/m3	AMB	IN1
Na, PM10	1.48	1.45
Mg, PM10	0.37	< 0.29
Al, PM10	1.18	0.48
Si, PM10	2.67	2.36
P, PM10	< 0.08	0.16
Cl, PM10	< 0.17	< 0.17
K, PM10	0.34	0.19
Ca, PM10	0.62	0.49
Ti, PM10	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23
Fe, PM10	0.86	0.81
Co, PM10	< 0.05	< 0.05
Cu, PM10	0.04	0.17
Zn, PM10	< 0.05	0.14
Ga, PM10	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 29 I-57
 Location LA
 Test Day Fr
 Test Date 10/3/97
 AM / PM PM
 Scenario MC
 AER Hi

Element, Size ug/m3	AMB	IN1	OUT1
Na, PM2.5	1.51	< 0.68	1.12
Mg, PM2.5	< 0.29	< 0.29	< 0.29
Al, PM2.5	0.18	< 0.16	< 0.16
Si, PM2.5	0.37	1.11	0.83
P, PM2.5	0.09	< 0.08	< 0.08
Cl, PM2.5	< 0.17	< 0.17	< 0.17
K, PM2.5	< 0.12	< 0.12	< 0.12
Ca, PM2.5	< 0.13	< 0.13	< 0.13
Ti, PM2.5	< 0.54	< 0.54	< 0.54
V, PM2.5	< 0.23	< 0.23	< 0.23
Fe, PM2.5	0.12	0.45	0.62
Co, PM2.5	< 0.05	< 0.05	< 0.05
Cu, PM2.5	0.05	0.09	< 0.04
Zn, PM2.5	0.05	0.12	0.08
Ga, PM2.5	< 0.04	< 0.04	< 0.04
As, PM2.5	< 0.04	< 0.04	< 0.04
Se, PM2.5	< 0.03	< 0.03	< 0.03
Br, PM2.5	< 0.02	< 0.02	< 0.02
Rb, PM2.5	< 0.02	< 0.02	< 0.02
Sr, PM2.5	< 0.02	< 0.02	< 0.02
Y, PM2.5	< 0.02	< 0.02	< 0.02
Zr, PM2.5	< 0.03	< 0.03	< 0.03
Mo, PM2.5	< 0.05	< 0.05	< 0.05
Pd, PM2.5	< 0.19	< 0.19	< 0.19
Ag, PM2.5	< 0.20	< 0.20	< 0.20
In, PM2.5	< 0.25	< 0.25	< 0.25
Sn, PM2.5	< 0.32	< 0.32	< 0.32
Sb, PM2.5	< 0.38	< 0.38	< 0.38
Ba, PM2.5	< 1.44	< 1.44	< 1.44
La, PM2.5	< 1.97	< 1.97	< 1.97
Au, PM2.5	< 0.07	< 0.07	< 0.07
Hg, PM2.5	< 0.06	< 0.06	< 0.06
Tl, PM2.5	< 0.05	< 0.05	< 0.05
U, PM2.5	< 0.05	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Commute # 29
 Location LA
 Test Day Fr
 Test Date 10/3/97
 AM / PM PM
 Scenario MC
 AER Hi

I-58

Element, Size ug/m3	AMB	IN1
Na, PM10	0.86	1.99
Mg, PM10	< 0.29	< 0.29
Al, PM10	0.92	< 0.16
Si, PM10	3.22	2.71
P, PM10	< 0.08	0.12
Cl, PM10	< 0.17	< 0.17
K, PM10	0.29	0.18
Ca, PM10	0.63	0.24
Ti, PM10	< 0.54	< 0.54
V, PM10	< 0.23	< 0.23
Fe, PM10	0.75	0.68
Co, PM10	< 0.05	< 0.05
Cu, PM10	0.04	0.12
Zn, PM10	0.07	0.12
Ga, PM10	< 0.04	< 0.04
As, PM10	< 0.04	< 0.04
Se, PM10	< 0.03	< 0.03
Br, PM10	< 0.02	< 0.02
Rb, PM10	< 0.02	< 0.02
Sr, PM10	< 0.02	< 0.02
Y, PM10	< 0.02	< 0.02
Zr, PM10	< 0.03	< 0.03
Mo, PM10	< 0.05	< 0.05
Pd, PM10	< 0.19	< 0.19
Ag, PM10	< 0.20	< 0.20
In, PM10	< 0.25	< 0.25
Sn, PM10	< 0.32	< 0.32
Sb, PM10	< 0.38	< 0.38
Ba, PM10	< 1.44	< 1.44
La, PM10	< 1.97	< 1.97
Au, PM10	< 0.07	< 0.07
Hg, PM10	< 0.06	< 0.06
Tl, PM10	< 0.05	< 0.05
U, PM10	< 0.05	< 0.05

NOTES:

All contaminants in $\mu\text{g}/\text{m}^3$ unless otherwise noted

N/A - No sample scheduled

NS - No sample, data lost or voided

< values are referenced to MDL's or MQL's defined in Table 3-3

Abbreviations defined in Section 7

Appendix J

Data Treatment Guidelines for Summary Tables

Data Treatment Guidelines for ARB Summary Tables

Individual Commute Summaries (e.g. Appendix H, Appendix I)

[Only *Censored* Data reported, where censored is defined as:]

If MDL and MQL are defined (e.g. $PM_{2.5}$ & PM_{10} mass, particle count, black carbon, speed, spacing):
value is above MQL, report data value
MQL is reported when data value is less than or equal to MQL (e.g. $<0.22 \mu\text{g}/\text{m}^3$ for Los Angeles isobutylene)

If only MQL is defined (e.g. VOC's, formaldehyde, CO):
value is above MQL, report data value
MQL is reported when data value is less than or equal to MQL (e.g. $<0.22 \mu\text{g}/\text{m}^3$ for Los Angeles isobutylene)

If only MDL is defined:
value is above MDL, report data value
MDL is reported instead of MQL when data value is $<MDL$ (e.g. $<0.2 \mu\text{g}/\text{m}^3$ for $PM_{2.5}$ cadmium)

Composite Summaries (e.g. Tables 3-4, 3-4, 4-1, 4-2, 4-3, etc.)

[*Uncensored* data utilized to compute scenario means; except when data value is below MDL:]

If MDL and MQL are both defined (e.g. $PM_{2.5}$ & PM_{10} mass, particle count, black carbon, speed, spacing): and
value is above MDL, use *uncensored* data in mean computation
value is equal to or below MDL, use $\frac{1}{2}$ of MDL in mean computation

If only MQL is defined (e.g. VOC's, formaldehyde, CO):
use *uncensored* data in mean computation

If only MDL is defined (e.g. metals for $PM_{2.5}$ & PM_{10}): and
value is above MDL, use *uncensored* data in mean computation
value is equal to or below MDL, use $\frac{1}{2}$ of MDL in mean computation

If neither MDL or MQL are defined (e.g. Level of Congestion)
use *uncensored* data

Additional Notes:

1. All particle count data were above the MDL.
2. If two values of MQL exist in a mixed computation (e.g. Sacramento VOC data) use higher value of MQL)
3. Means with only 1 data point (e.g. rural commute), revert to rules above for Individual Commute Summaries.

Appendix K

Measurement Summary Data for Selected Target Pollutants

- **PM_{2.5} Data**
- **MTBE Data**
- **CO Data**
- **Formaldehyde Data**
- **PM_{2.5} Sulfur (S)**

PM2.5 Data Summary

#	Day	1998 Date	Day of Week	City	Special Test Type	Vehicle 2 Type	Time Period	Roadway Type	Rush. Period	AER Level	PM2.5										
											IN1-AMB	OUT1-IN1	IN1-ROAD X	IN2-AMB	OUT2-IN2	IN2-ROAD X	OUT1-OUT2	IN1-OUT1	Cor. IN1-OUT1	IN2-OUT2	
1	1	9/9	Tu	SAC		Taurus	AM	Freeway	Non-Rush	High	-1.9	6.4	10.1	-3.8	0.1	2.0	-1.8	2.3	-6.4	-10.1	-2.0
2	1	9/9	Tu	SAC		Taurus	AM	Freeway	Non-Rush	High	10.2	10.9	16.4	13.4	4.1	4.0	7.4	12.9	-10.9	-16.4	-4.0
3	2	9/10	We	SAC		Taurus	AM	Freeway	Rush	High	14.5	-4.1	-2.0	16.5	4.1	6.2	6.1	0.1	4.1	2.0	-6.2
4	2	9/10	We	SAC		Taurus	AM	Freeway	Rush	High	14.4	1.6	5.6	16.4	-2.1	10.4	0.0	7.7	-1.6	-5.6	-10.4
5	3	9/11	Th	SAC		Taurus	AM	Freeway	Rush	Low	11.4	14.1	21.3	5.5	5.8	9.9	0.0	9.8	-14.1	-21.3	-9.9
6	3	9/11	Th	SAC		Taurus	AM	Freeway	Rush	Low	11.8	15.0	-3.2	-3.2	-4.1	-4.1	-3.1	15.8	-11.8	-15.0	4.1
7	4	9/12	Fr	SAC		Taurus	AM	Arterial	Rush	High	-0.2	14.0	18.5	-2.4	-6.2	8.4	-8.4	11.6	-14.0	-18.5	-8.4
8	4	9/12	Fr	SAC		Taurus	AM	Arterial	Rush	High	6.1	4.5	7.4	9.2	8.2	-10.4	11.3	12.8	-4.5	-7.4	10.4
9	5	9/13	Sa	SAC	Rural	Taurus	AM	Rural	Rush	High	na	-4.1	-3.6	na	na	na	na	na	4.1	3.6	0.0
10	6	9/14	Mo	SAC		Taurus	AM	Arterial	Rush	Low	-2.2	10.2	14.3	na	-4.1	17.8	na	-5.6	-10.2	-14.3	-17.8
11	6	9/14	Mo	SAC		Taurus	AM	Arterial	Rush	Low	-8.6	2.5	5.0	na	-2.3	-4.0	na	0.2	-2.5	-5.0	4.0
12	7	9/15	Tu	SAC	School Bus	Bus	AM	Resid.	Rush	High	3.9	-3.9	-2.2	na	14.7	-4.7	na	-9.9	3.9	2.2	4.7
13	7	9/15	Tu	SAC	School Bus	Bus	AM	Resid.	Rush	High	-3.2	0.6	0.6	na	na	-2.6	na	4.5	3.2	-0.6	2.6
14	8	9/25	Th	LA		Explorer	AM	Freeway	Non-Rush	High	38.3	8.5	22.0	na	22.2	6.5	na	18.1	-8.5	-22.0	-6.5
15	8	9/26	Fr	LA		Explorer	AM	Freeway	Rush	High	23.0	13.0	25.1	8.7	14.1	9.0	-0.2	12.8	-13.0	-25.1	-9.0
16	9	9/26	Fr	LA		Explorer	AM	Freeway	Rush	High	17.2	-0.1	7.5	0.6	7.3	4.8	-9.3	5.0	0.1	-7.5	-4.8
17	10	9/27	Sa	LA		Explorer	AM	Arterial	Non-Rush	High	7.0	2.8	13.2	na	-1.2	1.1	na	9.9	-2.8	-13.2	-1.1
18	11	9/28	Su	LA		Explorer	AM	Arterial	Non-Rush	High	1.4	8.1	26.9	na	-12.9	-15.6	na	38.0	-8.1	-26.9	15.6
19	11	9/28	Su	LA		Explorer	AM	Freeway	Non-Rush	High	4.8	18.6	32.4	na	1.0	-2.0	na	24.2	-18.6	-32.4	2.0
20	12	9/29	Mo	LA		Explorer	AM	Freeway	Rush	Low	12.7	9.8	22.9	-8.6	-4.8	19.7	-28.1	7.5	-9.8	-22.9	-19.7
21	12	9/29	Mo	LA		Explorer	AM	Freeway	Rush	Low	-3.6	14.4	24.4	-1.5	-17.0	6.7	-14.9	21.1	-14.4	-24.4	-6.7
22	13	9/30	Tu	LA	Carpool	Explorer	AM	Freeway	Rush	High	-14.8	-37.3	-36.9	-30.7	-14.8	60.7	-30.9	-97.8	37.3	36.9	-60.7
23	13	9/30	Tu	LA	Carpool	Explorer	AM	Freeway	Rush	High	-7.8	25.8	41.9	-14.9	-14.8	10.5	-21.9	22.4	-25.8	-41.9	-10.5
24	14	10/1	We	LA		Explorer	AM	Arterial	Rush	Low	-52.9	59.8	82.3	-49.3	-60.9	25.8	-57.4	42.0	-59.8	-82.3	-25.8
25	14	10/1	We	LA		Explorer	AM	Arterial	Rush	Low	7.9	12.9	24.2	-9.8	-4.5	6.5	-22.1	18.8	-12.9	-24.2	-6.5
26	15	10/2	Th	LA		Explorer	AM	Arterial	Rush	High	22.4	6.8	16.0	14.1	18.2	-14.0	7.9	27.0	-6.8	-16.0	14.0
27	15	10/2	Th	LA		Explorer	AM	Arterial	Rush	High	-5.3	12.5	20.7	-2.5	-11.1	4.4	-8.4	14.0	-12.5	-20.7	-4.4
28	16	10/3	Fr	LA	Max Conc.	none	AM	Freeway	Rush	High	27.2	21.6	38.0	na	na	na	na	na	-12.5	-38.0	-4.4
29	16	10/3	Fr	LA	Max Conc.	none	AM	Freeway	Rush	High	96.2	-10.1	9.3	na	na	na	na	na	-10.1	-9.3	na

MTBE Data Summary																					
Commuter	#	1998 Date	Day of Week	City	Special Test Type	Vehicle 2 Type	Time Period	Roadway	Rush Period	AER Level	MTBE										
											INI - AMB	INI - OUT1	INI - ROAD X	IN2 - AMB	IN2 - OUT2	IN2 - ROAD X	OUT1 - OUT2	OUT1 - ROAD X	OUT1 - AMB	OUT2 - AMB	INI/OUT1
	1	9/1	Tu	SAC		Taurus	AM	Freeway	Non-Rush	High	6.4	-1.7	5.9	4.6	-2.2	4.1	1.3	8.1	6.8	0.845	0.773
	2	9/2	Tu	SAC		Taurus	PM	Freeway	Non-Rush	High	11.0	-4.0	9.7	14.0	1.0	12.7	2.0	15.0	13.0	0.750	1.071
	3	9/10	We	SAC		Taurus	AM	Freeway	Rush	High	16.4	2.0	13.3	16.4	-1.0	13.5	-3.0	14.4	17.4	1.118	0.950
	4	9/10	We	SAC		Taurus	PM	Freeway	Rush	High	26.1	-1.0	26.2	24.1	2.0	24.2	5.0	27.1	22.1	0.957	1.060
	5	9/11	Th	SAC		Taurus	AM	Freeway	Rush	Low	10.7	-1.0	9.3	5.7	-7.0	4.5	-1.0	11.7	12.7	0.941	0.611
	6	9/11	Th	SAC		Taurus	PM	Freeway	Rush	Low	6.0	6.0	16.5	16.0	16.0	15.5	11.0	12.5	14.5	1.273	2.453
	7	9/12	Fr	SAC		Taurus	AM	Arterial	Rush	High	22.5	10.0	17.5	14.5	0.0	9.5	-2.0	12.5	14.5	1.478	1.000
	8	9/12	Fr	SAC		Taurus	PM	Arterial	Rush	High	24.9	3.0	20.4	19.9	4.0	13.4	6.0	21.9	15.9	1.113	1.200
	9	9/13	Sa	SAC	Rural	Taurus	noon	Rural	Rush	High	na	0.4	na	na	na	na	na	na	na	1.182	na
	10	9/14	Mo	SAC		Taurus	AM	Arterial	Rush	Low	24.0	3.0	na	10.0	0.0	na	11.0	21.0	10.0	1.091	1.000
	11	9/14	Mo	SAC		Taurus	PM	Arterial	Rush	Low	23.4	0.0	na	16.4	1.0	na	8.0	23.4	15.4	1.000	1.056
	12	9/15	Tu	SAC	School Bus	Bus	AM	Road	Rush	High	5.9	1.1	na	4.6	0.4	na	0.6	4.8	4.2	1.143	1.037
	13	9/15	Tu	SAC	School Bus	Bus	PM	Road	Rush	High	na	1.2	na	na	0.8	na	2.5	na	na	1.250	1.348
	14	9/25	Th	LA		Explorer	AM	Freeway	Non-Rush	High	22.1	1.0	na	18.1	-1.0	na	2.0	21.1	19.1	1.003	0.966
	15	9/26	Fr	LA		Explorer	AM	Freeway	Rush	High	14.6	-11.0	-5.5	23.6	3.0	3.5	5.0	25.6	20.6	0.643	1.113
	16	9/26	Fr	LA		Explorer	PM	Freeway	Rush	High	22.7	-2.0	10.0	26.7	3.0	14.0	1.0	24.7	23.7	0.938	1.097
	17	9/27	Sa	LA		Explorer	PM	Arterial	Non-Rush	High	24.0	3.0	na	16.0	6.0	na	11.0	21.0	10.0	1.077	1.214
	18	9/28	Su	LA		Explorer	AM	Arterial	Non-Rush	High	43.0	-2.0	na	17.0	-3.0	na	23.0	43.0	23.0	0.975	0.912
	19	9/28	Su	LA		Explorer	PM	Freeway	Non-Rush	High	30.0	-1.0	na	20.0	-11.0	na	6.0	31.0	31.0	0.981	0.788
	20	9/29	Mo	LA		Explorer	AM	Freeway	Rush	Low	34.0	2.0	11.0	23.0	-1.0	2.0	6.0	32.0	26.0	1.003	0.983
	21	9/29	Mo	LA		Explorer	PM	Freeway	Rush	Low	26.0	-4.0	6.3	18.0	-2.0	-1.5	10.0	30.0	30.0	0.902	0.933
	22	9/30	Tu	LA	Carpool	Explorer	AM	Freeway	Rush	High	26.8	0.0	5.0	38.8	2.0	17.0	-10.0	26.8	36.8	1.000	1.044
	23	9/30	Tu	LA	Carpool	Explorer	PM	Freeway	Rush	High	13.0	-1.0	2.0	33.0	-3.0	22.0	32.0	16.0	38.0	0.944	0.940
	24	10/1	We	LA		Explorer	AM	Arterial	Rush	Low	37.0	-1.0	30.0	26.0	0.0	19.0	12.0	38.0	26.0	0.980	1.000
	25	10/1	We	LA		Explorer	PM	Arterial	Rush	Low	12.0	-8.0	7.0	13.0	1.0	8.0	8.0	20.0	12.0	0.730	1.042
	26	10/2	Th	LA		Explorer	AM	Arterial	Rush	High	34.6	7.0	30.6	26.6	4.0	22.6	5.0	27.6	22.6	1.266	1.138
	27	10/2	Th	LA		Explorer	PM	Arterial	Rush	High	21.3	1.0	13.8	19.3	1.0	13.8	2.0	20.3	19.3	1.007	1.040
	28	10/3	Fr	LA	Max Conc.	none	AM	Freeway	Rush	High	79.0	18.0	#REF	na	na	na	na	61.0	19.3	1.250	1.000
	29	10/3	Fr	LA	Max Conc.	none	PM	Freeway	Rush	High	20.0	1.0	#REF	na	na	na	na	19.0	-10.0	1.004	na

CO Data Summary										CO									
Commuter																			
#	Day	1998 Date	Day of Week	City	Special Test Type	Vehicle 2 Type	Time Period	Roadway Type	Rush Period	ABR Level	INI - AMB/INI - OUT1	INI1 - ROAD X	INI2 - AMB/INI2 - OUT2	INI2 - ROAD X	OUT1 - OUT2	OUT1 - AMB	OUT2 - AMB		
1	1	9/9	Tu	SAC		Taurus	AM	Freeway	Non-Rush	High	1.2	1.2	4.2	4.2	-4.8	0.0	4.8		
2	1	9/9	Tu	SAC		Taurus	PM	Freeway	Non-Rush	High	1.6	1.6	2.8	2.8	-0.8	2.2	3.0		
3	2	9/10	We	SAC		Taurus	AM	Freeway	Rush	High	2.3	2.3	2.6	2.6	-0.8	2.5	3.2		
4	2	9/10	We	SAC		Taurus	PM	Freeway	Rush	High	2.1	2.1	4.1	4.1	-3.2	2.2	5.4		
5	3	9/11	Th	SAC		Taurus	AM	Freeway	Rush	Low	1.8	1.6	2.6	2.4	-2.7	1.8	4.5		
6	3	9/11	Th	SAC		Taurus	PM	Freeway	Rush	Low	-0.2	0.9	-0.6	2.1	-1.7	2.1	3.8		
7	4	9/12	Fr	SAC		Taurus	AM	Arterial	Rush	High	2.4	2.1	2.1	1.7	0.7	3.1	2.4		
8	4	9/12	Fr	SAC		Taurus	PM	Arterial	Rush	High	2.0	1.6	5.1	4.7	-6.0	0.0	6.0		
9	5	9/13	Sa	SAC	Rural	Taurus	noon	Rural	Rush	High	na	na	na	na	-1.4	2.3	3.7		
10	6	9/14	Mo	SAC		Taurus	AM	Arterial	Rush	Low	1.9	-0.4	2.1	na	-1.3	2.7	4.0		
11	6	9/14	Mo	SAC		Taurus	PM	Arterial	Rush	Low	2.5	-0.2	2.7	na	-1.3	2.7	4.0		
12	7	9/15	Tu	SAC	School Bus	Bus	AM	Resid.	Rush	High	0.4	0.1	0.3	na	-0.1	0.4	0.4		
13	7	9/15	Tu	SAC	School Bus	Bus	PM	Resid.	Rush	High	0.1	na	na	na	na	0.4	0.4		
14	8	9/25	Th	LA		Explorer	AM	Freeway	Non-Rush	High	3.9	-0.8	na	na	0.2	0.2	0.0		
15	9	9/26	Fr	LA		Explorer	AM	Freeway	Rush	High	6.0	0.6	3.5	na	0.8	4.7	3.9		
16	9	9/26	Fr	LA		Explorer	PM	Freeway	Rush	High	4.3	0.0	4.3	1.8	0.4	5.4	5.0		
17	10	9/27	Sa	LA		Explorer	PM	Arterial	Non-Rush	High	3.1	0.2	2.2	2.9	0.3	4.3	3.9		
18	11	9/28	Su	LA		Explorer	AM	Arterial	Non-Rush	High	3.6	-0.8	na	na	-1.9	2.9	4.8		
19	11	9/28	Su	LA		Explorer	PM	Arterial	Non-Rush	High	2.3	0.8	3.4	na	-0.1	4.4	4.5		
20	12	9/29	Mo	LA		Explorer	AM	Freeway	Rush	Low	3.9	-1.7	2.7	na	-1.6	1.5	3.1		
21	12	9/29	Mo	LA		Explorer	PM	Freeway	Rush	Low	4.0	-0.1	5.7	2.7	-1.6	5.5	7.1		
22	13	9/30	Tu	LA	Carpool	Explorer	AM	Freeway	Rush	High	4.2	1.0	4.4	1.6	-0.1	4.1	4.2		
23	13	9/30	Tu	LA	Carpool	Explorer	PM	Freeway	Rush	High	2.9	0.5	4.9	1.5	-2.3	3.2	5.5		
24	14	10/1	We	LA		Explorer	AM	Arterial	Rush	Low	6.0	-0.6	4.9	1.3	-3.3	2.4	5.7		
25	14	10/1	We	LA		Explorer	PM	Arterial	Rush	Low	3.8	0.5	5.0	4.1	0.5	6.6	6.1		
26	15	10/2	Th	LA		Explorer	AM	Arterial	Rush	High	4.1	-0.6	4.3	3.7	-1.7	3.3	5.0		
27	15	10/2	Th	LA		Explorer	PM	Arterial	Rush	High	3.0	0.2	4.7	4.0	0.2	4.7	4.5		
28	16	10/3	Fr	LA	Max Conc.	none	AM	Freeway	Rush	High	4.2	-0.3	3.6	3.3	-0.9	2.8	3.7		
29	16	10/3	Fr	LA	Max Conc.	none	PM	Freeway	Rush	High	4.6	0.3	na	na	na	4.4	-0.2		

PM2.5 S (Sulfur) Data Summary

Commuter #	1998 Date	Day of Week	City	Special Test Type	Vehicle 2 Type	Time Period	Roadway Type	Rush Period	AER Level	PM2.5 S											
										IN1 - AMB	OUT1 - IN1	IN1 - ROAD X	IN2 - AMB	OUT2 - IN2	IN2 - ROAD X	OUT1 - OUT2	IN1 - OUT1	IN2 - OUT2			
1	9/9	Tu	SAC		Taurus	AM	Freeway	Non-Rush	High	-0.52	-0.01	0.12	-0.19	0.22	-0.18	0.01	-0.22				
2	9/9	Tu	SAC		Taurus	AM	Freeway	Non-Rush	High	-0.94	0.00	0.03	0.06	0.00	0.02	0.00	0.00				
3	9/10	We	SAC		Taurus	AM	Freeway	Rush	High	-2.06	0.07	0.06	-0.05	0.09	-0.12	-0.07	-0.09				
4	9/10	We	SAC		Taurus	AM	Freeway	Rush	High	-1.56	0.07	-0.06	-0.07	0.20	-0.11	-0.09	-0.20				
5	9/11	Th	SAC		Taurus	AM	Freeway	Rush	Low	na	0.09	0.02	-0.17	0.05	-0.13	0.18	-0.09				
6	9/11	Th	SAC		Taurus	AM	Freeway	Rush	Low	-3.83	-0.05	-0.06	-0.13	0.13	-0.19	-0.05	-0.13				
7	9/12	Fr	SAC		Taurus	AM	Arterial	Rush	High	-5.29	0.08	0.20	-0.27	0.18	-0.01	0.11	-0.18				
8	9/12	Fr	SAC		Taurus	AM	Arterial	Rush	High	-4.68	0.10	0.09	-0.27	-0.04	-0.14	0.36	0.04				
9	9/13	Sa	SAC	Rural	Taurus	AM	Rural	Rush	High	na	0.00	-0.01	-0.33	0.19	-0.13	-0.06	-0.19				
10	9/14	Mo	SAC		Taurus	AM	Arterial	Rush	Low	na	0.00	na	na	na	na	na	na				
11	9/14	Mo	SAC		Taurus	AM	Arterial	Rush	Low	na	0.06	na	-0.11	0.09	na	-0.03	-0.09				
12	9/15	Tu	SAC	School Bus	Bus	AM	Resid.	Rush	High	na	-0.15	na	-0.07	0.05	na	-0.17	-0.05				
13	9/15	Tu	SAC	School Bus	Bus	AM	Resid.	Rush	High	na	-0.03	na	0.03	-0.11	na	0.10	0.03				
14	9/25	Th	LA		Explorer	AM	Freeway	Non-Rush	High	na	-0.03	na	0.22	0.02	na	-0.12	-0.02				
15	9/26	Fr	LA		Explorer	AM	Freeway	Rush	High	-5.40	0.04	-0.17	-0.11	-0.03	-0.12	-0.04	0.03				
16	9/26	Fr	LA		Explorer	AM	Freeway	Rush	High	-3.86	-0.19	-0.04	0.16	-0.02	-0.09	0.19	0.02				
17	9/27	Sa	LA		Explorer	AM	Arterial	Non-Rush	High	na	-0.01	na	-0.20	-0.17	na	0.16	0.17				
18	9/28	Su	LA		Explorer	AM	Arterial	Non-Rush	High	na	0.06	na	-0.51	-0.07	na	0.36	0.07				
19	9/28	Su	LA		Explorer	AM	Freeway	Non-Rush	High	na	0.40	na	-0.96	0.93	na	0.06	-0.40				
20	9/29	Mo	LA		Explorer	AM	Freeway	Rush	Low	-15.03	0.06	-0.10	-0.20	0.07	-0.34	-0.06	-0.07				
21	9/29	Mo	LA		Explorer	AM	Freeway	Rush	Low	-8.10	0.43	-0.34	-0.47	0.24	-0.68	0.53	-0.24				
22	9/30	Tu	LA	Carpool	Explorer	AM	Freeway	Rush	High	-9.78	-1.94	-0.47	-0.84	0.16	-0.66	-1.90	-0.16				
23	9/30	Tu	LA	Carpool	Explorer	AM	Freeway	Rush	High	-5.26	0.43	-0.60	-1.68	0.65	-0.92	0.10	-0.43				
24	10/1	We	LA		Explorer	AM	Arterial	Rush	Low	-3.22	1.16	-1.28	-2.01	0.56	-1.80	1.13	-1.16				
25	10/1	We	LA		Explorer	AM	Arterial	Rush	Low	-2.61	0.52	-0.92	-0.86	0.10	-0.97	0.47	-0.52				
26	10/2	Th	LA		Explorer	AM	Arterial	Rush	High	-0.62	0.12	0.08	0.22	0.10	-0.11	0.20	-0.12				
27	10/2	Th	LA		Explorer	AM	Arterial	Rush	High	-0.30	0.53	-0.90	-0.83	-0.36	-0.80	0.79	-0.53				
28	10/3	Fr	LA	Max Conc.	none	AM	Freeway	Rush	High	2.17	0.16	na	na	na	na	na	-0.16				
29	10/3	Fr	LA	Max Conc.	none	AM	Freeway	Rush	High	2.03	0.06	na	na	na	na	na	-0.06				

Appendix L

Ranking of Los Angeles Particle Data for Video Relational Analysis

Appendix M
Field Operations Manual for Main Study

September 5, 1997

**FIELD OPERATIONS MANUAL
MAIN STUDY
MEASURING CONCENTRATIONS OF SELECTED AIR POLLUTANTS
INSIDE CALIFORNIA VEHICLES**

ARB Contract 95-339
RTI Task 93U-6786-001

prepared by

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Main Study
Field Operations Manual

**MEASURING CONCENTRATIONS OF SELECTED AIR POLLUTANTS
INSIDE CALIFORNIA VEHICLES**

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General Information

1. Phone contact list of key study participants
2. Schedule of field activities
3. Sample collections by sampling day, morning and evening commute, and composited for all days
4. Commuting route maps (freeway and rural) with roadside and ambient sampling locations indicated

Procedures

1. Micro-balance transport and setup procedures
2. Filter weighing software and balance operating procedures
3. MSP PM_{2.5} (with scalper) and PM₁₀ particle inlet preparation - loading/unloading
4. Inlet Leak Test Procedure (revised)
5. Driving protocol for freeway and rural routes
6. Standard Operating Procedure for Draeger CO monitors
7. LAS-X operating manual (separate volume)
8. Aethalometer setup and operating procedure
9. Air Exchange Rate measurement protocol using CO monitor
10. Temperature/humidity data loggers setup and operation

Miscellaneous

1. PEM orifice calibration graph and table
2. CEET equipment/supplies shipping list

Contact List of Key Individuals Participating Directly in the Main Study:

Name	Work phone	Home phone	FAX	e-mail
Steve Hui, ARB	916-323-1530	916-391-2910	916-322-4357 916-391-2910 (H)	shui@arb.ca.gov
Charles Rodes, RTI	919-541-6749	Sac. motel	919-541-6936	charlesr@rti.org
Don Whitaker, RTI	919-541-6610	Sac. & LA motel	919-541-7208	chemist@rti.org
Randy Newsome, RTI	919-541-6715	Sac. motel	919-541-7208	na
Tyson Mew	919-541-8042	LA motel		
Frank DiGenova, SR	916-444-6666 916-444-6667	916-753-7567 <i>756-7208</i>	916-444-8373	fjdigenova@ sierraresearch.com
(driver), SR	916-444-6666	na		na
(navigator - may be Frank DiGenova), SR	916-444-6666	na		na
Linda Sheldon ^a	919-541-6603	919-929-3688		lsheldon@rti.org
Phil Lawless ^a	919-541-6782	919-383-3448		pal@rti.org

na - not applicable; ^a after-hour resources - Linda for technical/study design - Phil for LAS-X, weighing, computer operations/data logging

Addresses:

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P. O. Box 12194
3040 Cornwallis Road
Research Triangle Park, NC 27709

Sierra Research
1801 J Street
Sacramento, CA 95814

ARB IN-VEHICLE MAIN STUDY					SACRAMENTO		9/5/97	page 1
Date	DOW	TIME	Type	Vent	Event		Comments	
8/29/97	Fr				Ship backseat rack separately		DONE	
8/30	Sa							
8/31	Su							
9/1	Mo				HOLIDAY			
9/2	Tu				Quality-check all study filters			
9/3	We				Ship equip/supplies from RTP to SR (FedEx 2 day)			
9/4	Th				Last-chance ship day			
9/5	Fr				Equip/supplies arrives at SR			
					Leased Aethalometer arrives at SR			
					SR obtains leased Sedan 2			
					SR tests for exhaust/fuel leaks in Caprice & Sedan 2			
					SR installs backseat rack, LAS-X and Aethalometer in Caprice			
9/6	Sa	PM			CR travels from RTP to Sacramento			
					CR picks up rental sedan & cell phone			
		PM			CR sets up microbalance and tests performance			
9/7	Su	AM			CR pre-weighs Sacramento filters			
		PM			DW and RN travel from RTP to Sacramento			
					DW pics up rental sedan & cell phone			
		PM	(2:00)		CR, DW, & RN meet FD at SR to transfer equip/supplies			
					CR, DW, & RN unpack equipment and check			
					Place rechargeable batteries on charge (CO and formaldehyde)			
					Calibrate CO monitors			
					Dump lab data logger after weighings			
9/8	Mo	AM			Caprice and Sedan 2 arrives at motel (8:00 AM)			
					Manifold and outside line installed in Caprice			
					Manifold and outside line installed in Sedan 2			
					Test line losses for Caprice and Sedan 2			
					Install stakes at 2 Roadside sites			
					Install tripod at Ambient site			
					Test drive Caprice with LAS-X and Aethalometer functioning			
					Collect background VOC canister in Caprice and Sedan 2			
		PM			All hands coordination/training meeting (4:00 to 6:00 PM)			
					Synchronize all study clocks			
					Load new batteries in all particle samplers			
9/9	Tu	AM			Reset all particle data loggers		Immediately prior to AM commute	
		AM	FNRH	Hi	Sampling Day 1 - Sacramento			
		PM	FNRH	Hi				
9/10	We	AM	FRH	Hi	Sampling Day 2 - Sacramento			
		PM	FRH	Hi	Change particle pump batteries		After PM commute	
					Dump all data loggers (include car)			
9/11	Th	AM	FRH	Lo	Sampling Day 3 - Sacramento			
		PM	FRH	Lo	CR returns to RTP			
9/12	Fr	AM	AR	Hi	Sampling Day 4 - Sacramento			
		PM	AR	Hi				
					Change particle pump batteries		After PM commute	
					Dump all data loggers (include car)			
9/13	Sa	AM	R	Hi	Sampling Day 5 - Sacramento			
					1 commute only; Sedan 2 driver not needed		No roadside sites	
					Conduct AER measurement on Caprice & Sedan 2		After commute	
9/14	Su				Day Off			
9/15	Mo	AM	AR	Lo	Sampling Day 6 - Sacramento			
		PM	AR	Lo			No roadside sites Change if <5.5 vdc	
					Check battery voltages			
9/16	Tu	AM	SB	Hi	Sampling Day 7 - Sacramento			
		PM	SB	Hi	Bus and driver arrive (6:00 AM)			
					SR checks bus for exhaust/fuel leaks		No roadside sites	
					Collect VOC background canister in bus			
					Install manifold and samplers inside bus			
					Review route and bus driving protocol			
					Dump all data loggers (include car)			
9/17	We				RN post-weigh Sacramento filters			
		AM			Pack equipment supplies			
					Transfer all data files to backup disks			
		PM			Ship Exposed Canisters to RTP (FedEx 1 day)			
					Transfer packed equipment to SR for storage			
					Dump lab data logger after weighings			
9/18	Th				DW & RN travel from Sacramento to RTP			
					DW & RN return rental sedans and cell phones			
					Laptop computer and data files returned to CR at RTP for archival			
					RN brings Mettler balance back to RTP			
					Balance printer forwarded to LA motel			
					Formaldehyde and filter samples handcarried to RTP			
9/19	Fr				VOC & formaldehyde samples archived/analyses initiated by DW			
					Filter samples returned to CR for archival			

ARB IN-VEHICLE MAIN STUDY					LOS ANGELES		9/5/97	Page 2
Date	DOW	TIME	Type	Vent	Event	Comments		
9/22	Mo	PM			TM travels from RTP to LA with Mettler balance & study laptop			
					TM picks up rental sedan and cell phone			
					TM sets up microbalance and tests performance			
					VOC canisters arrive in LA from RTP			
					SR obtains SUV (in Sac.)			
					SR pre-tests SUV for exhaust/fuel leaks			
9/23	Tu				TM pre-weighs LA filters			
					SR staff, Caprice & SUV travel from Sacramento to LA			
9/24	We	AM			DW travels from RTP to LA			
					DW picks up rental sedan and cell phone			
					Equipment/Supplies unpacked			
		PM			Manifold installed in SUV			
					Collect VOC background canister in SUV			
					Install stakes at 2 Roadside sites			
					Install tripod at Ambient site			
					All hands coordination/training meeting (5:00 to 6:00 PM)			
					Load new batteries in all particle samplers			
		AM			Reset all data loggers prior to commute			
9/25	Th	AM	FNRH	Hi	Sampling Day 1 - LA			
		PM	FNRH	Hi			No Roadside sampling	
9/26	Fr	AM	FRH	Hi	Sampling Day 2 - LA			
		PM	FRH	Hi				
					Load new batteries in all particle samplers			
		AM			Reset all data loggers prior to commute			
9/27	Sa	AM	ANR	Hi	Sampling Day 3 - LA		No Roadside sampling	
					Conduct AER measurement on SUV			
9/28	Su	AM	ARN	Hi	Sampling Day 4 - LA		No Roadside sampling	
					Pope visits sites/blesses study			
9/29	Mo	AM	FRH	Lo	Sampling Day 5 - LA			
		PM	FRH	Lo				
					Load new batteries in all particle samplers			
		AM			Reset all data loggers prior to commute			
9/30	Tu	AM	AR	Hi	Sampling Day 6 - LA			
		PM	AR	Hi				
10/1	We	AM	AR	Lo	Sampling Day 7 - LA			
		PM	AR	Lo				
					Load new batteries in all particle samplers			
		AM			Reset all data loggers prior to commute			
10/2	Th	AM	FRC	Hi	Sampling Day 8 - LA			
		PM	FRC	Hi				
10/3	Fr	AM	MC	Hi	Sampling Day 9 - LA		No Roadside sampling	
		PM	MC	Hi			No SUV	
10/4	Sa				TM post-weighs Sacramento filters			
					Pack equipment supplies			
					Transfer all data files to backup disks			
					Ship Exposed Canisters to RTP			
					Dump lab data logger after weighings			
					Caprice returns to Sacramento			
					SUV rental returned			
10/5	Su				DW & TM travel from LA to RTP			
					Formaldehyde and filter samples handcarried to RTP			
10/6	Mo				Laptop computer and data files returned to CR at RTP for archival			
					CR ship filter samples to DRI for XRF metals analyses			
					VOC & formaldehyde samples analyses initiated by DW			
					SR begins summary/analysis of Caprice data			

9/5/97		ARB In-Vehicle Main Study													FILTERS		Lab Blanks		FILTER TOTALS	
SACRAMENTO		Sedon 1													Ambient		Field Blanks		TOTALS	
Samp. Day	DOW	Period	Type	Vent	PM2.5	PM2.5 DUP	PM10	PM10 DUP	Outside	Inside	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10		
1	Tu	AM	FNRH	Hi	1		1		1	1	1	2	2	1	1	1				
		PM	FNRH	Hi	1	1			1	1	1	2	2	1	1	1				
2	We	AM	FRH	Hi	1				1	1	1	2	2	1	1	1				
		PM	FRH	Hi	1		1		1	1	1	2	2	1	1	1				
3	Th	AM	FRH	Lo	1				1	1	1	2	2	1	1	1				
		PM	FRH	Lo	1	1			1	1	1	2	2	1	1	1				
4	Fr	AM	AR	Hi	1				1	1	1	2	2	1	1	1				
		PM	AR	Hi	1				1	1	1	2	2	1	1	1				
5	Sa	midday	R	Hi	1		1		1	1	1	2	2	1	1	1				
6	Mo	AM	AR	Lo	1				1	1	1	2	2	1	1	1				
		PM	AR	Lo	1	1			1	1	1	2	2	1	1	1				
7	Tu	AM	SB	Hi	1		1		1	1	1	2	2	1	1	1				
		PM	SB	Hi	1		1		1	1	1	2	2	1	1	1				
Sub-totals:					13	4	13	3	13	13	13	18	18	12	12	7	4			
Notes:		FRH - freeway rush, heavy duty influence													Expected Sacramento Sampling Start Date: 9/9/97 (Tuesday)					
		FNRH - freeway non-rush, heavy duty influence													Expected Sacramento Sampling End Date: 9/16/97 (Tuesday)					
		AR - arterial rush																		
		ANR - arterial non-rush																		
		FRC - freeway rush, carpool lane																		
		R - rural																		
		SB - school bus																		
		MC - max. concentration scintics																		
		rush commute times:													AM 6:30 to 8:30		AM 6:30 to 8:30			
		non-rush commute times:													PM 4:00 to 6:00		PM 2:00 to 4:00			
		Total																		
		filters:																		

9/5/1997		ARB In-Vehicle Main Study												FILTERS		FIELD		LAB				
LOS ANGELES		Sedan 1												Ambient		Field Blanks		Lab Blanks				
Samp. Day	DOW	Period	Type	Vent	Inside			Outside			Van/SUV			Roadside		Ambient		Field Blanks		Lab Blanks		
1	Th	AM	FNRH	Hi	PM2.5	PM10	DUP	PM2.5	PM10	DUP	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5	PM10		
		PM	FNRH	Hi	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	Fr	AM	FRH	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
		PM	FRH	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
3	Sa	AM	ANR	Hi	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4	Su	PM	ANR	Hi	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
5	Mo	AM	FRH	Low	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
		PM	FRH	Low	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
6	Tu	AM	AR	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
		PM	AR	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
7	We	AM	AR	Low	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
		PM	AR	Low	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
8	Th	AM	FRC	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
		PM	FRC	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
9	Fr	AM	MC	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
		PM	MC	Hi	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	
				Sub-totals:	16	5	16	3	16	14	14	14	20	20	20	16	16	9	9	4	4	
				SAC. and LA Composite:	29	9	29	6	29	27	27	27	38	38	28	28	28	16	16			
Notes:				Types:	FRH - freeway rush, heavy duty influence	rush commute times:																
					FNRH - freeway non-rush, heavy duty influence	AM 6:30 to 8:30																
					AR - arterial rush	PM 4:00 to 6:00																
					ANR - arterial non-rush	AM 8:30 to 10:30																
					FRC - freeway rush, carpool lane	PM 2:00 to 4:00																
					R - rural																	
					SB - school bus																	
					MC - max. concentration scenarios																	
						Expected LA Sampling Start Date: 9/25/97 (Thursday)																
						Expected LA Sampling End Date: 10/3/97 (Friday)																
						Total																
						Filters: 183																
						339																

8/28/97

ARB In-Vehicle Exposure Study Micro-Balance Transport and Setup**1. Balance System Transport**

The Mettler AT-20 microbalance will be hand-carried by Charles Rodes on the plane to Sacramento, in the special Mettler shipping box. It will be repacked in the shipping box by Randy Newsome after the Sacramento sampling for Sierra Research personnel to transport to Los Angeles. The laptop computer and printer will also be transported. As a back-up in case the computer is damaged in shipment, the hand-carried Study Toshiba laptop will also be loaded with the balance operations software.

2. Balance/Computer Set-Up

Filter pre- and post-weighings will be made in a motel room rented for use as an equipment storage/staging area for study operations. Although this is not the historically ideal location for air pollution filter weighing, some concessions have been made due to the field pilot study nature of this phase of the project. This is not expected to result in any loss of precision or accuracy described in the proposal, as necessary to meet the goals of this project.

The important factors that potentially affect precision and accuracy have been addressed and accommodated for this Pilot Study. These are:

- (1) the temperature environment around the balance,
- (2) draft control around the balance,
- (3) humidity control for the filters,
- (4) filter static charge removal, and
- (5) tilt control for the balance, and
- (6) air jet cleaning of the balance pan prior to initiation of weighing.

Temperature - The Mettler AT20 balance is electronically temperature controlled, and temperature is not noted by Mettler as being of concern, as long as normal laboratory temperatures (15 to 25 °C) are maintained. The temperature environment of the balance has been shown in our labs to have a slight influence on the minimum detection level of the balance, since it can affect the zero drift during the period of a single weigh. Apparently the separation distance between the balance temperature sensor and weighing chamber is sufficient to provide a slight time lag in drafty conditions if the filters are weighed faster than the sensing system can make the correction. Without addressing this lag, the minimum detectable is ~2 µg/m³, while eliminating the lag reduces the minimum detectable to nearly 1 µg/m³. Although 2 µg/m³ is acceptable for this study, obviously an improvement is desirable if it can be obtained with reasonable effort.

Since a highly controlled temperature environment was not readily available for in-the-field weighing, two steps were taken:

- (1) The balance will be positioned in the room to avoid drafts from both the HVAC system and from persons (other than the individual weighing the filter) moving about in the room during pre- and post-weighing, and
- (2) The balance control software was modified to have the balance automatically re-check the balance zero after each weighing to determine if a detectable change (>10 µg) had occurred. If a

change has occurred (may also be caused a balance tilt shift) and the change is less than 10 μm , the previous tare is corrected, if the change is $\geq 10 \mu\text{g}$, the last weighing must be repeated.

The combination of these two steps should satisfactorily address temperature environment concerns. The determination of the precision at the start of each weighing session by repeated weighings of both a Class S3 0.1 gram standard weight and a designated reference blank filter will demonstrate the precision level, which incorporates the influence of balance zero shift. Additionally, the computer system automatically records the temperature during the weighing session.

Draft - The Mettler AT20 is somewhat sensitive to drafts due to the potential for slight temperature gradients to appear around the balance and due to pressure waves inside the weighing chamber that may affect the pan movement. As previously noted, the balance will be positioned in the room to avoid drafts from both the HVAC system and from persons (other than the individual weighing the filter) moving about in the room during pre- and post-weighing. Additionally, the weighing pan is shielded from drafts by the inverted static shield can place over the pan and filter during each weighing. These two steps should virtually eliminate the influence of drafts.

Humidity - The influence of humidity on air pollution filter weighing has been addressed for many years, although there is almost no information in the published literature quantifying the problem and defining control measures. The moisture uptake of selected filter materials has been reported (especially for glass and quartz fibers) and shown to be of sufficient magnitude to require that a controlled humidity chamber be used for weighing these materials. Testing in our labs has shown that the Gelman 3.0 μm porosity Teflo[®] filter material selected for use in this Pilot Study are virtually hydrophobic. The attached graph weighing 2 randomly selected filters in a controlled chamber [although for a smaller 25 mm diameter size and using a 5-place rather than a 6-place balance] clearly illustrates that within the measurement error, there is no detectable uptake of moisture on this material within the range of 20 to 80 % relative humidity.

Since high humidity conditions may occur on rainy days in which the HVAC system is not operating adequately to remove moisture, we will monitor the humidity routinely as part of the balance computer control system operation, and not conduct weighings if the humidity is outside the range of 30 to 70 % Rh. The repeated weighings of a designated Gelman Teflo[®] reference filter will demonstrate consistency between the pre- and post-weighing periods. Although it would be desirable to have stringent humidity control to remove the potential for humidity influence, this degree of control for the Pilot Study has been determined to be adequate, within the resources available.

Static Charge - As described clearly in the proposal, static charge can have one of the most pronounced influences on the precision of filter weighing. We will accommodate this by the combination of dual Polonium static charge neutralizers and the pan shield used to drain static charge from the pan area.

Balance Tilt - The Mettler AT20 balance is a state-of-the-art weighing system that incorporates a very effective vibration damping system, minimizing the need for screening low frequency vibrations. The balance zero, however, is very tilt-sensitive, influencing both the precision and accuracy of the weighing process. Two steps will be taken to minimize the influence of tilt:

- (1) The balance location will important by (a) selecting a room on a first floor concrete slab, (b) placing the balance on a solid table or desk that is supported on four points (legs) beneath the balance, and (c) making sure that these support points are minimally influenced by the room carpeting.
- (2) Modifying the balance control software to require that the balance re-zero after each weighing will determine whether the balance tilted during the weighing.

Weighing Software/Balance Operation Procedures

Unpacking and Balance Setup:

The balance case contains the balance, balance pans, reference weight and reference filter, computer cable, bar code reader, tweezers, Smart Reader, and Mettler book. The balance should be removed from the case and set on the balance table. Adjust the feet at the rear of the balance for leveling the bubble. Once levelled, press down on the table surface to see whether the bubble can be made to shift. If it shifts, the table should be reinforced or another location found.

Place the stainless steel wing plate in the balance, put the lower part of the draft shield on the wing plate, and put the balance pan (with three posts) in the socket. Turn on the balance. Once it is on, put the upper pan on the balance and the tin can electrostatic shield in place. Close the balance doors. For operation, the upper part of the glass should not move. It was connected to the doors for shipping.

Computer setup:

This setup assumes the Toshiba 110CS will be used. The keyboard and light pen must be plugged together and plugged into the small DIN port on the back of the computer. The external keyboard is needed to force the computer to recognize the bar code reader. Once the computer has been booted, the keyboard could be unplugged and the barcode reader will still work.

The printer cable should be plugged into the printer port and the printer turned on before the weighing program is started. The weighing should have a printer to produce a paper record of the filter weights. *If no printer is available, the printer portion of the program must be shut off from DOS. To do this enter the following line at the DOS prompt:*

```
set equip=2,1,3,0,2000,50,1
```

Then, the program can be run. If a printer later becomes available, either reboot the computer or type the line:

```
set equip=
```

with no spaces or any other characters after the "=".

The data cable from the balance should be plugged into the serial port on the back of the computer.

(This assumes that the room temperature and humidity have been downloaded from the Smart Reader before beginning the weighing. The Smart Reader and the balance both need to use the serial port, but only one at a time can.)

Weighing:

Enter "weigh" from the command line. The batch file transfers into the c:\weigh subdirectory and starts the program METTLER.EXE.

For almost every occasion, ignore the Program Mode menu item and proceed to Session Setup. Proceed down the list of choices: Link to Balance, Bar Code Test, skip Smart Reader Test, correct the date and time if needed, Operator ID (initials), Temperature, and Humidity (taken from Smart Reader printout.) Return to Main Menu.

Perform the Balance Audit. This interrogates the balance and performs an internal calibration. It can be performed again later, if needed.

Go to the Weigh Session. Three steps should be performed: weighing the standard weight, weighing the reference filter, and performing the precision test with the reference filter.

1. Standard weight - select Weigh Sample and enter the letter "S" plus the date for the sample number, e.g. "S021497". Place the standard weight on the pan when requested to. The value obtained after weighing and rezeroing should be

$$0.100002 \pm 0.000002 \text{ g}$$
 Any value outside this range should be considered suspect. Reweigh or perform the balance audit again.
2. Reference weight - select Weigh Sample and enter the letter "R" plus the date for the sample number, e.g. "R021497". Place the reference filter on the pan when requested to. The value obtained after weighing and rezeroing should be

$$0.110808 \pm 0.000010 \text{ g}$$
 The reference weight will be used to track long term changes in the filter weight.
3. Precision Test - select Precision Test and perform the test with the reference filter. This is a test of operator skill. After five good weights, the standard deviation should be 0.000006 g or less. An experienced operator should be able to achieve 0.000002 g on most occasions.

Preweighing:

1. Lay out enough filters for a set of samplers in open petri dishes in the conditioning cabinets. The petri dishes should not be labelled at this time. (An unlabelled dish with a filter is assumed to be an unweighed filter.)
2. Paste a label on the petri dish just prior to weighing the filter. The label is scanned with the bar code reader to enter the sample number.
3. Weigh the filter and return it to its petri dish. Close the dish. (No more than one filter should be out of its closed dish at a time, to avoid possible confusion.)
4. At the end of the weighing session, or after 20 filters, whichever comes first, reweigh the first of the group of twenty, giving the original sample number plus "a", "b", or other designator, e.g. "S021497a". If the reweight is within 6 µg of the original weight, proceed to

other things. If not, reweigh again. Now if the reweight is not within 12 μg of the original weight, all the filters need to be reweighed. This will require leaving the program, entering the subdirectory "c:\weigh\dat" and deleting the sample files that need to be reweighed.

Data Backing up:

1. After each weighing session, place the printed pages in the weighing notebook with glue. Copy the entire c:\weigh\dat subdirectory onto a floppy disk, rotating two different floppy disks between copies. (Make a \dat subdirectory on A:. Copy c:\weigh\dat*.* A:\dat.)

Postweighing:

1. Remove all petri dishes from the conditioning chamber and close their lids. Take one at a time to the balance, scan in the sample code. The computer should indicate that the sample has been **preweighed**. If it does not, there is a problem of identification that needs to be resolved immediately.
2. Weigh the sample. If the postweight is low (within 10 μg of the original weight) or high (above 1000 μg over the original weight) you will be queried as to its appropriateness. A large negative weight probably means that the preweight was taken from a different filter. Resolve the matter before accepting the results.

Data Backing up:

1. After each weighing session, place the printed pages in the weighing notebook with glue. Copy the entire c:\weigh\dat subdirectory onto a floppy disk, rotating two different floppy disks between copies. (Make a \dat subdirectory on A:, if needed. Copy c:\weigh\dat*.* A:\dat.)

Packing up:

1. Put tweezers, pan lid, pan, draft shield bottom, standard weight, Smart Reader, and reference weight in the box. Put the box in the large middle compartment. Put the wing plate and tin can enclosure in the same compartment. Couple the glass top to the doors and open the doors. Turn off the balance. Coil the power connector into the power supply and place the smaller middle compartment, with power cord in the adjacent compartment. Put the bar code reader in the same compartment.
2. Place the balance in the bottom of the carrying case. Lower the top carefully onto the bottom and snap shut.

8/28/97

August 28, 1997

**ARB In-Vehicle Exposure Study
STEPWISE PROCEDURES FOR PM_{2.5} AND PM₁₀ AEROSOL COLLECTION**

by

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1.0 GENERAL

The mass concentration quantitation limits for the PM_{2.5} and PM₁₀ samplers are a function of a) the total integration interval, b) the sampling flow rate, c) the repeatability (standard deviation) of the weighing process used to perform mass measurements, and d) the allowable coefficient of variation. Using a) a total sampling window integration interval of **2 hours (120 min)**, b) a sampling flow rates of **4.0 liters per minute (lpm)**, and c) a weighing limit of three times the 2 µg precision limit for a 6-place analytical balance, produces an expected sample volume of 0.48 m³ and an expected **MQL of 12.5 µg/m³** (MDL of 4.2 µg/m³) aerosol provides a lower bound for aerosol detection limits.

Another factor in affecting the minimum quantifiable aerosol concentration is the potential **contamination** of filters during preparation, loading into the impactors, and weighing before and after sampling. Small mass increases may result from contamination by particles, fibers or by grease from impactor surfaces. The potential for mass increases from contamination will be assessed using field blanks (filters that are loaded into impactors, carried to homes, returned and weighed). Changes in the filter tare weight with time will be assessed by monitoring the weight of unexposed filters kept in the lab.

2.0 SAMPLE COLLECTION

2.1 Laboratory Sampler Set-up/Checkout

This procedure applies to the in-vehicle sampler or the outdoor pole-mounted sampler. This phase of sampler set-up is to be performed in the laboratory, prior to arriving at the participant's residence.

2.1.1 Sampler Attachment to Stick

This procedure will be followed when first assembling an indoor/outdoor sampling system or when replacing a failed unit. Once indoor/outdoor samplers have been assembled, they will remain in use and require no further assembly.

1. Install 4 AA batteries for indoor sampling. NOTE: Battery life using 4 LPM pumps is expected to be six (6) 2-hour commutes. The number of commutes per battery set must be recorded such that new batteries can be installed.
2. Fasten a Velcro strap around the blue box and batteries.
3. Lay pump and data logger boxes into the rabbets on the alignment stick. The battery strap goes into the deepest rabbet.
4. Attach a Velcro strap around each box to hold the units firmly to the stick.

2.1.2 Opening Bluff Body Forms

1. Remove the 2 screws holding the top; remove the top.
2. Using finger holes, remove the top insulation layer.

2.1.3 Pump Battery Replacement

1. Open form and partially remove pump box/data logger assembly from the container. Do not disconnect the tubing from the barbed hose connector unless absolutely necessary to avoid damaging components.
2. Undo the Velcro strip from the battery pack and remove the old batteries. Place orange pressure sensitive dot tabs on each used battery to prevent confusion with new batteries. Replace the old batteries with 4 fresh AA alkaline ProCell batteries and re-wrap the battery pack with the Velcro strip to hold them in place.

3. Old batteries are to be stored for later return and recycling by manufacturer or will be disposed of properly.

2.1.4 Pump Operation Test

1. Remove the **unshorted** plug (if installed) and insert a **shorted** (on flow check device) plug into the phono jack on the blue box. See Figure 6 to identify plug types. This places the pump into the **CONTINUOUS** mode. Verify (by ear or touch) that the pump is running continuously. If not, check to see that the plug is properly connected, that no external wires are obviously broken and that the new batteries are really new.
2. Reset the pump to **CONTINUOUS** mode by inserting a **shorted** plug.
3. Connect a **Test Inlet** (loaded with a dummy filter) to the sampler to apply a pressure drop.
4. As a leak test, cover a Test Inlet opening with the palm of the hand for a few seconds (3 - 5) to determine if the pump motor stalls. If OK, prepare to check the flow rate setting. If the pump does not stall, determine if all of the tubing connections are sound. **NOTE:** Use special Leak Test pump that is limited to 12 inches of vacuum.

2.1.5 Flow rate Setting

1. Connect the flow calibration adapter to the proper Magnehelic gauge.
2. With the Magnehelic gauge standing (or hanging) vertically, make sure that the gauge is set to zero with no flow. If not, use a small screwdriver to adjust the screw at the lower center of the face.
3. Place the calibration adapter on the face of the inlet.
4. Allow the Magnehelic reading to stabilize for 30 seconds and read the Magnehelic gauge to the nearest 0.05 inches of water.
5. Referring to interpolated calibration table for the flow check orifice, determine the **actual** flow rate in liters/minute (lpm) and enter this value on the checklist.

- If the flow rate is 3.90 to 4.10 lpm the pump flow is within acceptable limits and no adjustments are necessary.

If not, use a small screwdriver (alignment tool) to slowly reset the **Pump Flow Adjustment** on the side of the Data Logger box.

6. Allow the reset flow to stabilize for 20 seconds, and if the flow is still within limits, the flow setting is acceptable.

2.1.6 Data Logger Tests

2.1.6.1 Laptop Computer Connection/Operation

The computer reader program is installed on the study laptop computer. It is accessed using the Reader icon from Windows.

1. Plug in the data cable to connect the COM1 port on the laptop computer to the data port on the end of any blue Data Logger box.
2. From the WINDOWS menu, double click on the "READER" icon. (The program will run from the DOS prompt but should be started from within WINDOWS.) If the cable connection is OK, the display will show the opening **Main Menu** screen with the last data logger ID# (XXXXXX) and pump ID# (IXX) on the upper left of the screen. If the cable is not connected to the laptop, the computer will beep 10 times before displaying the **Main Menu** - Check the cable connections.

2.1.6.2 Data Logger Connection

1. Move the cursor to "Test Logger" and hit ENTER to initialize the data access. The logger ID# should appear on the status line near the top of the screen. If the logger ID# or the pump ID# don't match ID#'s on sides of the blue and gray boxes, correct the file entry.
2. Note that the display updates (numbers blink faintly) every 8 seconds as the data logger reads the system sensors. If the numbers are not updating, Exit to the **Main Menu**, move the cursor to "Test Logger" again and hit ENTER. If the numbers are still not updating the logger is not functioning and must be replaced.

2.1.6.3 Sensor Parameter Tests

1. With the logger stationary and the pump still set in the **CONTINUOUS** mode (shorted plug inserted), note the readings of the Movement, Battery Voltage and Pump Pressure (last column to the right).
 - If the Movement number is **50 to 200** with the logger stationary, it is OK.
 - If the Ambient Temperature is within **± 5 degrees F** of the room thermometer, it is OK.
 - If the Battery Voltage is **5.00 to 6.50** with the pump running, the sensor is OK and the batteries are fresh. If the voltage reading is low, replace with a new set of batteries and retry. Mark the batteries that are removed as "USED".
 - If the Pump Pressure is **0.5 to 6.5 inches H₂O** with the test inlet attached and pump running, it is OK.

The display also provides "OK" indicators for these parameters, but some of them require more testing.

2. The Movement reading should change substantially, but become no higher than **255**. While the pump is running, the battery voltage and pressure should read **OK**; when the pump cycles off, the battery voltage and pressure should read **OFF**.

If any of the channels, except internal temperature, are not functioning within limits, the data logger should not be used. Replace the data logger with another unit, mark the defective unit as "**DEFECTIVE**" and return it to RTI/RTP for repair.

2.1.6.4 Updating/Presetting Sampler and Participant Data

1. To correct the data logger ID# or pump ID#, return to the **Main Menu** and move the cursor to "**File Data**" and hit ENTER.
2. Move the cursor to the "**Logger Serial No.**" or "**Pump Serial No.**" position, as required, and edit the number as necessary.

3. If the information is available, enter the "Sample" (from back of aerosol inlet), "Participant." and "Description.", as required. "Sample" will usually be entered at the participant's location to avoid having to match the Sample ID with the sampler at that location.
 4. Check that Channels active is "1111-", 8 second multiplier is "10", and pump duty cycle agrees with pump setting.
 5. Exit this screen to the **Main Menu** to automatically update the new data into memory.
 6. Remove the Test Inlet from the quick connect.
 7. Remove the **shorted plug** and insert an **unshorted plug** to put the sampler into standby mode for transportation.
 8. Place pump/logger sampling unit into a locator slot in insulating foam on bottom inside of form.
 9. Exit the **READER** program, if no more data loggers are to be interrogated.
- The samplers are ready to take to the participant's residence.

2.2 Field Deployment

Preface: These set-up/check-out procedures are to be conducted at the participant's residence. Again, all the tests are similar for the personal, indoor, and outdoor samplers. The height of the outdoor sampler will require that it is temporarily attached to a stand for the indoor sampler and tested indoors, before deployment outdoors.

2.2.1 Siting Guidance and Deployment (Outdoor Sampler)

The order may vary with site. The outdoor sampler is mounted on a stake driven into the ground if located in the yard, or on a collapsible tripod if located on a balcony or other hard surface.

1. Locate the outdoor sampler within 20 ft of the roadway, but preferably no closer than 10 ft .
2. Locate the stand so that the inlet is facing toward the road.

3. Try not to locate the inlet closer than 3 feet to a wall, tree or similar obstruction.
4. Avoid placing the sampler within 10 feet of a combustion source (e.g. incinerator).
5. Assess the need for security and relocate the sampler, if necessary.
6. Drive the outdoor stake into the ground (or align the stand).
7. Deploy the outdoor sampler form with pump(s) functioning (see following sections.)

2.2.2 System Performance Testing

Performance testing of the flow system on-site must be done with the aerosol inlet selected and attached. These checks ensure the integrity of the sampling system and filter together.

2.2.3.1 Accessing Prepared Loggers

1. Open the personal or indoor/outdoor samplers enough to plug the data cable into the logger RS232 port.
2. Move the cursor to “**Test Logger**” and hit ENTER to initialize the data access. If the logger ID# or the pump ID# are incorrect (don’t match ID#’s on sides of the blue and gray boxes), correct the entry as described in 2.1.1.4.3.
3. If not already on the “**File Data**” screen, from the **Main Menu** proceed to the “**File Data**” screen.
4. Update the “**Logger Serial No.**” and “**Pump Serial No.**” if necessary.

2.2.3.2 Aerosol Inlet Attachment

1. Remove and store the shipping clip from the inlet and attach the aerosol inlet to the quick connect corresponding to the sampling unit under test.
2. Exit this screen back to the **Main Menu** to automatically update the file. Do not exit the “**READER**” program yet.
3. Attach the inlet to the outside of the form using the thumb nut corresponding to the internal position of the sampler under test.

2.2.3.3 Flow rate Check

1. Connect the flow calibration adapter to the proper Magnehelic gauge. See Figure 7.
2. With the Magnehelic gauge standing (or hanging) vertically, make sure that the gauge is set to zero with no flow. If not, use a small screwdriver to adjust the screw at the lower center of the face.
3. Place the calibration adapter on the face of the inlet.
4. Place the pump into **CONTINUOUS** mode (switches ON).
5. Allow the Magnehelic reading to stabilize for 30 seconds and read the Magnehelic gauge to the nearest 0.05 inches of water.
6. Referring to the interpolated calibration table for the flow check system, determine the actual flow rate in liters/minute (lpm) and enter this value on the spreadsheet if this is the **Stop** reading.
7. If this is the **Start** flow rate, and it is **3.90 to 4.10 lpm**, the pump flow controller is within acceptable limits.
8. If not acceptable, use a small screwdriver to reset the **Pump Flow Rate Adjustment** on the side of the blue Data Logger box. (Not the **Balance Adjustment** on the other side of the box.)
9. If the flow is reset, allow the flow to stabilize for 20 seconds, and if still within acceptable limits, record the Magnehelic reading and associated actual flow (lpm).
10. Remove the flow check adapter from the inlet.

2.2.3.4 Data Logger Reset

1. Move the cursor to "**Reset Logger**" and hit ENTER, if you are ready for the 6 day sampling period to begin. Answer "Y" to the question "Reset anyway?". Wait for the cursor to return to the main menu. This **MUST** be accomplished to establish the start of the sampling period.

2. Place the pump into the **TIMED CYCLE** mode (remove the shorted plug, insert unshorted plug) and unplug the RS-232 plug from the blue box.
3. If no other samplers are to be set up, exit to the **Main Menu** screen and exit the **READER** program.

2.3 Retrieval

Conduct these procedures to retrieve the inlet and logger data from the sampler

2.3.1 Final Flow rate Check

Final flow rate checks of the personal sampler are performed at the end of the sampling period with the sampler removed from the participant. Make sure that the **correct** inlet is being tested (check the inlet ID#) before entering the **Stop** reading in the spreadsheet.

1. Connect the flow calibration adapter to the proper Magnehelic gauge.
2. With the Magnehelic gauge standing (or hanging) vertically, make sure that the gauge is set to zero with no flow. If not, use a small screwdriver to adjust the screw at the lower center of the face.
3. Place the calibration adapter on the face of the inlet.
4. Set the pump to **CONTINUOUS** mode.
5. Allow the Magnehelic reading to stabilize for 30 seconds and read the Magnehelic gauge to the nearest 0.05 inches of water.
6. Referring to the interpolated calibration table for the flow check system, determine the actual flow rate in liters/minute (lpm) and enter on the data sheet.
7. Remove the flow check adapter from the inlet.
8. Turn **OFF** the pump (insert unshorted plug).

2.3.2 Logger Data Retrieval

1. Plug in the data cable to connect the COM1 port on the laptop computer with the RS-232 data port located on the end of the blue box.
2. Move the cursor to "Test Logger" and hit ENTER to initialize the data access. If the sample ID# is incorrect (doesn't match ID#'s on back of aerosol inlet), make sure the correct RS-232 socket has been connected.
3. Place a formatted floppy data disk in the laptop drive. One floppy disk will hold up to 40 logger dumps. There should easily be enough space on one floppy disk to handle all the data retrieved in one day.
4. Move cursor to **Dump Logger** and hit **ENTER** to start data transfer. Transfer will require ~ 1 minute.
5. Screen display will indicate the transfer by showing "XXX out of YYY done" as the transfer proceeds. At completion, XXX will equal YYY.
6. A data check will take less than a minute. It will summarize the mean, minimum, and maximum value for each channel (temperature, movement, battery voltage, and pressure drop), plus the number of points considered to be "Bad" for a few seconds. The time-block averages will be displayed. (If you miss the display of the summary, you can see it later under "View Data"; if you miss the time-block averages, you can see them again under "Review Blocks.")
7. If 2 or more channels show more than 15 to 20 data points as "Bad", the data dump was questionable, and should be repeated. Check the time-blocks for reasonable, continuous values.
8. Review the blocks, looking for the following characteristics in the block averages:
 - Internal temperatures should not display.
 - External temperatures should typically be between 50 and 90 °F; higher during the day and lower at night. Very steady temperatures or very high or low temperatures should trigger questions about the wearer's environment.
 - Battery voltage should decline gradually from 6.1 volts to 5.0 volts over the test period.

- Pressure should change no more than **3-5 inches** over the test period (it is somewhat temperature sensitive.) If the pressure rises above 7-10 inches, the filter may have plugged.
9. Return to the **Main Menu**, move the cursor to "**Store to Floppy**" and hit **ENTER**. Answer the drive? question with "A". Floppy drive light should indicate the data transfer. (If for some reason the floppy storage fails, the data should be retrievable from the laptop at a later date. However, it is best to carry a second formatted disk in case of failure and to try the second disk before giving up on the storage.)
 10. If no other loggers are to be dumped, when control returns to the **Main Menu**, exit the **READER** program.

2.3.3 Aerosol Inlet Retrieval

The aerosol inlet must be handled carefully after sampling to avoid dislodging material from either the filter or the internal surfaces of the inlet. The foam-lined shipping case should be taken to the residence for the retrieval to protect the collected samples during transport.

1. Detach the aerosol inlet(s) from the quick disconnect; remove the screw holding the inlet(s) to the form.
2. *PM_{2.5}* and *PM₁₀*: Place the inlets in a Ziplok bag; no shipping clip is used.
3. Place the bagged inlet into the shipping case for transport.

PM_{2.5} or PM₁₀ MSP Inlet Leak Test

8/11/97

1. Applicability

This procedure applies to the 2.0 or 4.0 LPM series 200 MSP, Inc. aerosol inlets having either PM_{2.5} or PM₁₀ cutpoints. The cutpoint and flowrate are stamped on the inside of the inlet cap. The MSP Clamping Fixture must be used with these inlets after the filter is loaded to assure that the inlet components are aligned properly and the screws tightened consistently.

2. Background

The MSP, Inc. 200 series inlets have 2 or 3 internal sealing surfaces, depending on whether the inlet is equipped with a scalping stage. One of these sealing surfaces is the outer plastic ring of the Gelman Teflo[®] filter. The other surfaces are flat silicone ring seals that seal against either the inlet cap or the scalper cap. If any of these seals is not uniformly seated against the mating surface, the pump flow will not properly be directed through the impactor (to obtain the desired cutpoint) or through the filter (to remove the particles).

3. Procedure

Inlet Loading

1. Inspect the silicone ring seals to make certain that they are flat and not contorted.
2. Load the filter into the inlet, making certain that the filter and components are properly centered.
3. Assemble the inlet components in the MSP Clamping Fixture, insert the screws, and uniformly tighten the screws.

Leak Testing

1. Attach the leak test pump to the inlet using the quick connects.
2. Start the pump using the special current-limiting plug that restricts the pressure drop to approximately 12 inches of H₂O.
3. Place the face of the inlet against the silicone rubber pad and press firmly.
4. If the inlet is properly sealed, the pump motor will immediately stop (no noise), such that no flow is occurring. Remove the inlet from the clamp and record the filter number and the inlet number of the study data form.
5. If the inlet is improperly sealed, the pump motor will continue to revolve slowly. If this occurs the inlet fails the test and must be disassembled and re-loaded.

4. Hardware Requirements

1. Inlet to be tested, with attached male quick disconnect.
2. Leak-test pump with attached inlet tubing, ending in a female quick disconnect.
3. Special current limiting plug that replaces the standard looped shorting plug to start the pump motor in continuous operation.

3. A clean, flat silicone rubber pad, slightly larger than the Inlet cap against which to seal the inlet ports.

5. Documentation Requirements

None specifically. This is a pass/fail test. Inlets to be used for sampling must pass this test. Inlets not passing must be reloaded and re-tested. If the inlet passes the test, the filter number and inlet number are recorded on the log sheet.

C. Rodes, Research Triangle Institute, 8/11/97

Revised 8/24/97

MSP Particle Impactor Loading/Unloading

Impactor preparation:

1. Using the AirJet spray, flush the inlet impactor screen with a 2 second burst to remove any potential residual particles and fibers.
2. Oil the impactor surface with 2 drops of silicone oil, spread evenly across the surface and carefully blotted with a Kimwipe to remove the excess. Make certain that no excess oil is on any other surface. Oiling is expected to be required only once in Sacramento and once in Los Angeles. Between runs, simply wipe the impactor surface lightly with a Kimwipe.
3. With a cleaned and oiled impactor, take one pre-weighed filter, look up its sample number on the sheet of unused labels, and place the same sample number on one impactor back. Open the petri dish and place the filter in position. Close the petri dish and loosely assembling the impactor with the security screws. (Only one open petri dish at a time.) Confirm the agreement of impactor label with petri dish label before putting away the petri dish.
4. Using the appropriate press for either PM_{2.5} or PM₁₀ inlets, tighten the press, centered on the inlet cap, and uniformly tighter the security screw 1/4 turn past contact. **DO NOT OVER-TIGHTEN !!!**

Impactor disassembly:

1. Place the impactor on the lab paper in the disassembly area. Match its sample number to an empty petri dish number. Remove the filter from the impactor, use the AirJet to provide a 1 second blast of the inside of the petri dish, and place the filter in the empty petri dish. Close the dish. (Only one open impactor or petri dish at a time.)
2. Loosen the lid of the petri dish and place it in the conditioning chamber.
3. Place a sample number from the label sheet in the weighing notebook and note any usual aspects of the filter by the label (color, visible particles or debris, tears, holes, stuck to backing, etc.) If holes are noted, estimate whether they would have affected the flow.

8/28/97

Driving Protocol for the ARB Pilot Study

This protocol applies to all commutes, except (1) bus, (2) carpool, and (3) maximum exposure commutes

The protocol for "freeway-congested-heavy duty diesel influence" is as follows:

- 1) follow the pre-selected route and position behind a target (heavy duty diesel - truck preferred, city bus second) whenever possible;
- 2) record the target type on the Caprice switchbox
- 3) drive in the slow (truck) lane, except when changing lanes to follow or acquire a target;
- 4) break off target pursuit if target turns off route, can't be followed, drives erratically or unsafely, or appears to modify behavior due to following;
- 5) change targets if a dirtier-appearing target becomes available;
- 6) drive with normal following distances (like other nearby cars) but not further than about 100 feet behind targets
- 7) record the Level of Congestion continuously on the Caprice switchbox

The protocol for "arterial" and "rural" driving will be:

- (1) drive at about the posted speed limit and simply note any targets that happen to occur. No attempt will be made to either acquire or avoid targets.

C. Rodes/Frank DiGenova, 8/28/97

LASX Setup and Operating Procedures

Physical setup:

1. The connection to the inlet nozzle is with a 1/8" Swagelok fitting. When tightening or changing fittings, be sure to hold the LASX inlet assembly with a wrench to avoid rotating the inlet. The red dot on the inlet should not be allowed to move because it will affect the calibration of the instrument.
2. The RS232 cable for the computer should be plugged into the relay control adapter, which in turn is plugged into the back of the LASX. If the cable should fail, replace it with a modem cable with female DB-9 to male DB-25. Do not replace it with a printer cable.
3. Connect the relay terminal block to the battery using the fused power leads provided.
4. Position the red LED indicator light where the operators can easily see it when looking forward.

Initial settings:

1. The LASX should be set for Probe Range on "3", Int. Multi. on "15", and Rest Period on "Sec". This will allow the counter to print every 15 seconds. The Printer switch should be "Off" and the Run/Hold switch in the "run" position.

Starting the LASX:

1. The first thing to do after several seconds warm-up is to set the clock. Adjust the hour digits for the proper hour by pushing the "Set" button below the hour indicator. Adjust the minute digits for the desired starting minute using the "Set" button below the minute indicator. Seconds are not adjustable, but the "Start" button should be pushed when the master clock indicates 0 seconds.
2. Set the Sample flow to "1", as closely as possible, for a 1 cm³/s sample. The sheath flow should be set to 20, but is not critical.
3. Turn the printer on and allow two or three cycles to print. Save the printed tape for the notebook, as an indication of proper operation. Turn the printer off.

Starting the LASX program:

1. With the LASX running and the computer connected to it via the serial port, start the program by entering the command "LASX filename" where the file name has no extension. The suggested filenames consist of 6 digits to represent the date with "a" or "p" to designate a morning or afternoon run, such as "021997a".

2. The program runs in the \LASX subdirectory and stores the data in the \LASX\DATA subdirectory. The actual program name is LASXGET.EXE, but the command "LASX" is a batch file.
3. When the program first starts, the solenoids should be activated to pull an outside air sample. Every minute thereafter, the solenoids should be switched to the other condition. The red LED is lit when sampling the outside air and off when sampling the inside air.
4. Other indications that the program is running properly are:
The subsample number (1 to 4) should change every 15 seconds.
The time in seconds should update regularly.
On the top line, the value 0 just before "Cnt/s" should flicker unless the LASX printer light is on, whereupon the value should count up to 162 and return to 0.
5. If the program seems to be stuck, press the <Esc> key to exit the program. Restart the program using the same file name as before. (The up arrow key may be used to recall the previous commands that had been entered.)
6. If the value just before "Cnt/s" holds at some other number than 0 when the LASX is not printing, try pressing the letter "f" one time to clear it to zero. If the key press does not work, restart the program.

Stopping the program and LASX:

1. Press <Esc> to stop the program. Turn off the LASX.

Backing up the data:

- 1.. Copy the data files in the c:\LASX\DATA subdirectory to a floppy disk.

ARB In-Vehicle Main Study Aethalometer Setup and Operating Procedures

Physical setup:

1. The connection to the inlet nozzle is with a 1/4" Swagelok fitting. The Aethalometer should be connected to the adjacent manifold connection as the LAS-X.
2. Make certain a formatted diskette (marked Aethalometer Data) is in the disc drive.
3. Connect the power plug to the 120 vac power strip, if not already connected.

Initial settings:

1. Open the door of the unit and make certain a tape cartridge is installed. Check that there is no slack in the tape.

Starting the Aethalometer:

1. Turn on the power switch; the data system will boot automatically and the system will start.
2. After 2 minutes, check the display panel and enter the desired clock time (Don Whitaker's watch time).

Stopping the Aethalometer:

1. Switch unit OFF.
2. Remove floppy disk.

Backing up the data:

- 1.. Copy the data files from the diskette to the hard drive of the laptop.

Operating questions for the Aethalometer can be referred to: Tony Hansen, McGee Scientific, phone (510) 845-2801

CARBON MONOXIDE DATA COLLECTION PROTOCOL

Carbon monoxide (CO) data are collected using Draeger Model 190 CO dataloggers. Monitors are calibrated at least once a week or more often if deemed necessary. Zero and span points are checked and recorded prior to and after each daily sampling period. At the completion of each day's sampling period the data are downloaded to a personal computer using a software package provided by National Draeger, Inc.

Monitor Operation

The following is a brief description of the operation procedure for the Draeger 190 CO monitor. For additional details refer to the operating manual provided.

The alarm feature has been adjusted to approximately 150 ppm CO instead of the factory setting of 35 ppm in order to minimize chances of classroom disturbances in the event of a high CO spike. Operation of the monitor is simple and is outlined in this paragraph. "Keys" are used to turn the monitor on and off, place the monitor in the concentration only mode and to reset the datalogger. These keys are color coded red and blue. The blue key resets the datalogger and also puts the monitor in a power conserving "sleep" mode. The red key is used to place the monitor in a concentration only mode which is used for zeroing and spanning the monitor and to reset the datalogger. With no key inserted, the monitor is in its normal operating/logging mode. Do not insert any keys until the data have been successfully downloaded to the personal computer. To do so will reset the datalogger and collected data will be lost.

Daily Operations

Each monitor should be zeroed and spanned at the beginning and end of each daily sampling period. Record the zero and span session using the instrument's datalogger and enter the required information on the CO Monitor Zero and Span Log (see attached copy of log). The procedures are outlined below.

Daily Zero and Span Procedure

1. Remove the blue key from the monitors and replace with the red key.
2. Press the black button at the top of the red key to place the monitor in the concentration only mode.
3. Attach the manifold to the 0 ppm CO in air cylinder and Adjust the rotameter to provide airflow through the manifold of approximately 1 to 1.2 LPM if all six ports are to be used or approximately 150 to 200 mL/min per port if fewer than six are to be used.
4. Attach the monitors to the manifold by inserting the sensor into the adapter.
5. Observe the concentration reading on each instrument. The readings should be 5 +/- 1 ppm. Allow 2-3 min for this reading to stabilize. Do not record this reading on the Zero and Span Log.
Note: A +5 ppm offset is used to compensate for negative drift due to temperature variations.
6. If the concentration reading needs adjustment, adjust the zero pot (marked with Z) using a small screwdriver. Adjust to 5 ppm. Do not record this reading on the Zero and Span Log.
7. Disconnect the manifold from the 0 ppm cylinder and attach to the span cylinder (11 ppm CO in air). Adjust the flow as described in

step 3 above.

8. Allow 2-3 min for this reading to stabilize. The concentration reading on each instrument should be 16 ± 1 ppm.

9. If the concentration reading needs adjustment, adjust the span pot (marked with S) using a small screwdriver. Do not record this reading on the Zero and Span Log.

10. Reattach the manifold to the 0 ppm air and observe the monitor reading. If the reading is outside the 5 ± 1 ppm repeat steps 6-10.

11. If the reading is within 5 ± 1 ppm press the black button on top of the red key to return the monitor to the logging mode and then remove the red key to begin datalogging. Place keys in tool bag as they will not be reinserted at this time. Note this start time on the span log. Allow the monitor to record data for approximately 2 min. Record the concentration on the Zero and Span Log.

12. Attach the manifold to the span gas and allow the monitor to record for approximately 2 min. Record the concentration on the Zero and Span Log. Do not reinsert either the blue or red key at this time as the recorded data will be lost.

13. The monitors are now ready for deployment.

14. Deploy the monitors.

15. Collect the monitors at the specified time.

16. Before downloading the data from the monitors, check the zero and span of the monitors using the 0 ppm and 11 ppm CO gases.

17. Attach the monitors to the calibration manifold and attach the manifold to the 0 ppm air regulator\cylinder using the Tygon tubing supplied.

18. Observe the concentration reading on each monitor. Allow the monitor to record the concentrations for 2-3 minutes after

stabilization. Do not make any adjustments to the zero pot. Record the concentration in the "End of Day" section of the Zero and Span Form.

19. Attach the manifold to the 11 ppm CO gas source, observe the concentration reading on each monitor. Allow the monitor to record the concentrations for 2-3 minutes after stabilization. Do not make any adjustments to the span pot. Record the concentration on the Zero and Span Form.

20. The monitors are now ready to download. Refer to the section below on Retrieving and storing data from the datalogger.

Retrieving and Storing Data From Datalogger

Data are retrieved and stored from the Model 190 using a personal computer and Draeger's Enhanced Graphics Software (EGS). The following is the step by step procedure for accomplishing this. The procedure assumes that the CompuAdd 316NX notebook computer, set-up and provided by RTI will be used.

1. Turn the computer on and select "Draeger CO" from the menu.
2. Press ENTER to display the EGS menu.
3. Attach the adapter/converter box to the serial port on the computer and to the output jack of the monitor. Make sure the 9 volt battery is attached the the converter box.

Note: Do not insert the blue or red key into the output jack until data have been downloaded, verified and saved. To do so will reset the datalogger thus voiding all collected data.

4. Press 3 (Load from Logger) and turn the converter switch on. The computer screen will indicate "active". Once the data transmission is complete turn the converter box off.

5. Type the sample name. The name is composed of the school ID plus the location ID (example: 1234-21). Press ENTER.

6. Type the location (playground, classroom, cafeteria, etc.).
Press ENTER.
7. Type the date. Press ENTER.
8. Type the start time (24 hr clock). Press ENTER.
Note: This is the time that the datalogger was turned on which should correspond with the SPAN time noted on the Zero and Span Log, not the deployment time.
9. Type any appropriate comments (problems during collection, etc.). Press ENTER.
10. Type 1 to indicate CO for the gas type. Press ENTER.
11. Type the three digit serial number for the CO monitor. Press ENTER.
12. Check the information as it is displayed, if information is incorrect, redownload the data from the datalogger by repeating steps 4-11.
13. Type command "5" to view the graph if desired. Press ENTER to return to menu.
14. If all information is correct, type command 4 to save the file.
15. Type the file name. The filename is the same as the already assigned sample name (step 5). Press ENTER.
16. Type command 0 to list the files for verification that the file has been saved. If not repeat download.
17. Repeat steps 3 - 16 for all remaining CO monitors.
18. Once all CO monitors have been downloaded, Type command 1 to exit to the main software menu.
19. Backup data files before turning CO monitors off. See instructions elsewhere for this procedure.

20. Once backup files are made, insert the blue key into the output jack to put monitors in the "sleep" mode for overnight.

Weekly Operations

Multi-point Calibration

Perform a four point calibration check on each unit at the beginning of each week. If problems occur with individual monitors perform an additional calibration on those units as soon as possible after the problem is observed. Calibration is performed using 0, 2, 11 and 20 ppm CO in air, certified cylinder gases. The procedure is described below.

1. Insert the red key and place the monitor in the concentration mode by pressing the black button on the top of the red key.
2. Individually attach the 0 ppm, 2 ppm, 11 ppm and 20 ppm CO gases to the manifold. Allow approximately 2 minutes for the monitor to stabilize and on the CO Calibration Log.
3. If concentration values are off on any point by +/- 2 ppm rezero and span the monitor and repeat the calibration.

CO CALIBRATION LOG

DATE ___/___/___

TECHNICIAN _____

INITIAL CALIBRATION CHECK

START TIME ___:___

Monitor S/N	0 ppm Reading	___ ppm Reading	___ ppm Reading	___ ppm Reading
003	_____	_____	_____	_____
010	_____	_____	_____	_____
016	_____	_____	_____	_____
039	_____	_____	_____	_____
048	_____	_____	_____	_____
057	_____	_____	_____	_____
066	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

RECALIBRATION (Perform only if adjustments are necessary)

Monitor S/N	0 ppm Reading	___ ppm Reading	___ ppm Reading	___ ppm Reading
003	_____	_____	_____	_____
010	_____	_____	_____	_____
016	_____	_____	_____	_____
039	_____	_____	_____	_____
048	_____	_____	_____	_____
057	_____	_____	_____	_____
066	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**ARB In-Vehicle Main Study
Aethalometer Setup and Operating Procedures**

Physical setup:

1. The connection to the inlet nozzle is with a 1/4" Swagelok fitting. The Aethalometer should be connected to the adjacent manifold connection as the LAS-X.
2. Make certain a formatted diskette (marked Aethalometer Data) is in the disc drive.
3. Connect the power plug to the 120 vac power strip, if not already connected.

Initial settings:

1. Open the door of the unit and make certain a tape cartridge is installed. Check that there is no slack in the tape.

Starting the Aethalometer:

1. Turn on the power switch; the data system will boot automatically and the system will start.
2. After 2 minutes, check the display panel and enter the desired clock time (Don Whitaker's watch time).

Stopping the Aethalometer:

1. Switch unit OFF.
2. Remove floppy disk.

Backing up the data:

1. Copy the data files from the diskette to the hard drive of the laptop.

Operating questions for the Aethalometer can be referred to: Tony Hansen, McGee Scientific, phone (510) 845-2801

LASX Setup and Operating Procedures

Physical setup:

1. The connection to the inlet nozzle is with a 1/8" Swagelok fitting. When tightening or changing fittings, be sure to hold the LASX inlet assembly with a wrench to avoid rotating the inlet. The red dot on the inlet should not be allowed to move because it will affect the calibration of the instrument.
2. The RS232 cable for the computer should be plugged into the relay control adapter, which in turn is plugged into the back of the LASX. If the cable should fail, replace it with a modem cable with female DB-9 to male DB-25. Do not replace it with a printer cable.
3. Connect the relay terminal block to the battery using the fused power leads provided.
4. Position the red LED indicator light where the operators can easily see it when looking forward.

Initial settings:

1. The LASX should be set for Probe Range on "3", Int. Multi. on "15", and Rest Period on "Sec". This will allow the counter to print every 15 seconds. The Printer switch should be "Off" and the Run/Hold switch in the "run" position.

Starting the LASX:

1. The first thing to do after several seconds warmup is to set the clock. Adjust the hour digits for the proper hour by pushing the "Set" button below the hour indicator. Adjust the minute digits for the desired starting minute using the "Set" button below the minute indicator. Seconds are not adjustable, but the "Start" button should be pushed when the master clock indicates 0 seconds.
2. Set the Sample flow to "1", as closely as possible, for a 1 cm³/s sample. The sheath flow should be set to 20, but is not critical.
3. Turn the printer on and allow two or three cycles to print. Save the printed tape for the notebook, as an indication of proper operation. Turn the printer off.

Starting the LASX program:

1. With the LASX running and the computer connected to it via the serial port, start the program by entering the command "LASX filename" where the file name has no extension. The suggested filenames consist of 6 digits to represent the date with "a" or "p" to designate a morning or afternoon run, such as "021997a".

2. The program runs in the \LASX subdirectory and stores the data in the \LASXDATA subdirectory. The actual program name is LASXGET.EXE, but the command "LASX" is a batch file.
3. When the program first starts, the solenoids should be activated to pull an outside air sample. Every minute thereafter, the solenoids should be switched to the other condition. The red LED is lit when sampling the outside air and off when sampling the inside air.
4. Other indications that the program is running properly are:
The subsample number (1 to 4) should change every 15 seconds.
The time in seconds should update regularly.
On the top line, the value 0 just before "Cnt/s" should flicker unless the LASX printer light is on, whereupon the value should count up to 162 and return to 0.
5. If the program seems to be stuck, press the <Esc> key to exit the program. Restart the program using the same file name as before. (The up arrow key may be used to recall the previous commands that had been entered.)
6. If the value just before "Cnt/s" holds at some other number than 0 when the LASX is not printing, try pressing the letter "F" one time to clear it to zero. If the key press does not work, restart the program.

Stopping the program and LASX:

1. Press <Esc> to stop the program. Turn off the LASX.

Backing up the data:

- 1.. Copy the data files in the c:\LASX\DATA subdirectory to a floppy disk.

**Air Exchange Rate (AER) Determination Protocol
for the ARB In-Vehicle Exposure Study**

1. **When** - The AER measurements will be conducted using the Sierra test vehicle at some point on Saturday while in the "rural" area west of Sacramento to take advantage of the expected low CO background level.

2. **How** - The AER measurements will basically be determined from the exponential decay rate inside the vehicle using specified ventilation settings and proceeding at a specified vehicle speed. The specific steps are:

- a) Drive the car for 5 minutes at the maximum AER setting (windows open) to purge the interior with the "clean" rural air,
- b) Start the data collection with a calibrated CO monitor in 1 minute integration mode,
- c) With the vehicle OFF, stationary, and the windows closed, release a measured amount of CO into the interior to provide (from computation) an equilibrium concentration representing a typical freeway commute level of 20 to 30 ppm),
- d) Turn ON a small fan (not part of the vent system) to mix the air in the passenger compartment for 5 minutes,
- e) Set the vehicle vent system controls to the desired settings, proceed to a rural route that can be driven at a selected speed for 12 to 15 minutes, with minimal stops, and record the CO concentrations,
- f) Return the vehicle to the starting point, dump the CO data, and plot the results to determine the exponential decay rate (see Ott and Willits, 1981. for computational procedure).

total time per AER measurement is approximately 30 to 60 minutes.

The desired vent/driving scenarios include (1) low AER (driving): no outside air thru vent, fan off, windows closed, freeway speed (55 mph), (2) medium AER (driving): outside air thru vent, medium fan speed, windows closed, freeway speed (55 mph), (3) high AER (driving): outside air thru vent, medium fan speed, windows 1/3 open, and [optional if time permits] (4) medium AER (stationary): outside air thru vent, medium fan speed, windows closed, with vehicle at rest, preferably engine OFF.

Temperature/Humidity Data Logger Setup and Operating Procedures

Two Smart Reader 2 humidity/temperature loggers have been sent for monitoring humidity and temperature. One is for the weighing room and one is for the car (marked on the loggers.) The loggers operate continuously and do not need to be reset.

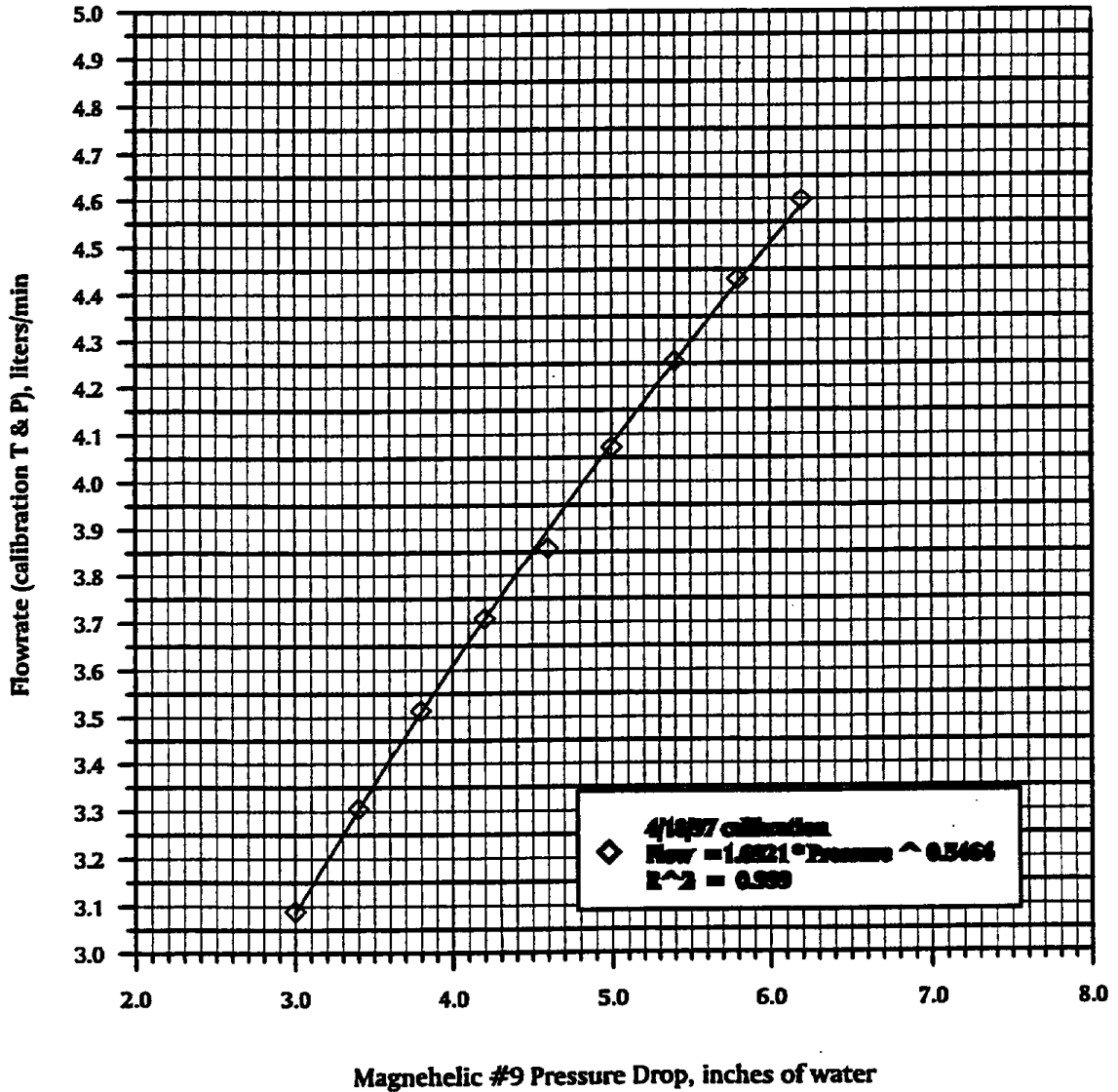
The data in the loggers is retrieved by using the program HUMID.EXE in the C:\WEIGH subdirectory. Do not use HUMID directly, however. The two loggers have different calibration data that must be called properly.

1. Make sure the printer is connected to the computer and turned on. Plug a Smart Reader cable into the serial port of the computer, and plug the cable into the Smart Reader.
2. To use the Lab logger, enter the command LABHUMID. To use the Car logger, enter the command CARHUMID.
3. The program will print a header and display a file name on the status line, of the form "H021997", the letter "H" plus the date. This name will be used to store the dumped logger data. If you dump more than once a day, the previous data will be overwritten. If you dump only once a day, new files will be created each time.
4. Use the Interrogate Logger option to dump the data. The printer will begin printing as the data dumps. Once the first screen full of results are shown, press any key to continue to the time list, which will also print.
5. Once the dump has been done, exit the program. Paste the printed results into the appropriate notebook. If weighing will then be done, use the current values for temperature and humidity in the weighing program setup.

Warning: The loggers have magnetic strips on their backs for mounting. Keep the loggers well separated from floppy disks that can be erased or damaged by the magnets.

**AEB Main Study
PM2.5 & PM10 4.0 LPM Particle Samplers
Flow Audit Orifice #9 Calibration**

**Pressure: 756.7 mm Hg
Temperature: 72.0 deg. F**



ARB Main Study PEM Audit Orifice Calibration					
File: pemorf09.xls					
Orifice #:		9		Calibration date: 8 / 18 / 97	
Magnehelic #:		9		Temperature, deg. F : 72	
Bubble Flowmeter S/N #:		16709-5		Atm. Press., mm Hg: 757	
		4.00 lpm =		4.85 inches of H2O	
Magnehelic				Magnehelic	
Reading,	Flowrate,			Reading,	Flowrate,
inches H2O	lpm			inches H2O	lpm
4.00	3.609			5.40	4.252
4.05	3.634			5.45	4.274
4.10	3.658			5.50	4.295
4.15	3.682			5.55	4.316
4.20	3.707			5.60	4.338
4.25	3.731			5.65	4.359
4.30	3.755			5.70	4.380
4.35	3.778			5.75	4.401
4.40	3.802			5.80	4.422
4.45	3.826			5.85	4.442
4.50	3.849			5.90	4.463
4.55	3.872			5.95	4.484
4.60	3.896			6.00	4.504
4.65	3.919			6.05	4.525
4.70	3.942			6.10	4.545
4.75	3.964			6.15	4.565
4.80	3.987			6.20	4.586
4.85	4.010			6.25	4.606
4.90	4.032			6.30	4.626
4.95	4.055			6.35	4.646
5.00	4.077			6.40	4.666
5.05	4.099			6.45	4.686
5.10	4.122			6.50	4.706
5.15	4.144			6.55	4.725
5.20	4.165			6.60	4.745
5.25	4.187			6.65	4.765
5.30	4.209			6.70	4.784
5.35	4.231			6.75	4.804
Factor		1.6921		Exponent 0.54642	
Flow (lpm) = Factor x Pressure Drop (inches H2O) ^ Exponent					
Orifice response correction multiplying factors:					
P correction = [Pseasonal / Pcal]^0.5			T correction = [Tcal / Tseasonal]^0.5		

ARB Main Study CEET Shipping List 8/28/97

Item	Description	number	Ship/Take?	Status	Total Value, \$
Support Equipment					
	Study Toshiba laptop	1	RNT		\$2,100
	Spare battery for Toshiba laptop	1	S		\$120
	CER Toshiba laptop	1	CRT		\$4,200
	CER HP660 inkjet printer	1	SM		\$320
	Gilibrator, 6 lpm	1	S		\$780
	Kodak digital camera (CEET.)	1	CRT		\$450
	Field Operations Manual	1	S		\$500
Continuous Monitoring					
	LAS-X	1	S	shipped	\$9,000
	Aethalometer	1	S	leased	\$5,000
	PMS/LAS-X shipping crate	1	S	shipped	\$120
	LAS-X operating manual	1	S	shipped	\$20
	Aethalometer operating manuals	1	S	already at SR	\$20
Roadside Monitoring					
	Bluff bodies w/rainshields	3	S		\$1,000
	Bluff body switch panels	3	S		\$50
	Groundstakes w/standpoles	2	S		\$150
	Tripod w/weight	1	S		\$80
	Security cables & locks	2	?		\$25
	Pole driver	1	S		\$15
In-Vehicle Monitoring					
	Backseat rack	1	S	Ship 8/29	\$200
	Back window insert	1	S		\$5
	Polyethylene tubing, 3/8"	20 ft	S		\$20
	Manifold switching system	1	S		\$600
	Manifold system #2	1	S		\$300
	Data logger w/humidity sensor	1	S		\$800
	3/8" SS union	1	S		\$25
	Wood PM sampler trays	2	S		\$100
	Manifold #2 aux. pump	1	S		\$400

S - ship to Sierra for Sunday pickup; SM - ship to motel; CRT/RNT - Charles/Randy take

Item	Description	number	Ship or Take?	Weight/Size
	Supplies			
	Duct tape	1 rolls	S	\$10
	Masking tape	1 roll	S	
	Tools	asst	S	\$125
	Lab bench paper	10 feet	S	
	Kimwipes	2 boxes	S	\$5
	cable ties	50	S	\$5
	cable tie gun	1	S	\$50
	Tygon tubing (2 sizes)	20 ft	S	\$10
	Inkjet printer paper	1 pkg	S	\$2
	office supplies (various)	1	S	\$10
	35mm slide film	1 roll		\$5
	Data/Calibration Sheets			
	Particle sampling	10	S	\$2
	LAS-X operating	10	S	\$2
	Orifice/Magnehelic calibration table	1	S	\$2
	Software			
	Filter weighing program	2	CRT	\$150
	Pump logger software	2	RNT	\$150
	Kodak camera	1	CRT	\$100
	Filter Weighing			
	Mettler AT20	1	CRT	\$8,000
	RS232 cable	1	CRT	\$65
	Data logger w/humidity sensor	1	CRT	\$800
	Gelman Teflo [®] filters	350	CRT	\$1050
	Weighing log	1	SM	\$10
	balance computer printer	1	SM	\$200
	printer paper	1 roll	SM	\$10
	printer ink cartridge	1	SM	\$10
	printer cable	1	SM	\$15
	static charge neutralizers	2	SM	\$90
	filter equilibration cabinets	2	SM	\$120
		1		

S - ship to Sierra for Sunday pickup; SM - ship to motel; CRT/RNT - Charles/Randy take

ENCROACHMENT PERMIT

TR-0120 (NEW 9/91)

In compliance with (check one):

Your application of AUGUST 27, 1997

Utility Notice No. _____ of _____

Agreement No. _____ of _____

R/W Contract No. _____ of _____

Permit No. 0397-NSV0888	
Dist/Co/Rte/PM 03-SAC-51-2.4/5.96 03-SAC-80-R11.55	
Date August 27, 1997	
Fee Paid \$ EXEMPT	Deposit \$ N/A
Performance Bond Amount (1) \$ N/A	Payment Bond Amount (2) \$ N/A
Bond Company	
Bond Number (1)	Bond Number (2)

TO:

Research Triangle Institute
P.O. Box 12194
Research Triangle Park, NC 27709-2194

Ref.: 6786-001

ATTN: Charles E. Rodes, Ph.D.
PHONE: (919) 541-6749

, PERMITTEE

and subject to the following, PERMISSION IS HEREBY GRANTED to:

Install four (4) temporary air monitoring stations, three (3) along State Highway 51 (Bus. 80) and one (1) on State Highway 80. Specific locations described on memo dated February 18, 1997.

MEMO ATTACHED

Permittee shall contact State Inspector Tara McCann, telephone (916) 227-7008, two working days prior to commencing work, to arrange a pre-job meeting, in accordance with Provision 6 of the attached General Provisions. The 24 hour notification before restarting work, provided by Provision 6, shall be strictly adhered to. All work shall be conducted and completed to the satisfaction of Caltrans representative listed below. Immediately following completion of the work permitted herein, the Permittee shall fill out and mail the Notice of Completion attached to this permit.

<p>The following attachments are also included as part of this permit. (Check applicable):</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No General Provisions</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Utility Maintenance Provisions</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Special Provisions TRAFFIC CONTROL</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No A Cal-OSHA permit required prior to beginning work; # PLAN and MEMO ATTACHED</p>	<p>In addition to fee the permittee will be billed actual costs for:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Review</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Inspection</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Work</p> <p>(If any Caltrans effort expended)</p>
<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.</p>	

This permit is void unless the work is completed before OCTOBER 1, 1997
 This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.
 No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

Tara McCann, Permits
5900 Folsom Boulevard
Sacramento, CA 95919
(916) 227-7008, Cellular 755-7371

APPROVED:

Irene T. Itamura, District Director
BY:
Richard W. Jones
Richard W. Jones, Chief - Office of Encroachment Permits

cc Peter Azevedo, Sunrise Region
William Barker, Permits

Figure 9
 Illustrations of the U.S. DOT
 Level of Service Classification Scheme

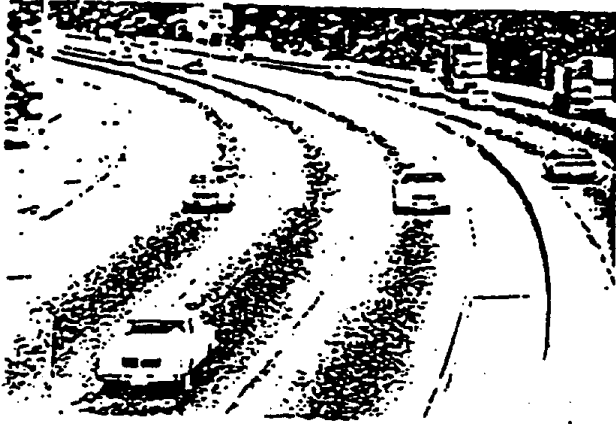


Illustration 3-5. Level-of-service A.
 Level of Congestion 1

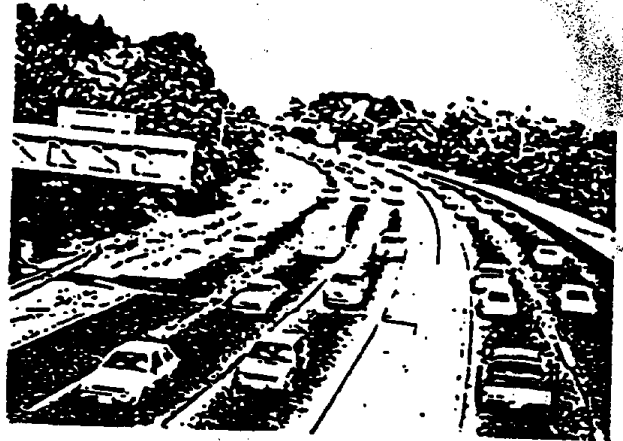


Illustration 3-8. Level-of-service D.

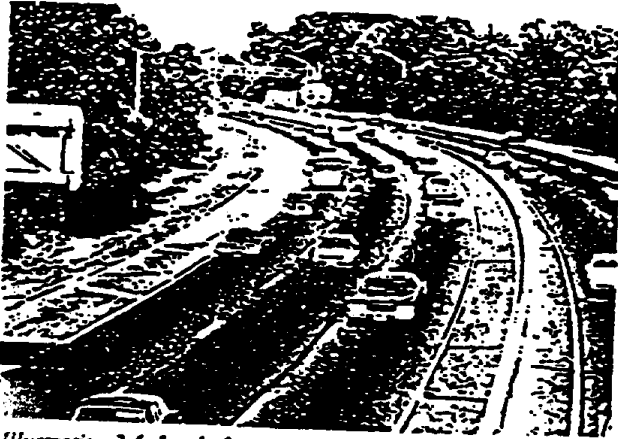


Illustration 3-6. Level-of-service B.



Illustration 3-9. Level-of-service E.



Illustration 3-7. Level-of-service C.



Illustration 3-10. Level-of-service F.
 Level of Congestion 6

Sacramento and Los Angeles Commuting Route Maps

[not repeated here – see Appendix C]

