Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

United States Environmental Protection Agency

Office of Air Quality Planning and Standards Research Triangle Park, NC 27711

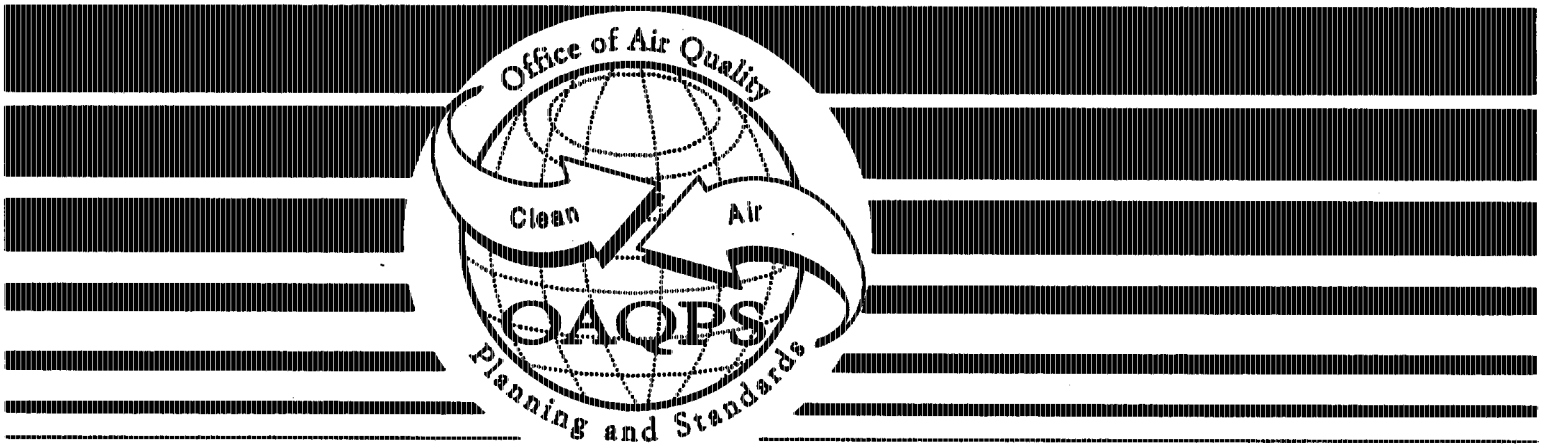
EMB Report 90-MWI-4 Volume III November 1990

Air

EPA

Medical Waste Incineration Emission Test Report

Cape Fear Memorial Hospital Wimington, North Carolina



DCN: 90-275-026-26-05

MEDICAL WASTE INCINERATION

DRAFT EMISSION TEST REPORT

VOLUME III
APPENDICES C - M

Cape Fear Memorial Hospital
Wilmington, North Carolina

EMB Project No. 90-MWI-05
Work Assignment 26
Contract No. 68-D-90054

Prepared for:

Waste Characterization Branch
Office of Solid Waste
U.S. Environmental Protection Agency
Washington, D.C. 20460

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December 1991

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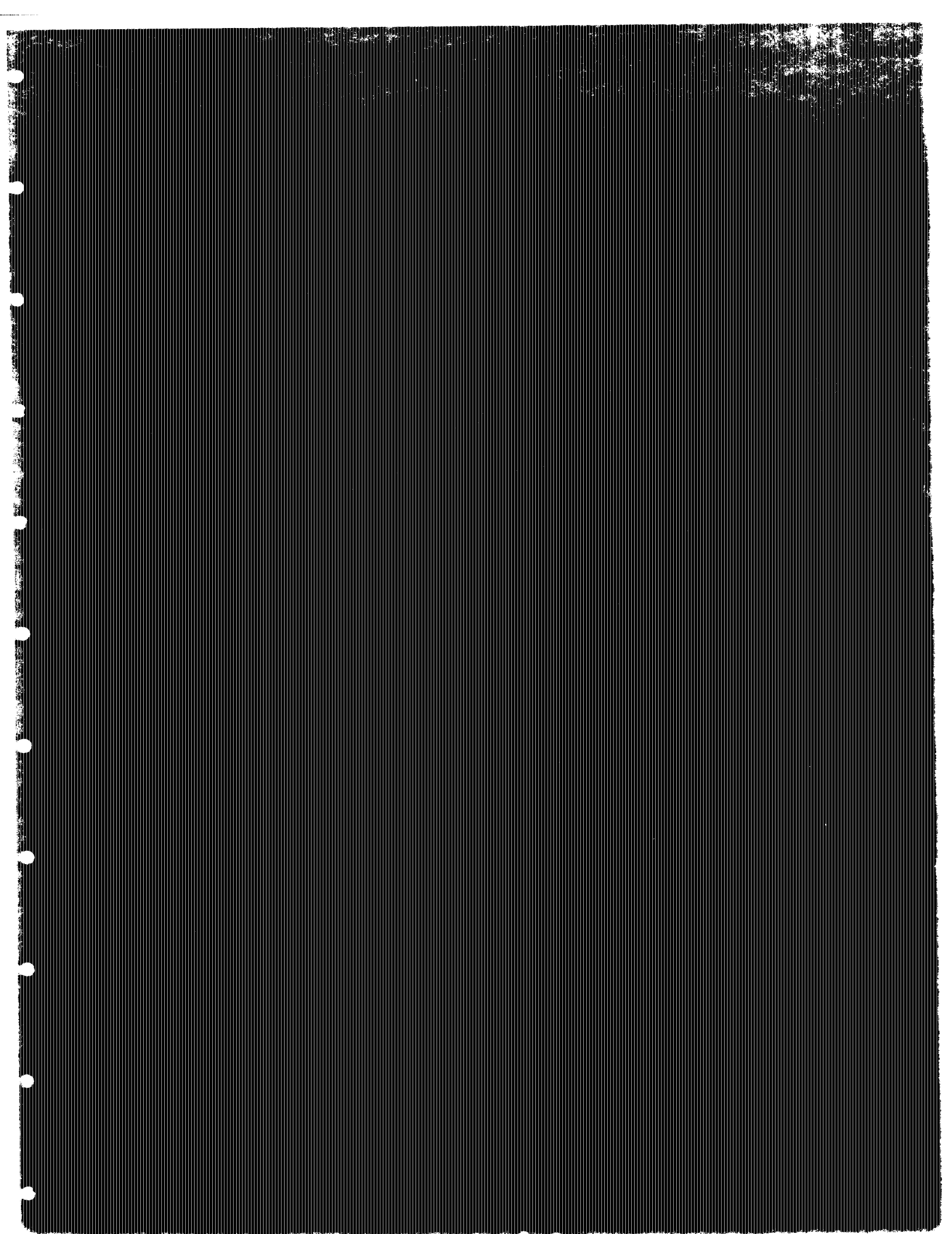


FACILITY : CAPE FEAR MEMORIAL HOSPITAL

DATE:	8/15/90	8/21/90	8/22/90	
LOCATION:	OUTLET	OUTLET	OUTLET	COND 1
RUN NUMBER:	1.00	5.00	6.00	AVG
SAMPLING PARAMETER CDD/CDF				
Total Sampling Time (min.)	220.00	240.00	240.00	233.33
Corrected Barometric Pressure (in. Hg)	30.20	30.22	30.16	30.20
Absolute Stack Pressure,Ps(in. Hg)	30.19	30.22	30.15	30.19
Stack Static Pressure (in. H2O)	-0.13	-0.11	-0.13	-0.12
Average Stack Temperature ([F)	1397.96	1397.56	1407.17	1400.90
Stack Area (sq.in.)	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	111.46	134.07	126.61	124.05
Average Meter Pressure (in.H2O)	0.88	1.10	0.95	0.98
Average Meter Temperature ([F)	89.60	93.97	93.04	92.20
Moisture Collected (g)	369.20	435.60	437.10	413.97
Carbon Dioxide Concentration (%V)	8.01	7.61	7.19	7.60
Oxygen Concentration (%V)	8.53	9.24	9.81	9.19
Nitrogen Concentration (%V)	83.46	83.15	83.00	83.20
Dry Gas Meter Factor	0.98900	0.98900	0.98900	0.99
Pitot Constant	0.84	0.84	0.84	0.84
Average Sampling Rate (dscfm)	0.49	0.53	0.50	0.51
Standard Metered Volume,Vm(std) (dscf)	107.14	128.01	120.80	118.65
Standard Metered Volume,Vm(std) (dscm)	3.034	3.625	3.421	3.36
Standard Volume Water Vapor,Vw (scf)	17.41	20.54	20.61	19.52
Standard Volume Water Vapor,Vw (scm)	0.493	0.582	0.584	0.55
Stack Moisture (%V)	13.98	13.83	14.57	14.13
Mole Fraction Dry Stack Gas	0.860	0.862	0.854	0.86
Dry Molecular Weight	29.62	29.59	29.54	29.58
Wet Molecular Weight	28.00	27.99	27.86	27.95
Stack Gas Velocity,Vs (fpm)	1588.02	1779.49	1686.53	1684.68
Stack Gas Velocity,Vs (mpm)	484.03	542.39	514.06	513.49
Volumetric Flow Rate (acfm)	4192.08	4697.52	4452.13	4447.24
Volumetric Flow Rate (acmm)	118.720	133.034	126.084	125.95
Volumetric Flow Rate (dscfm)	1033.62	1161.34	1083.30	1092.75
Volumetric Flow Rate (dscmm)	29.272	32.889	30.679	30.95
Percent Isokinetic	101.06	99.34	100.50	100.30
Percent Excess Air	63.09	72.59	80.95	72.21
Fuel Factor,Fo	1.544	1.532	1.542	1.54
Ultimate CO2	13.53	13.64	13.55	13.57

FACILITY : CAPE FEAR MEMORIAL HOSPITAL

DATE:	8/18/90	8/19/90	8/20/90	
LOCATION:	OUTLET	OUTLET	OUTLET	COND 2
RUN NUMBER:	2.00	3.00	4.00	AVG
SAMPLING PARAMETER CDD/CDF				
Total Sampling Time (min.)	240.00	240.00	240.00	240.00
Corrected Barometric Pressure (in. Hg)	30.16	29.85	30.18	30.07
Absolute Stack Pressure,Ps(in. Hg)	30.15	29.84	30.17	30.06
Stack Static Pressure (in. H2O)	-0.13	-0.13	-0.13	-0.13
Average Stack Temperature ([F)	1434.44	1468.35	1430.13	1444.31
Stack Area (sq.in.)	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	97.81	118.49	127.21	114.51
Average Meter Pressure (in.H2O)	0.61	0.84	1.00	0.82
Average Meter Temperature ([F)	92.50	90.14	91.00	91.21
Moisture Collected (g)	343.40	403.40	447.20	398.00
Carbon Dioxide Concentration (%V)	7.81	7.72	9.17	8.23
Oxygen Concentration (%V)	7.17	9.38	7.56	8.04
Nitrogen Concentration (%V)	85.02	82.90	83.27	83.73
Dry Gas Meter Factor	0.98900	0.98900	0.98900	0.99
Pitot Constant	0.84	0.84	0.84	0.84
Average Sampling Rate (dscfm)	0.39	0.47	0.51	0.46
Standard Metered Volume,Vm(std) (dscf)	93.34	112.46	121.92	109.24
Standard Metered Volume,Vm(std) (dscm)	2.643	3.185	3.453	3.09
Standard Volume Water Vapor,Vw (scf)	16.19	19.02	21.09	18.77
Standard Volume Water Vapor,Vw (scm)	0.459	0.539	0.597	0.53
Stack Moisture (%V)	14.78	14.47	14.74	14.66
Mole Fraction Dry Stack Gas	0.852	0.855	0.853	0.85
Dry Molecular Weight	29.54	29.61	29.77	29.64
Wet Molecular Weight	27.83	27.93	28.03	27.93
Stack Gas Velocity,Vs (fpm)	1339.49	1662.51	1687.88	1563.29
Stack Gas Velocity,Vs (mpm)	408.28	506.73	514.47	476.49
Volumetric Flow Rate (acfm)	3536.00	4388.70	4455.69	4126.80
Volumetric Flow Rate (acmm)	100.139	124.288	126.185	116.87
Volumetric Flow Rate (dscfm)	845.93	1024.65	1069.58	980.05
Volumetric Flow Rate (dscmm)	23.957	29.018	30.290	27.76
Percent Isokinetic	98.61	98.08	101.87	99.52
Percent Excess Air	46.89	74.91	52.35	58.05
Fuel Factor,Fo	1.758	1.492	1.455	1.57
Ultimate CO2	11.89	14.01	14.37	13.42



SAMPLE AND FLUE GAS PARAMETERS FOR PM AND TOXIC METALS RUNS-CFMM
CONDITION 1

DATE:	8/15/90	8/21/90	8/22/90	
LOCATION:	STACK	STACK	STACK	
RUN NUMBER:	1.00	5.00	6.00	AVERAGE
SAMPLING PARAMETER	PM/TOXIC METALS			
Total Sampling Time (min.)	220.00	240.00	240.00	233.33
Corrected Barometric Pressure (in. Hg)	30.20	30.22	30.16	30.20
Absolute Stack Pressure,Ps(in. Hg)	30.19	30.21	30.15	30.19
Stack Static Pressure (in. H2O)	-0.13	-0.13	-0.13	-0.13
Average Stack Temperature (F)	1397.80	1427.15	1395.63	1406.86
Stack Area (sq.in.)	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	107.52	141.74	140.45	129.90
Average Meter Pressure (in.H2O)	0.86	1.25	1.20	1.10
Average Meter Temperature (F)	94.49	94.10	94.63	94.41
Moisture Collected (g)	355.60	488.50	493.80	445.97
Carbon Dioxide Concentration (%V)	8.01	7.61	7.19	7.60
Oxygen Concentration (%V)	8.53	9.24	9.81	9.19
Nitrogen Concentration (%V)	83.46	83.15	83.00	83.20
Dry Gas Meter Factor	0.99920	0.99920	0.99920	1.00
Pitot Constant	0.84	0.84	0.84	0.84
Particulate Catch (g)	0.66840	0.70260	0.29220	0.55
Average Sampling Rate (dscfm)	0.47	0.57	0.56	0.53
Standard Metered Volume,Vm(std) (dscf)	103.49	136.74	135.08	125.11
Standard Metered Volume,Vm(std) (dscm)	2.931	3.873	3.826	3.54
Standard Volume Water Vapor,Vw (scf)	16.77	23.03	23.28	21.03
Standard Volume Water Vapor,Vw (scm)	0.475	0.652	0.659	0.60
Stack Moisture (%V)	13.94	14.42	14.70	14.35
Mole Fraction Dry Stack Gas	0.861	0.856	0.853	0.86
Dry Molecular Weight	29.62	29.59	29.54	29.58
Wet Molecular Weight	28.00	27.92	27.85	27.92
Stack Gas Velocity,Vs (fpm)	1556.74	1933.24	1878.22	1789.40
Stack Gas Velocity,Vs (mpm)	474.49	589.25	572.48	545.41
Volumetric Flow Rate (acfm)	4109.50	5103.39	4958.14	4723.68
Volumetric Flow Rate (acmm)	116.381	144.528	140.415	133.77
Volumetric Flow Rate (dscfm)	1013.75	1233.33	1212.10	1153.06
Volumetric Flow Rate (dscmm)	28.709	34.928	34.327	32.65
Percent Isokinetic	101.23	100.77	101.29	101.10
Percent Excess Air	63.09	72.59	80.95	72.21
Fuel Factor,Fo	1.544	1.532	1.542	1.54
Ultimate CO2	13.53	13.64	13.55	13.57
Concentration of Particulate (grains/dscf)	0.09967	0.07929	0.03338	0.0708
Concentration of Particulate (g/dscm)	0.22805	0.18143	0.07638	0.1620
Concentration of Particulate (grains/dscf @7% O2)	0.1120	0.0945	0.0418	0.0828
Concentration of Particulate (g/dscm @7% O2)	0.2563	0.2163	0.0957	0.1894
Particulate Emissions (lbs/hr)	0.8660	0.8383	0.3468	0.6837
Particulate Emissions (kg/hr)	0.3928	0.3802	0.1573	0.3101

SAMPLE AND FLUE GAS PARAMETERS FOR PM AND TOXIC METALS RUNS-CFMH
CONDITION 2

DATE:	8/18/90	8/19/90	8/20/90	
LOCATION:	STACK	STACK	STACK	
RUN NUMBER:	2.00	3.00	4.00	AVERAGE
SAMPLING PARAMETER PM/TOXIC METALS				
Total Sampling Time (min.)	240.00	240.00	240.00	240.00
Corrected Barometric Pressure (in. Hg)	30.16	29.85	30.18	30.07
Absolute Stack Pressure,Ps(in. Hg)	30.15	29.84	30.17	30.06
Stack Static Pressure (in. H2O)	-0.13	-0.13	-0.13	-0.13
Average Stack Temperature (F)	1423.15	1486.83	1442.21	1450.73
Stack Area (sq.in.)	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	97.90	106.99	135.66	113.51
Average Meter Pressure (in.H2O)	0.61	0.70	1.23	0.85
Average Meter Temperature (F)	93.30	94.39	95.19	94.29
Moisture Collected (g)	361.90	374.50	507.40	414.60
Carbon Dioxide Concentration (%V)	7.81	7.72	9.17	8.23
Oxygen Concentration (%V)	7.17	9.38	7.67	8.07
Nitrogen Concentration (%V)	85.02	82.90	83.16	83.69
Dry Gas Meter Factor	0.99920	0.99920	0.99920	1.00
Pitot Constant	0.84	0.84	0.84	0.84
Particulate Catch (g)	0.57300	1.51650	1.58330	1.22
Average Sampling Rate (dscfm)	0.39	0.42	0.54	0.45
Standard Metered Volume,Vm(std) (dscf)	94.25	101.77	130.44	108.82
Standard Metered Volume,Vm(std) (dscm)	2.669	2.882	3.694	3.08
Standard Volume Water Vapor,Vw (scf)	17.06	17.66	23.92	19.55
Standard Volume Water Vapor,Vw (scm)	0.483	0.500	0.678	0.55
Stack Moisture (%V)	15.33	14.79	15.50	15.20
Mole Fraction Dry Stack Gas	0.847	0.852	0.845	0.85
Dry Molecular Weight	29.54	29.61	29.77	29.64
Wet Molecular Weight	27.77	27.89	27.95	27.87
Stack Gas Velocity,Vs (fpm)	1343.26	1515.01	1897.73	1585.33
Stack Gas Velocity,Vs (mpm)	409.43	461.77	578.43	483.21
Volumetric Flow Rate (acfm)	3545.95	3999.33	5009.65	4184.98
Volumetric Flow Rate (acmm)	100.421	113.261	141.873	118.52
Volumetric Flow Rate (dscfm)	847.91	921.42	1184.34	984.56
Volumetric Flow Rate (dscmm)	24.013	26.095	33.540	27.88
Percent Isokinetic	101.03	100.39	100.11	100.51
Percent Excess Air	46.89	74.91	53.63	58.48
Fuel Factor,Fo	1.758	1.492	1.443	1.56
Ultimate CO2	11.89	14.01	14.49	13.46
Concentration of Particulate (grains/dscf)	0.09383	0.22996	0.18732	0.1704
Concentration of Particulate (g/dscm)	0.21468	0.52618	0.42861	0.3898
Concentration of Particulate (grains/dscf @7% O2)	0.0950	0.2775	0.1968	0.1898
Concentration of Particulate (g/dscm @7% O2)	0.2173	0.6349	0.4503	0.4342
Particulate Emissions (lbs/hr)	0.6819	1.8162	1.9016	1.4666
Particulate Emissions (kg/hr)	0.3093	0.8238	0.8625	0.6652

SAMPLE AND FLUE GAS PARAMETERS FOR PM AND TOXIC METALS RUNS-CFMH
CONDITION 3

DATE:	8/26/90	8/27/90	8/28/90	
LOCATION:	STACK	STACK	STACK	
RUN NUMBER:	7.00	8.00	9.00	AVERAGE
SAMPLING PARAMETER PM/TOXIC METALS				
Total Sampling Time (min.)	240.00	155.00	240.00	211.67
Corrected Barometric Pressure (in. Hg)	30.22	30.16	30.04	30.14
Absolute Stack Pressure,Ps(in. Hg)	30.22	30.16	30.04	30.14
Stack Static Pressure (in. H2O)	-0.11	-0.11	-0.11	-0.11
Average Stack Temperature (F)	1240.54	1269.13	1292.92	1267.53
Stack Area (sq.in.)	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	119.86	72.76	110.27	100.96
Average Meter Pressure (in.H2O)	0.87	0.79	0.71	0.79
Average Meter Temperature (F)	97.99	98.37	102.88	99.75
Moisture Collected (g)	429.10	242.90	397.30	356.43
Carbon Dioxide Concentration (%V)	6.89	8.45	8.71	8.02
Oxygen Concentration (%V)	11.77	9.26	9.00	10.01
Nitrogen Concentration (%V)	81.34	82.29	82.29	81.97
Dry Gas Meter Factor	0.99920	0.99920	0.99920	1.00
Pitot Constant	0.84	0.84	0.84	0.84
Particulate Catch (g)	0.76910	0.84060	1.20710	0.94
Average Sampling Rate (dscfm)	0.48	0.45	0.43	0.45
Standard Metered Volume,Vm(std) (dscf)	114.72	69.44	103.96	96.04
Standard Metered Volume,Vm(std) (dscm)	3.249	1.967	2.944	2.72
Standard Volume Water Vapor,Vw (scf)	20.23	11.45	18.73	16.81
Standard Volume Water Vapor,Vw (scm)	0.573	0.324	0.531	0.48
Stack Moisture (%V)	14.99	14.16	15.27	14.81
Mole Fraction Dry Stack Gas	0.850	0.858	0.847	0.85
Dry Molecular Weight	29.57	29.72	29.75	29.68
Wet Molecular Weight	27.84	28.06	27.96	27.95
Stack Gas Velocity,Vs (fpm)	1468.37	1404.87	1370.19	1414.48
Stack Gas Velocity,Vs (mpm)	447.56	428.20	417.63	431.13
Volumetric Flow Rate (acfm)	3876.23	3708.59	3617.03	3733.95
Volumetric Flow Rate (acmm)	109.775	105.027	102.434	105.75
Volumetric Flow Rate (dscfm)	1032.63	979.22	926.21	979.35
Volumetric Flow Rate (dscmm)	29.244	27.731	26.230	27.74
Percent Isokinetic	100.98	99.80	102.02	100.93
Percent Excess Air	121.09	74.19	70.64	88.64
Fuel Factor,Fo	1.325	1.378	1.366	1.36
Ultimate CO2	15.77	15.17	15.30	15.41
Concentration of Particulate (grains/dscf)	0.10346	0.18682	0.17918	0.1565
Concentration of Particulate (g/dscm)	0.23672	0.42745	0.40998	0.3581
Concentration of Particulate (grains/dscf @7% O2)	0.1575	0.2231	0.2093	0.1966
Concentration of Particulate (g/dscm @7% O2)	0.3604	0.5104	0.4789	0.4499
Particulate Emissions (lbs/hr)	0.9157	1.5680	1.4225	1.3021
Particulate Emissions (kg/hr)	0.4154	0.7112	0.6452	0.5906



FACILITY : CAPE FEAR MEMORIAL - Indicator Spares

DATE:	8/15/90	8/15/90	8/21/90	8/21/90	8/22/90	8/22/90
LOCATION:	STACK	STACK	STACK	STACK	STACK	STACK
RUN NUMBER:	1A	1B	5A	5B	6A	6B
Total Sampling Time (min.)	96.00	96.00	96.00	96.00	96.00	96.00
Corrected Barometric Pressure (in. Hg)	30.20	30.20	30.22	30.18	30.16	30.16
Absolute Stack Pressure,Ps(in. Hg)	30.19	30.19	30.21	30.17	30.15	30.15
Stack Static Pressure (in. H2O)	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11
Average Stack Temperature (F)	1335.46	1309.04	1266.38	1359.04	1288.02	1336.71
Stack Area (sq.in.)	380.13	380.13	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	47.31	41.35	68.59	55.13	58.42	47.76
Average Meter Pressure (in.H2O)	0.84	0.66	1.86	1.20	1.30	0.82
Average Meter Temperature (F)	98.27	93.92	95.42	100.46	93.53	95.52
Moisture Collected (g)	NA	NA	NA	NA	NA	NA
Carbon Dioxide Concentration (%V)	8.81	7.63	6.51	6.17	6.09	7.92
Oxygen Concentration (%V)	7.68	8.88	10.09	10.05	11.01	9.01
Nitrogen Concentration (%V)	83.52	83.49	83.39	83.79	82.90	83.07
Dry Gas Meter Factor	1.00020	1.00020	1.00020	1.00020	1.00020	1.00020
Pitot Constant	0.84	0.84	0.84	0.84	0.84	0.84
Average Sampling Rate (dscfm)	0.47	0.42	0.69	0.55	0.59	0.48
Standard Metered Volume,Vm(std) (dscf)	45.27	39.85	66.18	52.56	56.37	45.86
Standard Metered Volume,Vm(std) (dscm)	1.282	1.129	1.874	1.488	1.596	1.299
Standard Volume Water Vapor,Vw (scf)	NA	NA	NA	NA	NA	NA
Standard Volume Water Vapor,Vw (scm)	NA	NA	NA	NA	NA	NA
Stack Moisture (%V)	13.96	13.96	14.13	14.13	14.64	14.64
Mole Fraction Dry Stack Gas	0.860	0.860	0.859	0.859	0.854	0.854
Dry Molecular Weight	29.72	29.58	29.45	29.39	29.41	29.63
Wet Molecular Weight	28.08	27.96	27.83	27.78	27.74	27.93
Stack Gas Velocity,Vs (fpm)	1487.99	1296.00	1933.40	1597.18	1899.42	1704.42
Stack Gas Velocity,Vs (mpm)	453.54	395.02	589.30	486.82	578.94	519.51
Volumetric Flow Rate (acfm)	3928.01	3421.19	5103.81	4216.25	5014.11	4499.34
Volumetric Flow Rate (acmm)	111.241	96.888	144.540	119.404	142.000	127.421
Volumetric Flow Rate (dscfm)	1002.38	886.08	1352.76	1059.19	1302.14	1136.80
Volumetric Flow Rate (dscmm)	28.387	25.094	38.310	29.996	36.877	32.194
Percent Isokinetic	102.19	101.77	110.68	112.28	99.21	92.45
Percent Excess Air	53.35	67.40	84.57	83.08	101.08	69.69
Fuel Factor,Fo	1.502	1.576	1.659	1.761	1.624	1.501
Ultimate CO2	13.92	13.26	12.60	11.87	12.87	13.92

FACILITY : CAPE FEAR MEMORIAL Indicator Spores

DATE:	8/18/90	8/18/90	8/19/90	8/19/90	8/20/90	8/20/90
LOCATION:	STACK	STACK	STACK	STACK	STACK	STACK
RUN NUMBER:	2A	2B	3A	3B	4A	4B
Total Sampling Time (min.)	96.00	96.00	96.00	96.00	96.00	96.00
Corrected Barometric Pressure (in. Hg)	30.16	30.16	29.85	29.85	30.18	30.18
Absolute Stack Pressure,Ps(in. Hg)	30.15	30.16	29.85	29.85	30.17	30.17
Stack Static Pressure (in. H20)	-0.14	-0.08	-0.05	-0.05	-0.11	-0.11
Average Stack Temperature (F)	1329.38	1278.38	1366.04	1329.46	1300.21	1390.52
Stack Area (sq.in.)	380.13	380.13	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	39.88	37.57	48.47	39.16	56.76	39.73
Average Meter Pressure (in.H20)	0.61	0.57	0.93	0.63	1.26	0.64
Average Meter Temperature (F)	95.46	95.10	98.04	96.58	99.79	97.24
Moisture Collected (g)	NA	NA	NA	NA	NA	NA
Carbon Dioxide Concentration (%V)	8.94	8.74	7.46	8.31	7.72	9.75
Oxygen Concentration (%V)	5.64	8.37	9.07	8.63	8.79	7.54
Nitrogen Concentration (%V)	85.42	82.88	83.47	83.06	83.49	82.71
Dry Gas Meter Factor	1.00020	1.00020	1.00020	1.00020	1.00020	1.00020
Pitot Constant	0.84	0.84	0.84	0.84	0.84	0.84
Average Sampling Rate (dscfm)	0.40	0.38	0.48	0.39	0.56	0.40
Standard Metered Volume,Vm(std) (dscf)	38.27	36.08	45.87	37.13	54.18	38.04
Standard Metered Volume,Vm(std) (dscm)	1.084	1.022	1.299	1.051	1.534	1.077
Standard Volume Water Vapor,Vw (scf)	NA	NA	NA	NA	NA	NA
Standard Volume Water Vapor,Vw (scm)	NA	NA	NA	NA	NA	NA
Stack Moisture (%V)	15.06	15.06	14.63	14.63	15.12	15.12
Mole Fraction Dry Stack Gas	0.849	0.849	0.854	0.854	0.849	0.849
Dry Molecular Weight	29.66	29.73	29.56	29.68	29.59	29.86
Wet Molecular Weight	27.90	27.97	27.87	27.97	27.83	28.07
Stack Gas Velocity,Vs (fpm)	1208.08	1191.52	1608.88	1295.96	1813.59	1419.11
Stack Gas Velocity,Vs (mpm)	368.22	363.17	490.39	395.01	552.78	432.54
Volumetric Flow Rate (acfm)	3189.11	3145.38	4247.14	3421.09	4787.52	3746.17
Volumetric Flow Rate (acmm)	90.315	89.077	120.279	96.885	135.583	106.092
Volumetric Flow Rate (dscfm)	805.02	817.40	1045.27	859.19	1228.57	914.42
Volumetric Flow Rate (dscmm)	22.798	23.149	29.602	24.332	34.793	25.896
Percent Isokinetic	107.58	99.87	99.30	98.61	99.78	94.12
Percent Excess Air	33.35	61.91	69.93	64.84	66.23	52.69
Fuel Factor,Fo	1.707	1.433	1.586	1.476	1.569	1.370
Ultimate CO2	12.25	14.59	13.18	14.16	13.32	15.25

FACILITY : CAPE FEAR MEMORIAL Indicator Spores

DATE:	8/26/90	8/26/90	8/27/90	8/27/90	8/28/90	8/28/90
LOCATION:	STACK	STACK	STACK	STACK	STACK	STACK
RUN NUMBER:	7A	7B	8A	8B	9A	9B
Total Sampling Time (min.)	96.00	96.00	96.00	92.00	96.00	96.00
Corrected Barometric Pressure (in. Hg)	30.22	30.22	30.16	30.16	30.04	30.04
Absolute Stack Pressure,Ps(in. Hg)	30.21	30.21	30.15	30.15	30.03	30.03
Stack Static Pressure (in. H2O)	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11
Average Stack Temperature (F)	1203.04	1188.29	1186.38	1154.30	1173.63	1195.88
Stack Area (sq.in.)	380.13	380.13	380.13	380.13	380.13	380.13
Metered Volume,Vm (cu.ft.)	44.23	38.58	42.79	40.53	43.69	43.27
Average Meter Pressure (in.H2O)	0.70	0.52	0.66	0.67	0.69	0.67
Average Meter Temperature (F)	98.35	98.69	99.08	103.84	97.77	105.50
Moisture Collected (g)	NA	NA	NA	NA	NA	NA
Carbon Dioxide Concentration (%V)	6.00	8.06	8.41	8.31	8.18	8.87
Oxygen Concentration (%V)	12.43	10.48	8.86	9.75	8.82	9.37
Nitrogen Concentration (%V)	81.57	81.45	82.73	81.94	83.00	81.76
Dry Gas Meter Factor	1.00020	1.00020	1.00020	1.00020	1.00020	1.00020
Pitot Constant	0.84	0.84	0.84	0.84	0.84	0.84
Average Sampling Rate (dscfm)	0.44	0.38	0.43	0.42	0.43	0.42
Standard Metered Volume,Vm(std) (dscf)	42.32	36.88	40.81	38.33	41.61	40.64
Standard Metered Volume,Vm(std) (dscm)	1.199	1.044	1.156	1.085	1.178	1.151
Standard Volume Water Vapor,Vw (scf)	NA	NA	NA	NA	NA	NA
Standard Volume Water Vapor,Vw (scm)	NA	NA	NA	NA	NA	NA
Stack Moisture (%V)	14.77	14.77	14.79	14.79	14.73	14.73
Mole Fraction Dry Stack Gas	0.852	0.852	0.852	0.852	0.853	0.853
Dry Molecular Weight	29.46	29.71	29.70	29.72	29.66	29.79
Wet Molecular Weight	27.77	27.98	27.97	27.99	27.94	28.06
Stack Gas Velocity,Vs (fpm)	1311.78	1118.68	1246.88	1243.96	1281.87	1269.37
Stack Gas Velocity,Vs (mpm)	399.83	340.97	380.05	379.16	390.71	386.90
Volumetric Flow Rate (acfm)	3462.86	2953.10	3291.53	3283.81	3383.88	3350.88
Volumetric Flow Rate (acmm)	98.068	83.632	93.216	92.998	95.832	94.897
Volumetric Flow Rate (dscfm)	945.68	813.69	905.98	921.81	935.59	914.02
Volumetric Flow Rate (dscmm)	26.782	23.044	25.657	26.106	26.496	25.885
Percent Isokinetic	102.56	103.87	103.23	99.42	101.92	101.90
Percent Excess Air	136.37	95.00	68.23	81.92	67.32	76.63
Fuel Factor,Fo	1.411	1.292	1.432	1.342	1.477	1.300
Ultimate CO2	14.81	16.18	14.60	15.57	14.15	16.07

TEST NUMBER	HCL-01A
DATE	08/15/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	101
Meter pressure (in. Hg)	30.2205
Vm, dry (actual cubic meters)	0.11997
Vm, dry (std cubic meters)	0.113248
Percent H2O	NA
Vm, dry (std cubic feet)	4.001719

TEST NUMBER	HCL-01B
DATE	08/15/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	99.3
Meter pressure (in. Hg)	30.2205
Vm, dry (actual cubic meters)	0.11956
Vm, dry (std cubic meters)	0.113204
Percent H2O	NA
Vm, dry (std cubic feet)	4.000164

TEST NUMBER	HCL-02A
DATE	08/18/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	92
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.1219
Vm, dry (std cubic meters)	0.117643
Percent H2O	NA
Vm, dry (std cubic feet)	4.157004

TEST NUMBER	HCL-02B
DATE	08/18/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	98.8
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.11957
Vm, dry (std cubic meters)	0.113990
Percent H2O	NA
Vm, dry (std cubic feet)	4.027928

TEST NUMBER	HCL-02C
DATE	08/18/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	102
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.11981
Vm, dry (std cubic meters)	0.113568
Percent H2O	NA
Vm, dry (std cubic feet)	4.013032

TEST NUMBER	HCL-03A
DATE	08/19/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	94.2
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.12036
Vm, dry (std cubic meters)	0.115695
Percent H2O	NA
Vm, dry (std cubic feet)	4.088194

TEST NUMBER	HCL-03B
DATE	08/19/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	105
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.11977
Vm, dry (std cubic meters)	0.112928
Percent H2O	NA
Vm, dry (std cubic feet)	3.990391

TEST NUMBER	HCL-03C
DATE	08/19/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	107
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.12063
Vm, dry (std cubic meters)	0.113337
Percent H2O	NA
Vm, dry (std cubic feet)	4.004867

TEST NUMBER	HCL-04A
DATE	08/20/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	101
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.11512
Vm, dry (std cubic meters)	0.109317
Percent H2O	NA
Vm, dry (std cubic feet)	3.862813

TEST NUMBER	HCL-04B
DATE	08/20/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	104
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.13087
Vm, dry (std cubic meters)	0.123612
Percent H2O	NA
Vm, dry (std cubic feet)	4.367942

TEST NUMBER	HCL-05A
DATE	08/21/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	90
Meter pressure (in. Hg)	30.4605
Vm, dry (actual cubic meters)	0.12034
Vm, dry (std cubic meters)	0.116790
Percent H2O	NA
Vm, dry (std cubic feet)	4.126857

TEST NUMBER	HCL-05B
DATE	08/21/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	101
Meter pressure (in. Hg)	30.4605
Vm, dry (actual cubic meters)	0.11871
Vm, dry (std cubic meters)	0.112949
Percent H2O	NA
Vm, dry (std cubic feet)	3.991136

TEST NUMBER	HCL-05C
DATE	08/21/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	107
Meter pressure (in. Hg)	30.4605
Vm, dry (actual cubic meters)	0.12002
Vm, dry (std cubic meters)	0.112987
Percent H2O	NA
Vm, dry (std cubic feet)	3.992479

TEST NUMBER	HCL-06A
DATE	08/22/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	94
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.14886
Vm, dry (std cubic meters)	0.143162
Percent H2O	NA
Vm, dry (std cubic feet)	5.058741

TEST NUMBER	HCL-06B
DATE	08/22/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	103
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.14963
Vm, dry (std cubic meters)	0.141583
Percent H2O	NA
Vm, dry (std cubic feet)	5.002949

TEST NUMBER	HCL-06C
DATE	08/22/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	105
Meter pressure (in. Hg)	30.4005
Vm, dry (actual cubic meters)	0.14828
Vm, dry (std cubic meters)	0.139809
Percent H2O	NA
Vm, dry (std cubic feet)	4.940262

TEST NUMBER	HCL-07A
DATE	08/26/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	106
Meter pressure (in. Hg)	30.4458
Vm, dry (actual cubic meters)	0.14174
Vm, dry (std cubic meters)	0.133605
Percent H20	NA
Vm, dry (std cubic feet)	4.721049

TEST NUMBER	HCL-07B
DATE	08/26/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	110
Meter pressure (in. Hg)	30.46785
Vm, dry (actual cubic meters)	0.13925
Vm, dry (std cubic meters)	0.130431
Percent H20	NA
Vm, dry (std cubic feet)	4.608900

TEST NUMBER	HCL-07C
DATE	08/26/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	112
Meter pressure (in. Hg)	30.46785
Vm, dry (actual cubic meters)	0.11774
Vm, dry (std cubic meters)	0.109898
Percent H20	NA
Vm, dry (std cubic feet)	3.883335

TEST NUMBER	HCL-08A
DATE	08/27/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	100
Meter pressure (in. Hg)	30.46785
Vm, dry (actual cubic meters)	0.14049
Vm, dry (std cubic meters)	0.133943
Percent H20	NA
Vm, dry (std cubic feet)	4.732976

TEST NUMBER	HCL-08B

DATE	08/27/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	112
Meter pressure (in. Hg)	30.46785
Vm, dry (actual cubic meters)	0.153
Vm, dry (std cubic meters)	0.142810
Percent H20	NA
Vm, dry (std cubic feet)	5.046291

TEST NUMBER	HCL-09A
DATE	08/28/90
LOCATION	STACK

Results of calculations

Avg meter temp (degrees F)	101
Meter pressure (in. Hg)	30.28785
Vm, dry (actual cubic meters)	0.140612
Vm, dry (std cubic meters)	0.133029
Percent H20	NA
Vm, dry (std cubic feet)	4.700706

TEST NUMBER	HCL-09B
DATE	08/28/90
LOCATION	STACK

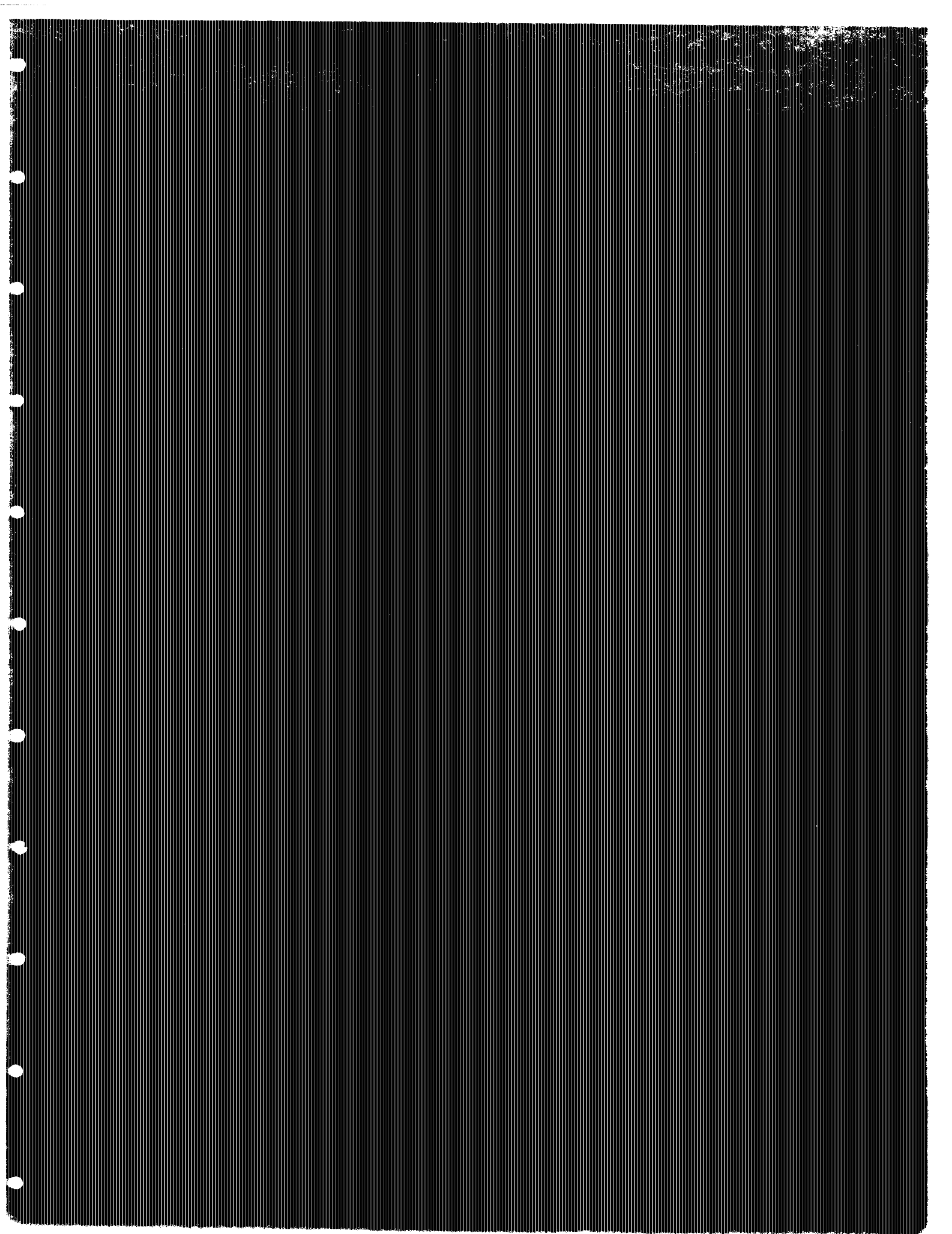
Results of calculations

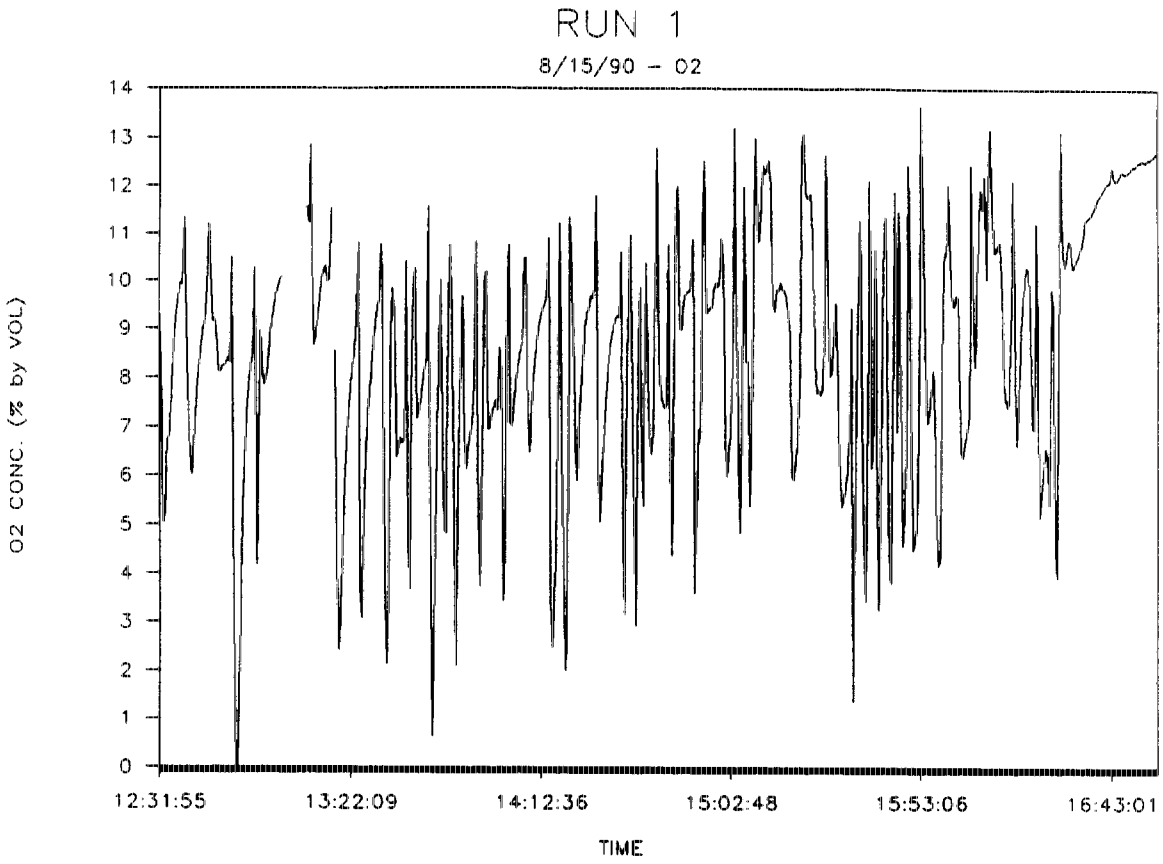
Avg meter temp (degrees F)	109
Meter pressure (in. Hg)	30.28785
Vm, dry (actual cubic meters)	0.145605
Vm, dry (std cubic meters)	0.135816
Percent H20	NA
Vm, dry (std cubic feet)	4.799186

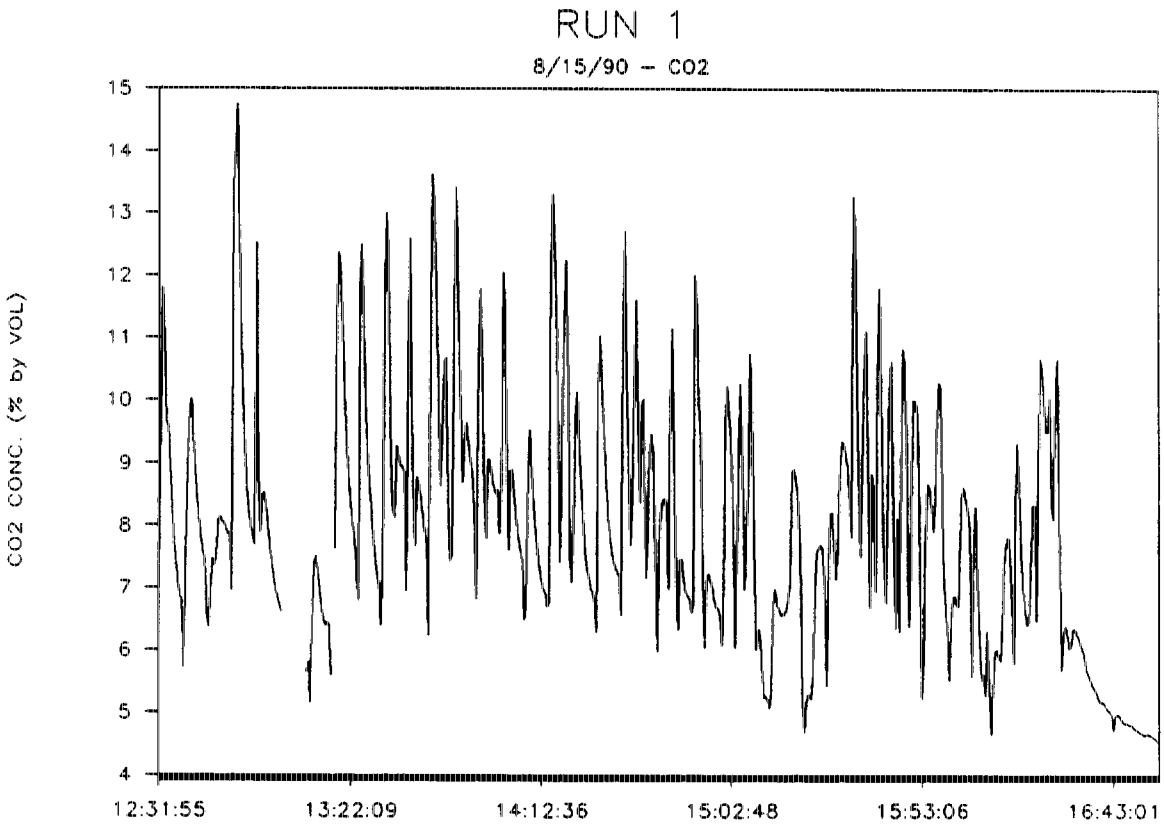
TEST NUMBER	HCL-09C
DATE	08/28/90
LOCATION	STACK

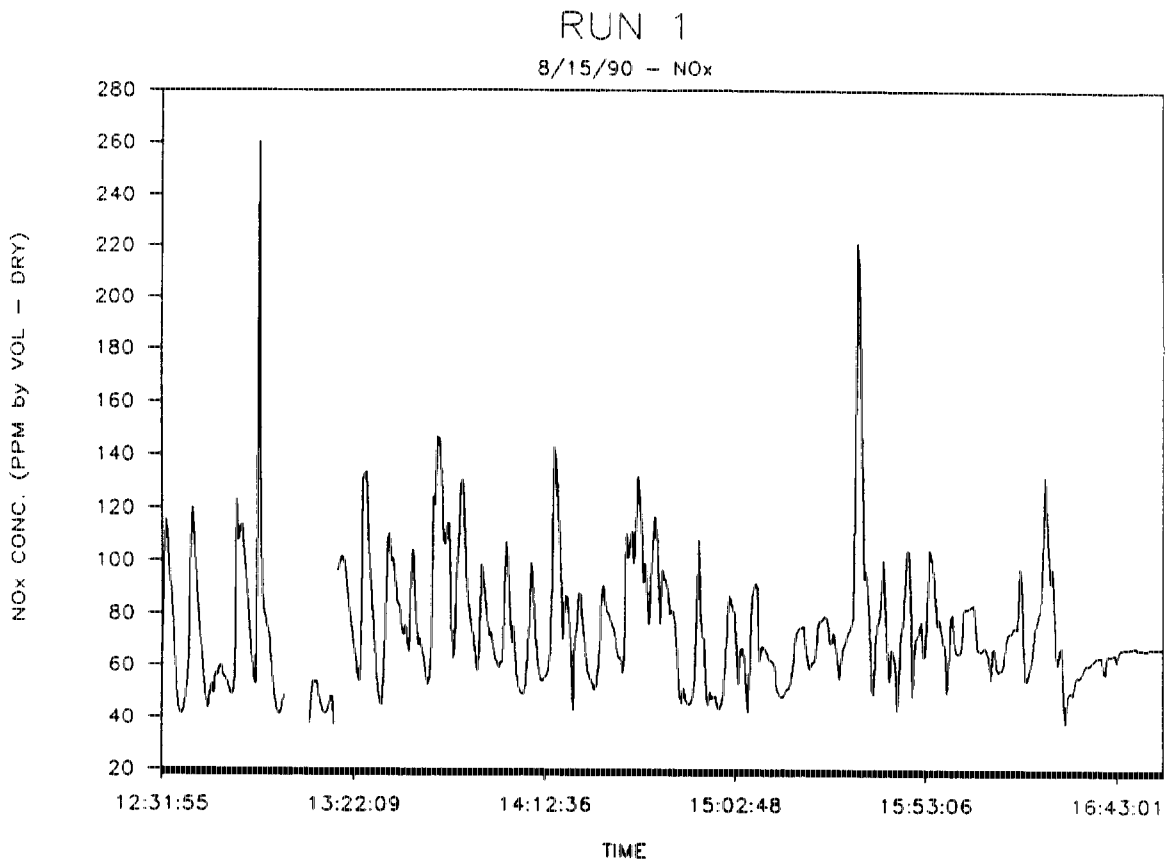
Results of calculations

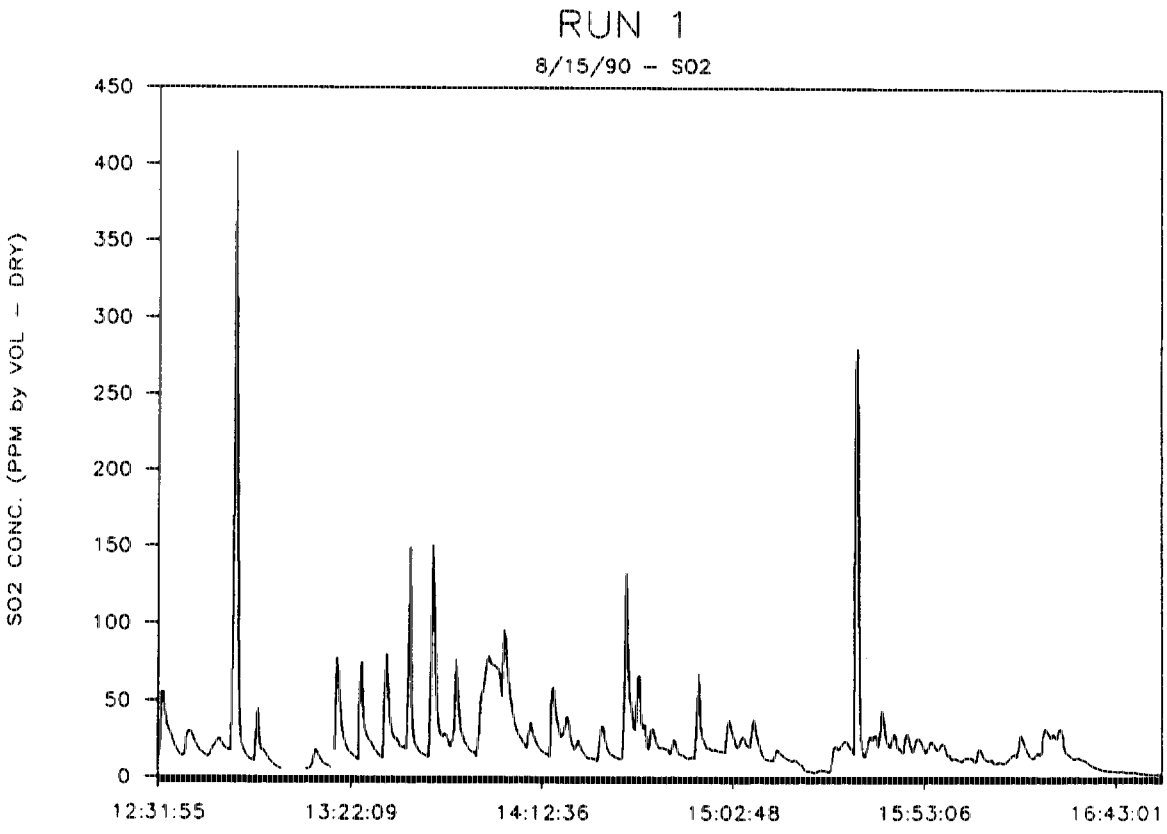
Avg meter temp (degrees F)	115
Meter pressure (in. Hg)	30.28785
Vm, dry (actual cubic meters)	0.139435
Vm, dry (std cubic meters)	0.128704
Percent H20	NA
Vm, dry (std cubic feet)	4.547864

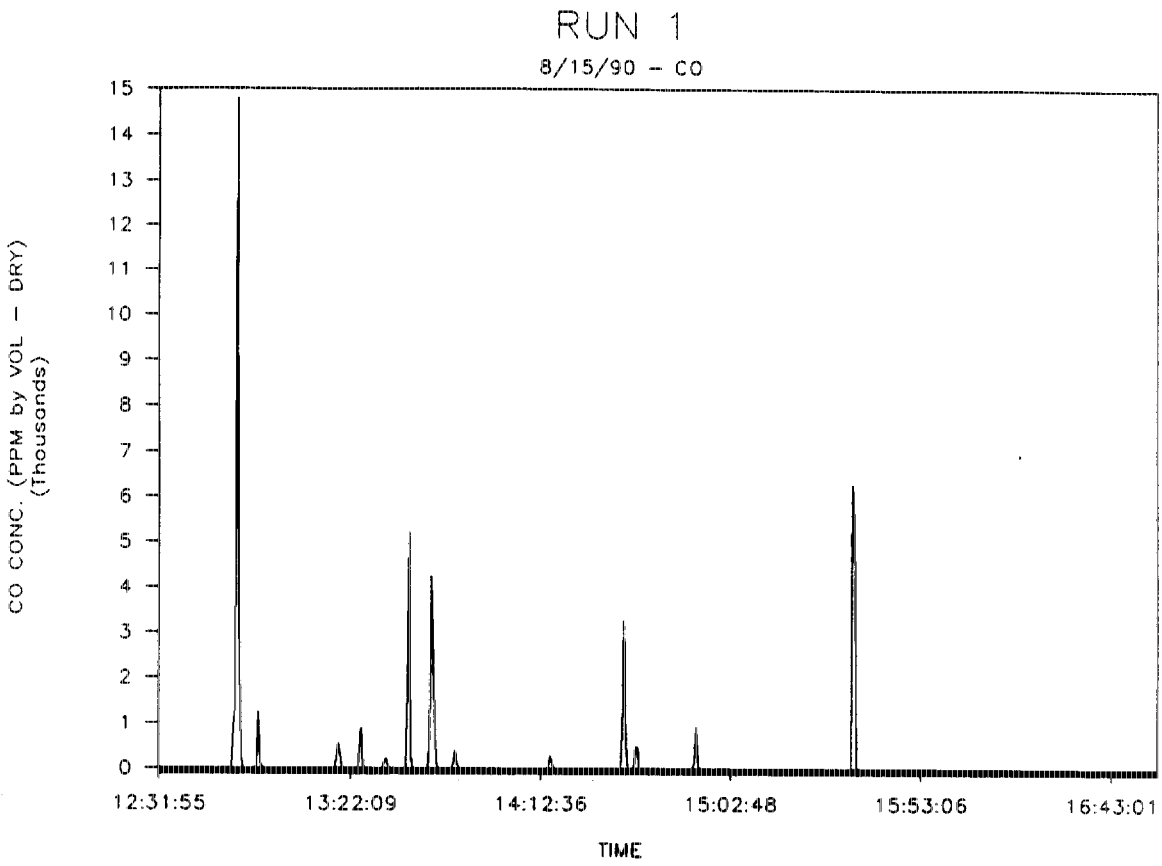


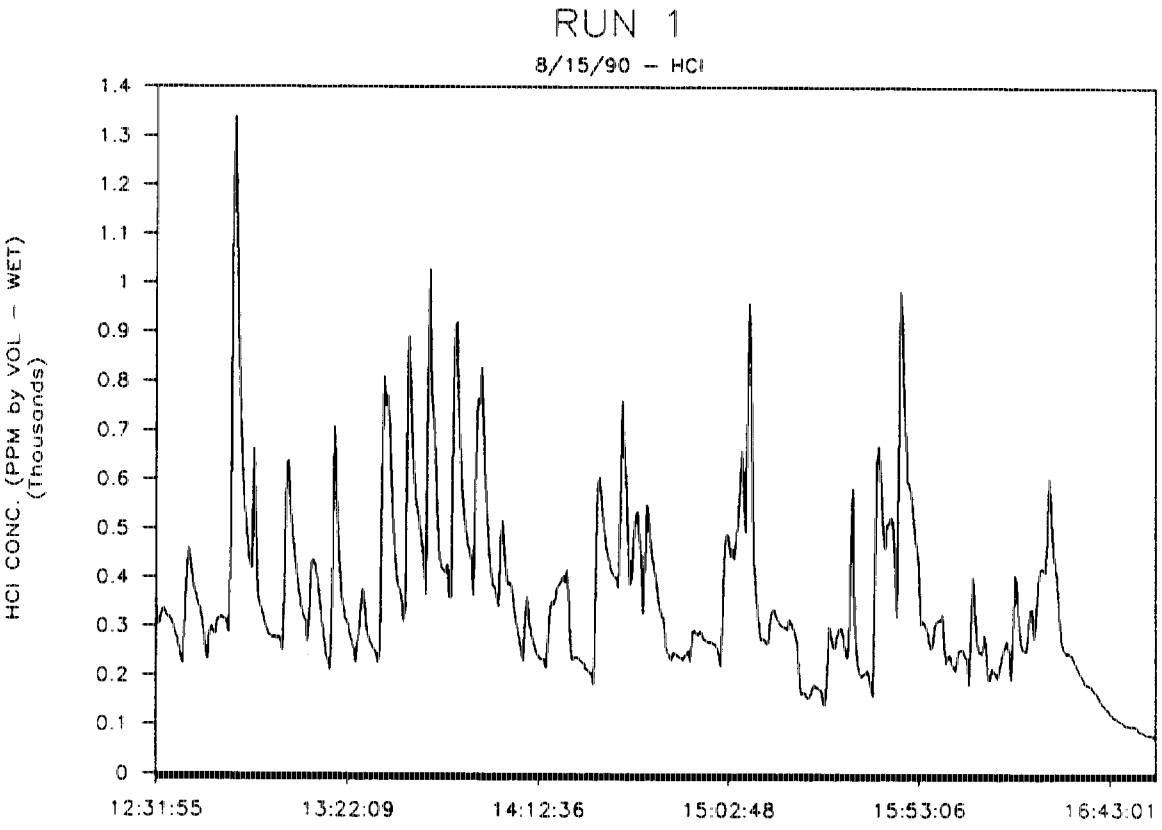

RUN 1
8/15/90 - O2
O2 CONC. (% by VOL)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01
TIME

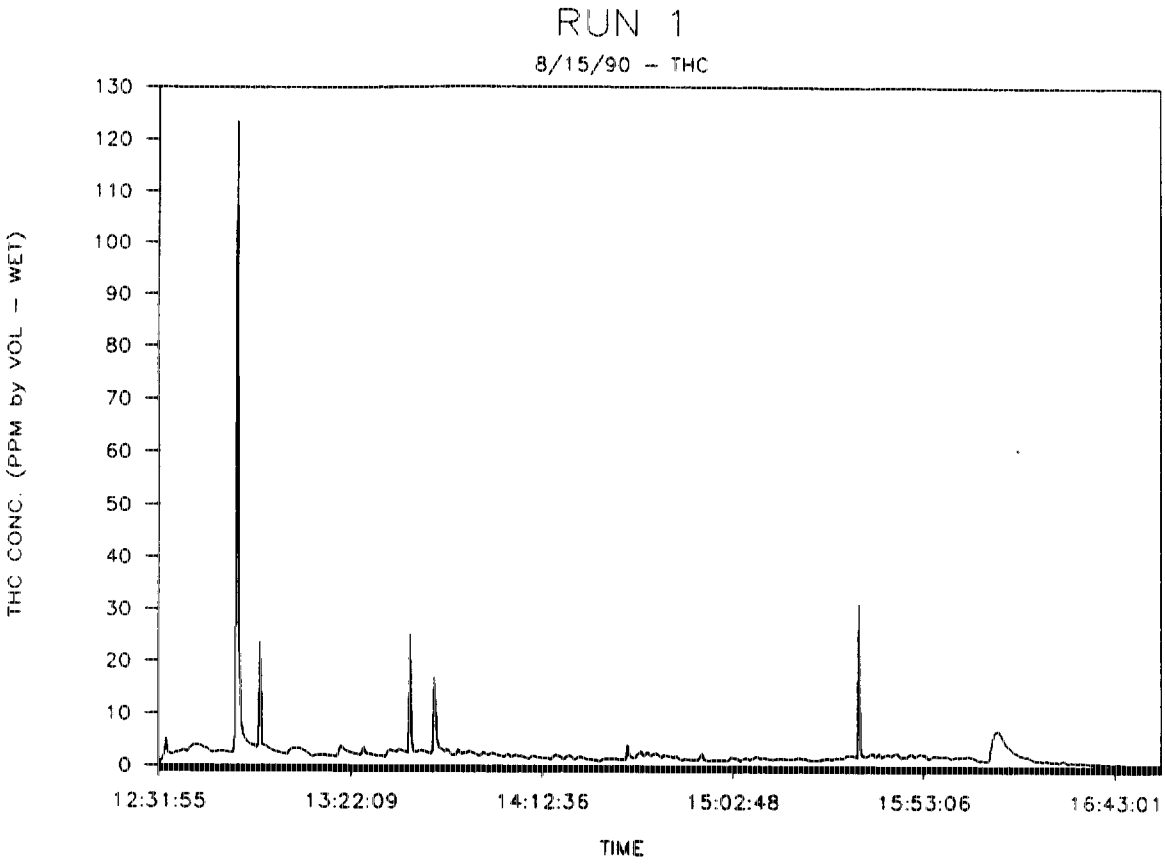

RUN 1
8/15/90 - CO2
CO2 CONC. (% by VOL)
15
14
13
12
11
10
9
8
7
6
5
4
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01

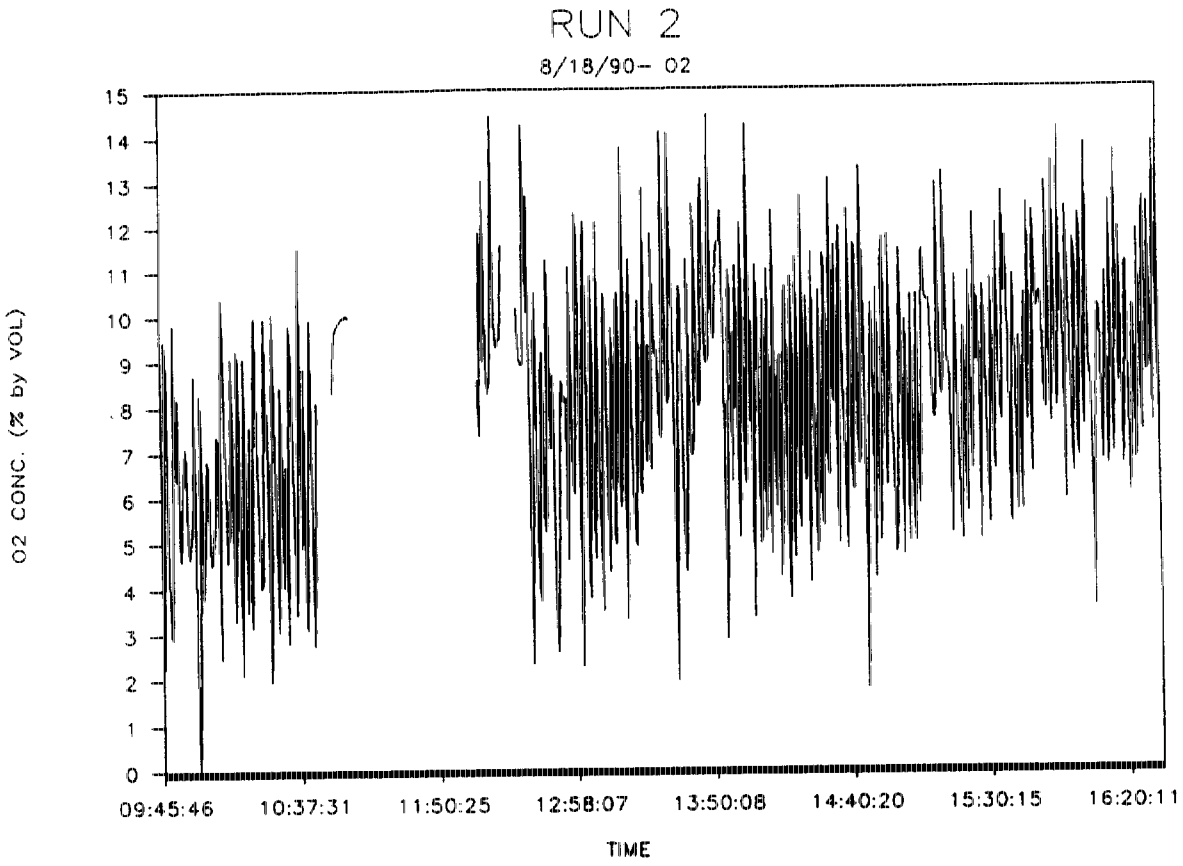

RUN 1
8/15/90 - NOx
NOx CONC. (PPM by VOL - DRY)
280
260
240
220
200
180
160
140
120
100
80
60
40
20
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01
TIME

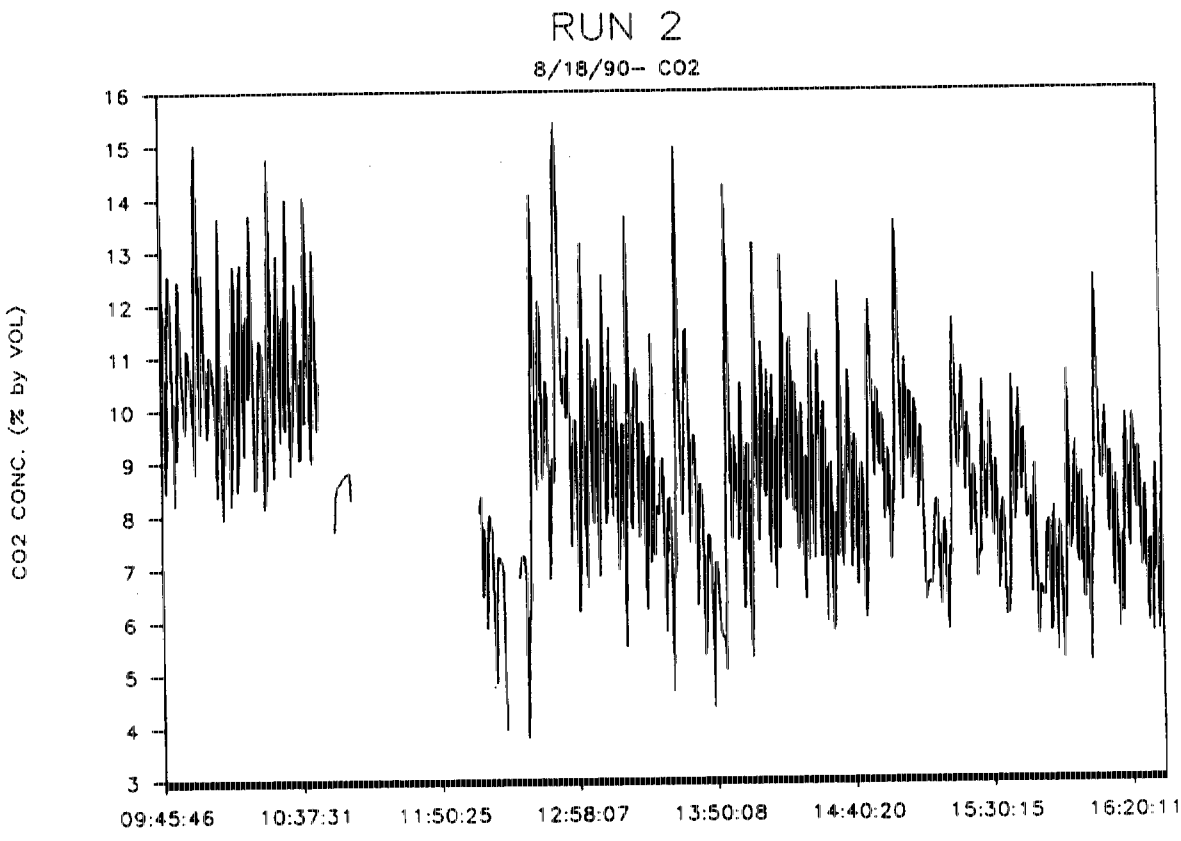

RUN 1
8/15/90 - SO2
SO2 CONC. (PPM by VOL - DRY)
450
400
350
300
250
200
150
100
50
0
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01

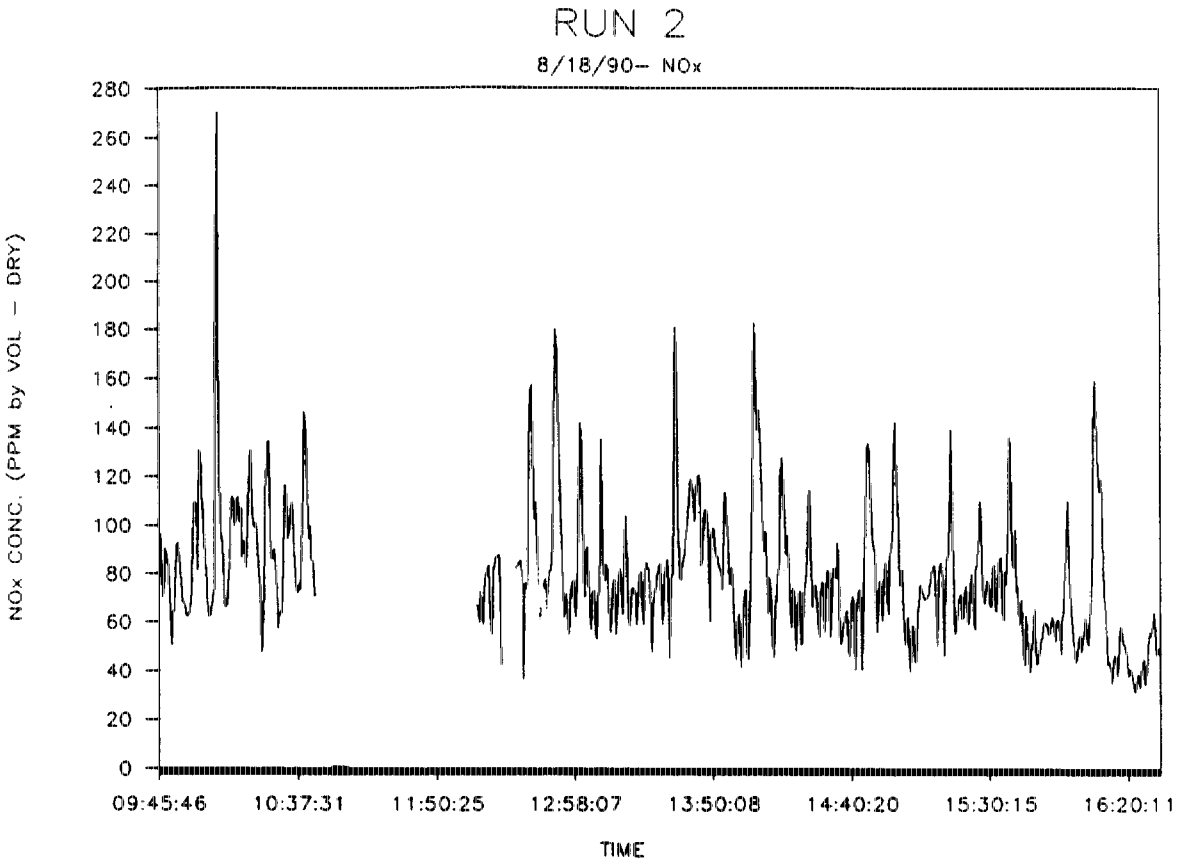

RUN 1
8/15/90 - CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01
TIME

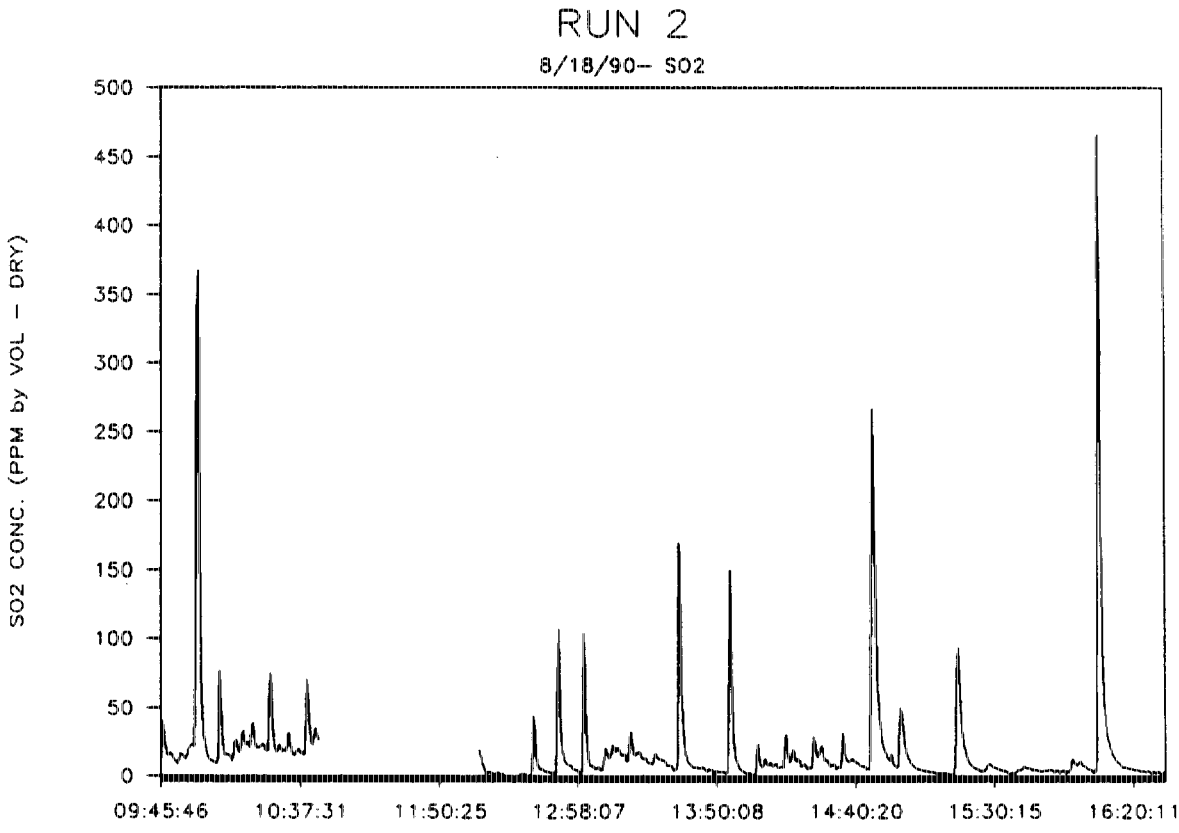

RUN 1
8/15/90 - HCl
HCl CONC. (PPM by VOL - WET)
(Thousands)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01

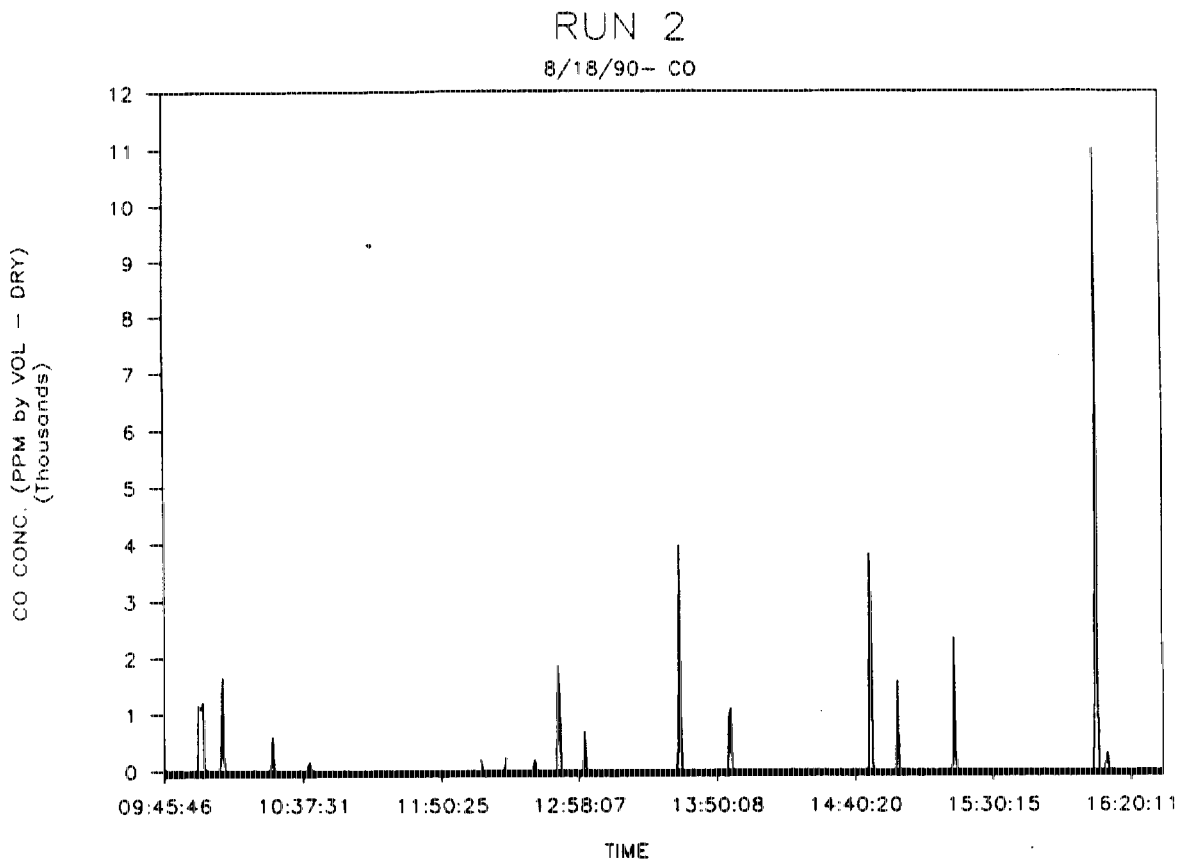

RUN 1
8/15/90 - THC
THC CONC. (PPM by VOL - WET)
130
120
110
100
90
80
70
60
50
40
30
20
10
0
12:31:55
13:22:09
14:12:36
15:02:48
15:53:06
16:43:01
TIME

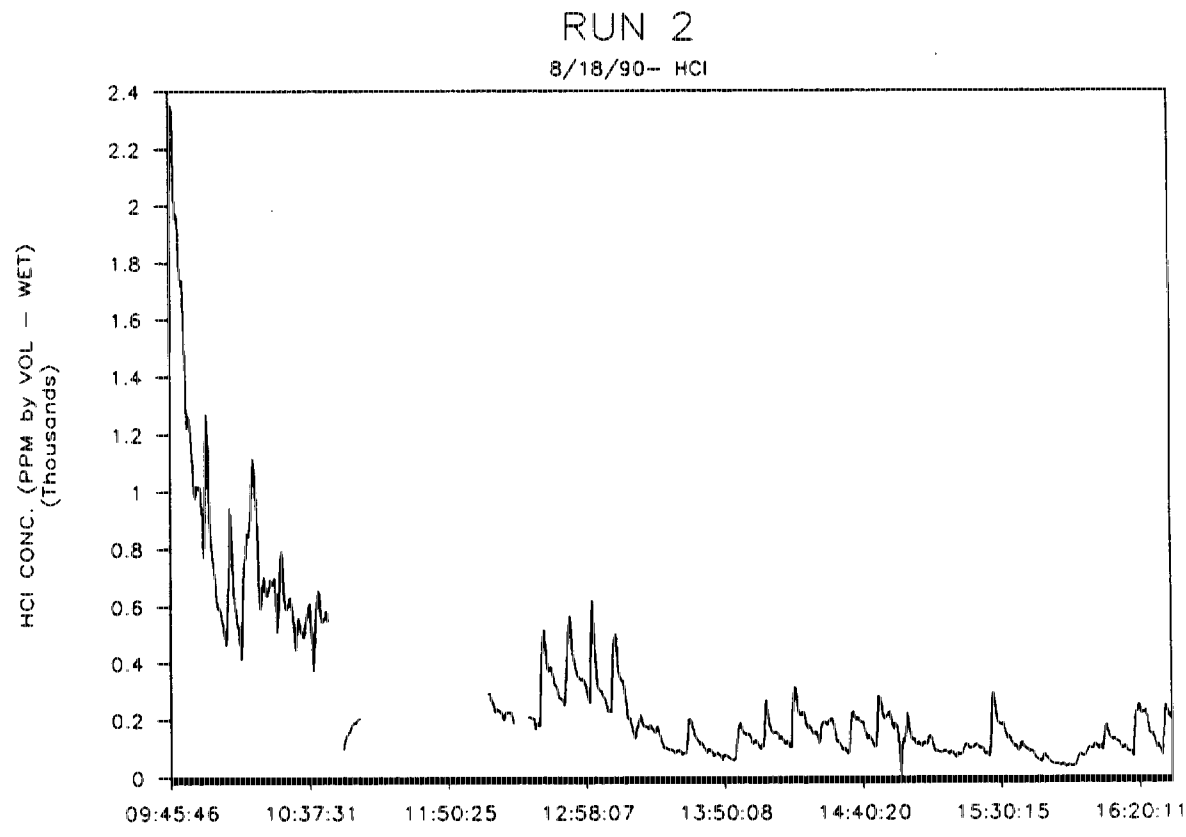

RUN 2
8/18/90- O2
O2 CONC. (% by VOL)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11
TIME

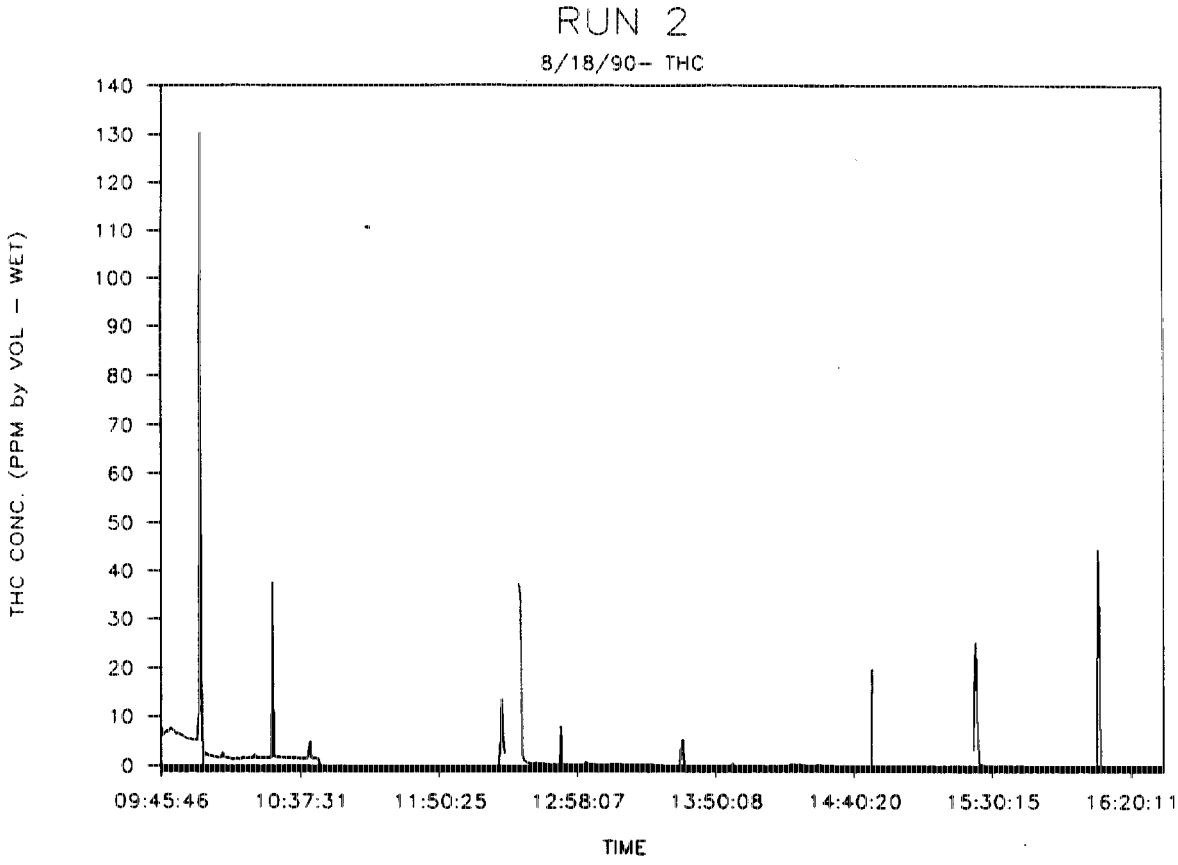

RUN 2
8/18/90- CO2
CO2 CONC. (% by VOL)
16
15
14
13
12
11
10
9
8
7
6
5
4
3
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11

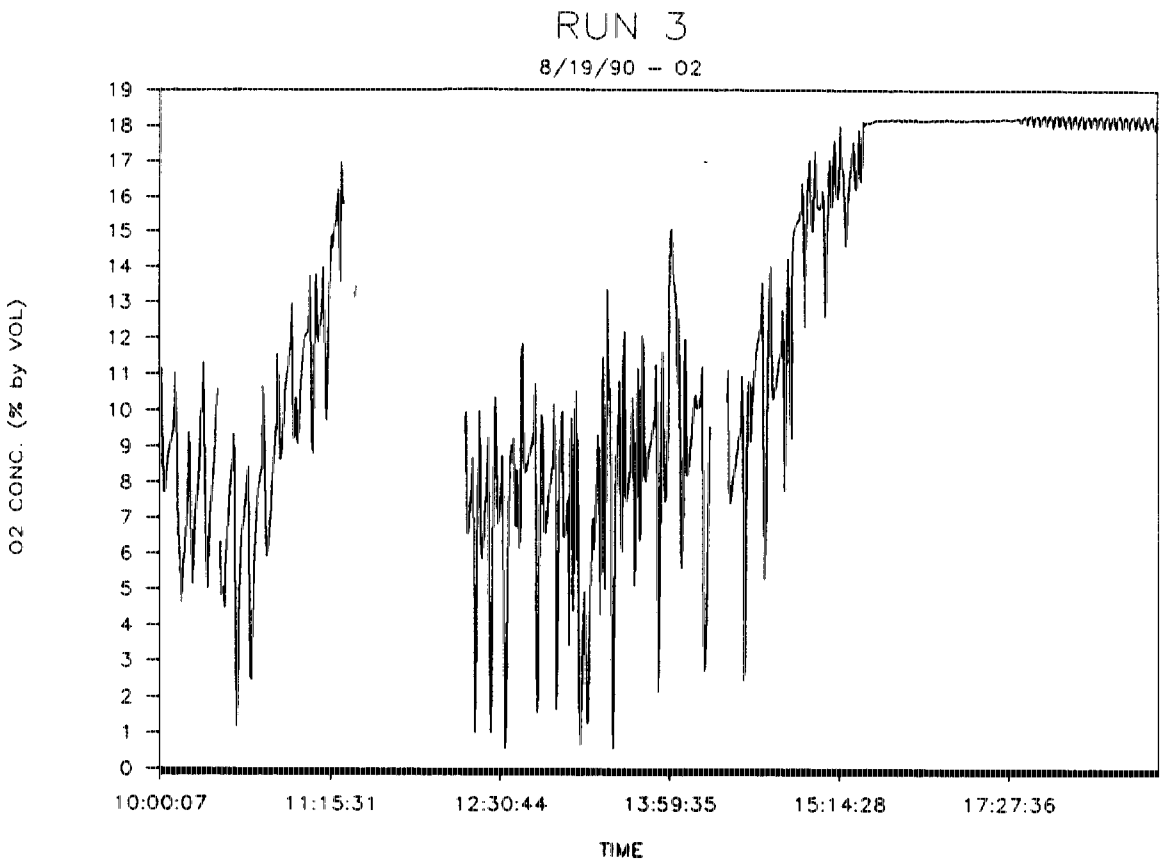

RUN 2
8/18/90– NOx
NOx CONC. (PPM by VOL – DRY)
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11
TIME

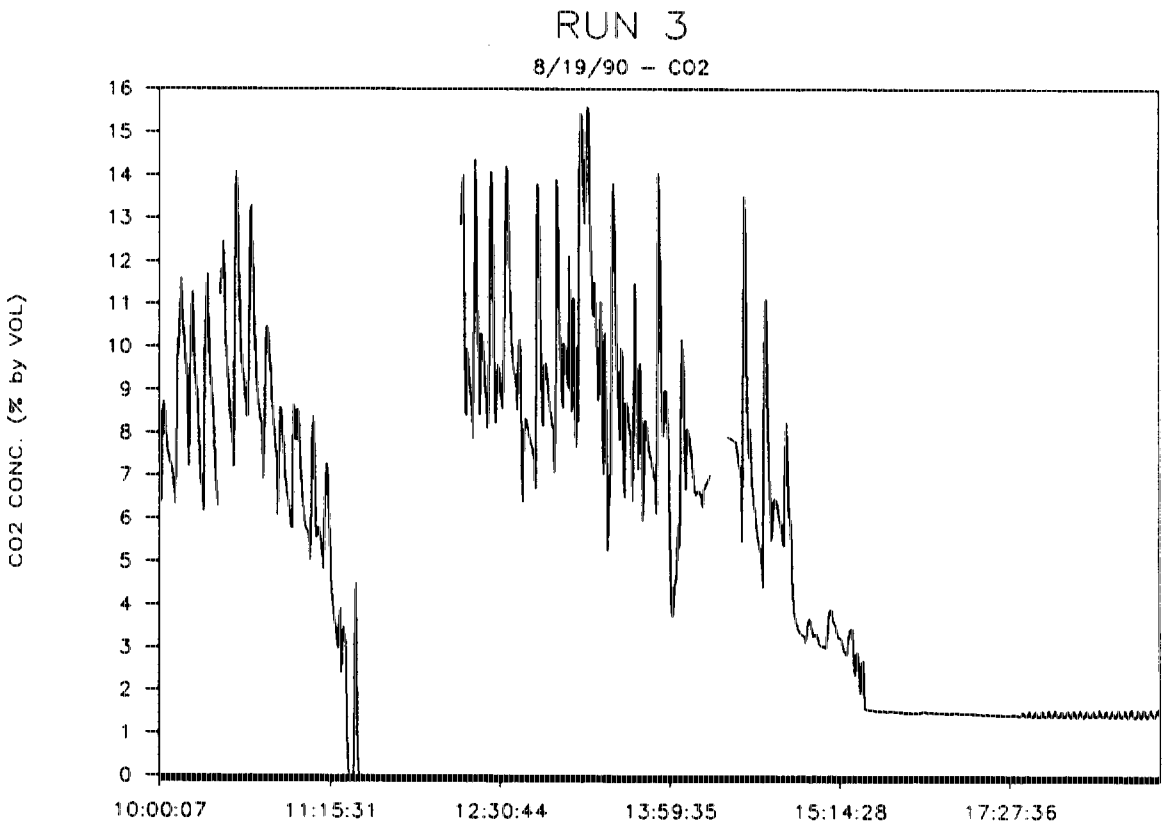

RUN 2
8/18/90– SO2
SO2 CONC. (PPM by VOL – DRY)
500
450
400
350
300
250
200
150
100
50
0
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11

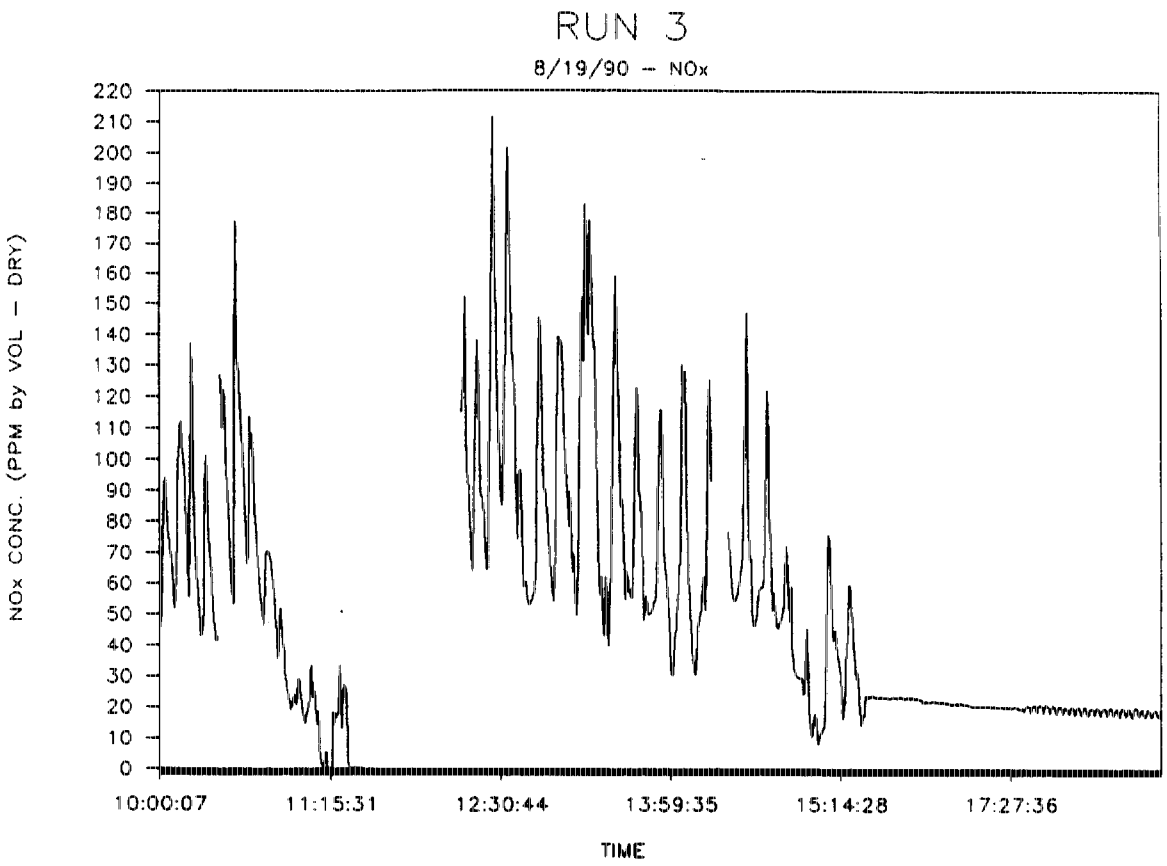

RUN 2
8/18/90- CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
12
11
10
9
8
7
6
5
4
3
2
1
0
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11
TIME

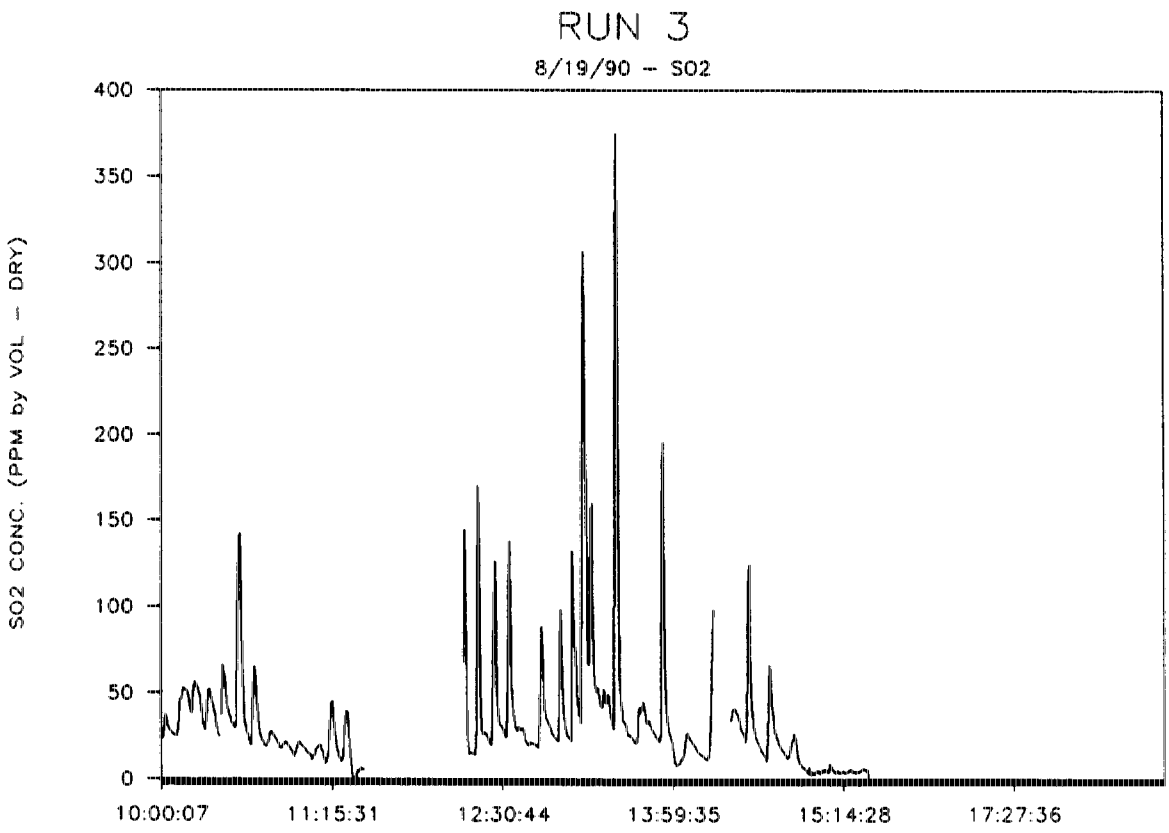

RUN 2
8/18/90- HCl
HCl CONC. (PPM by VOL - WET)
(Thousands)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11

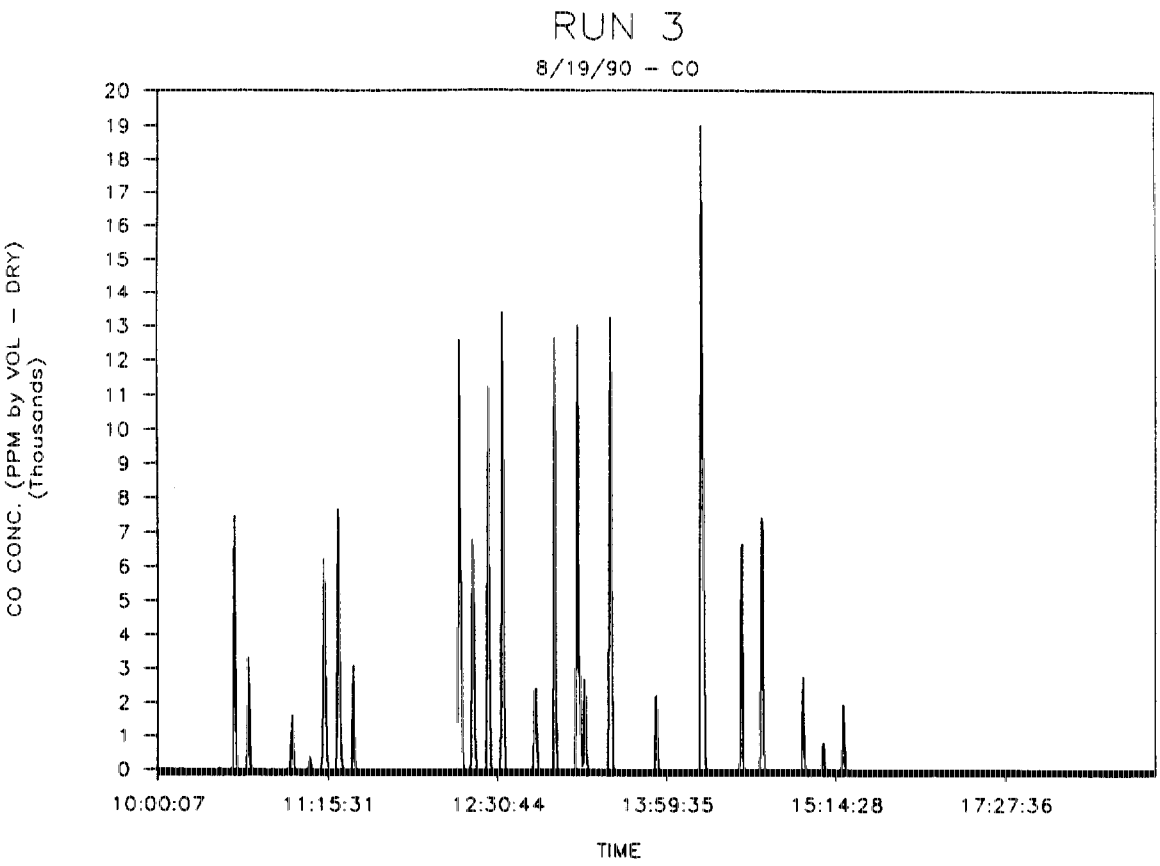

RUN 2
8/18/90- THC
THC CONC. (PPM by VOL - WET)
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
09:45:46
10:37:31
11:50:25
12:58:07
13:50:08
14:40:20
15:30:15
16:20:11
TIME

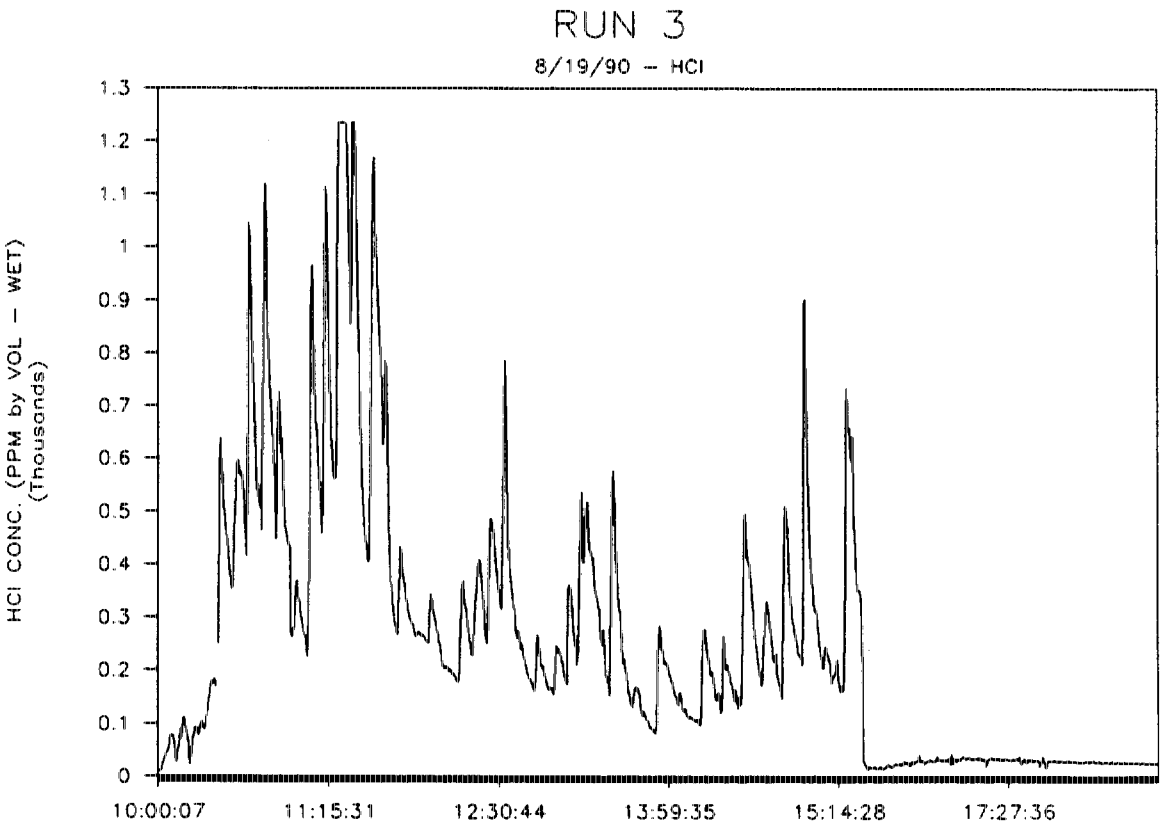

RUN 3
8/19/90 - O2
O2 CONC. (% by VOL)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36
TIME

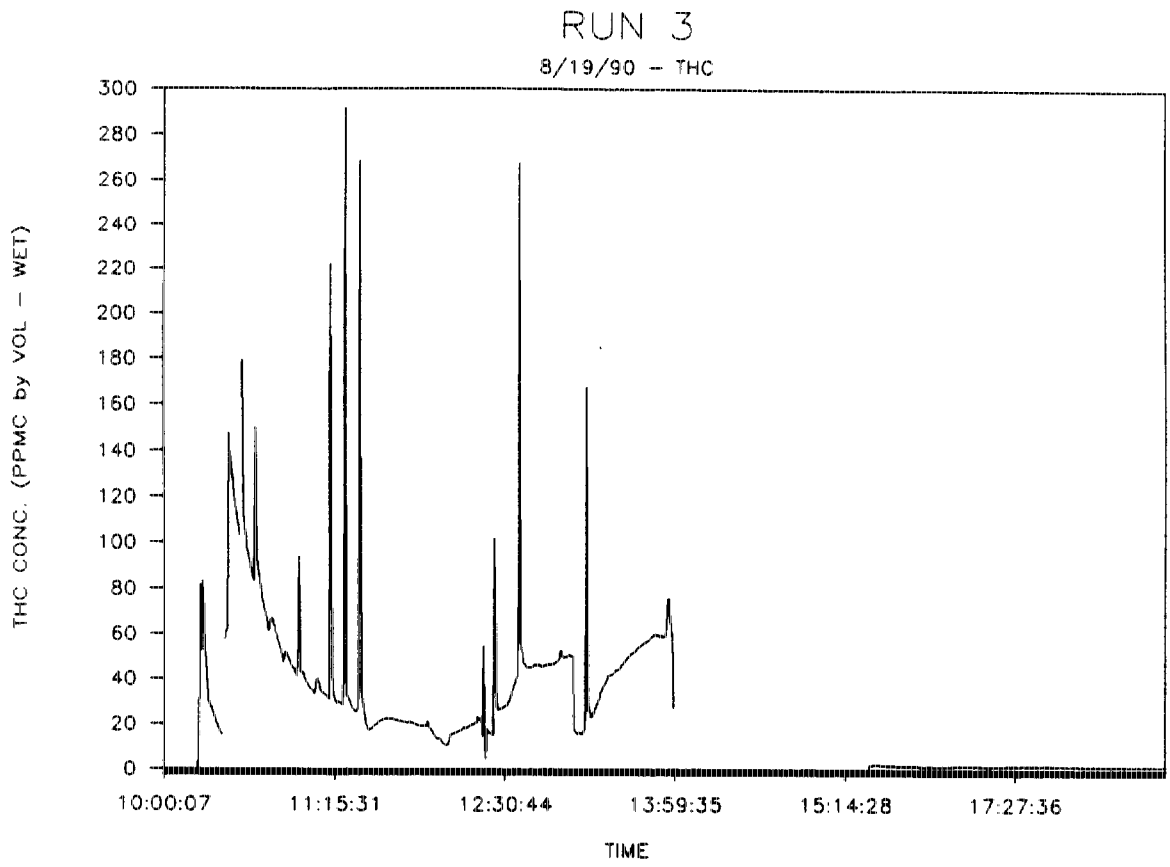

RUN 3
8/19/90 - CO2
CO2 CONC. (% by VOL)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36

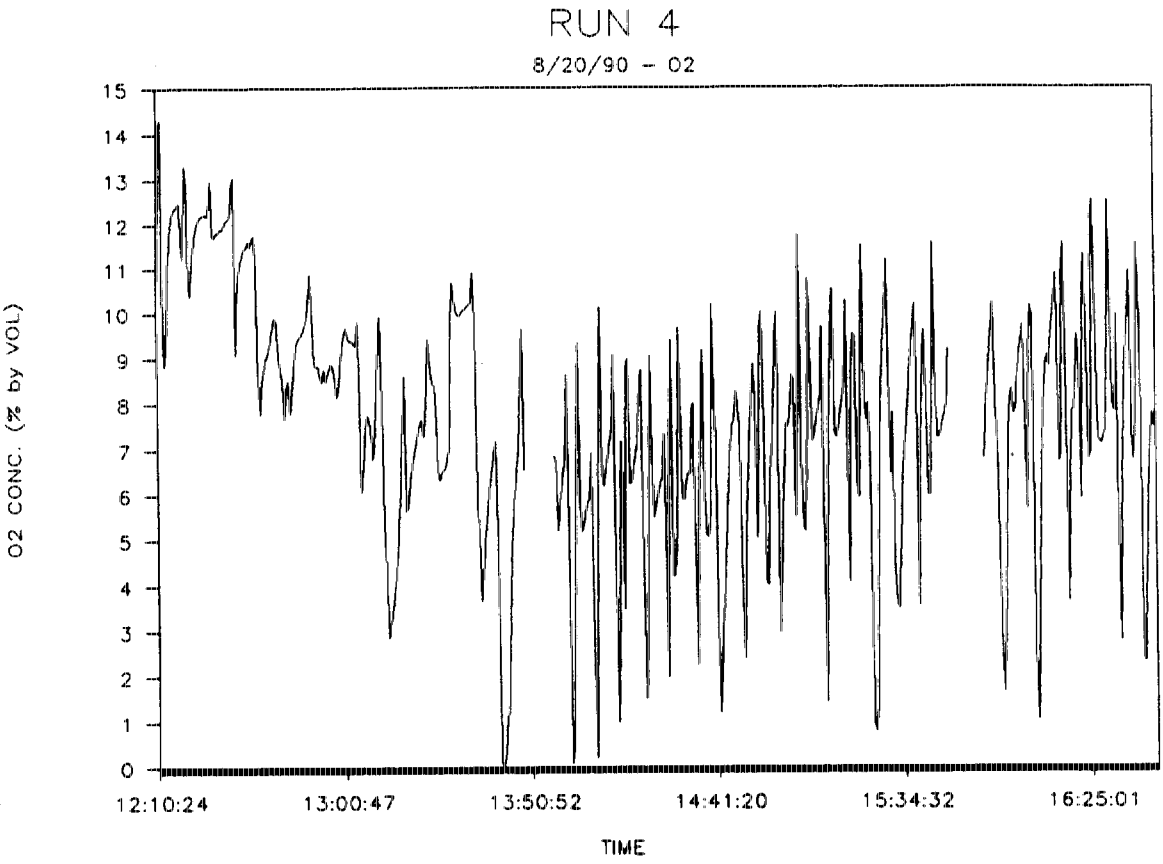

RUN 3
8/19/90 -- NOx
NOx CONC. (PPM by VOL - DRY)
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36
TIME

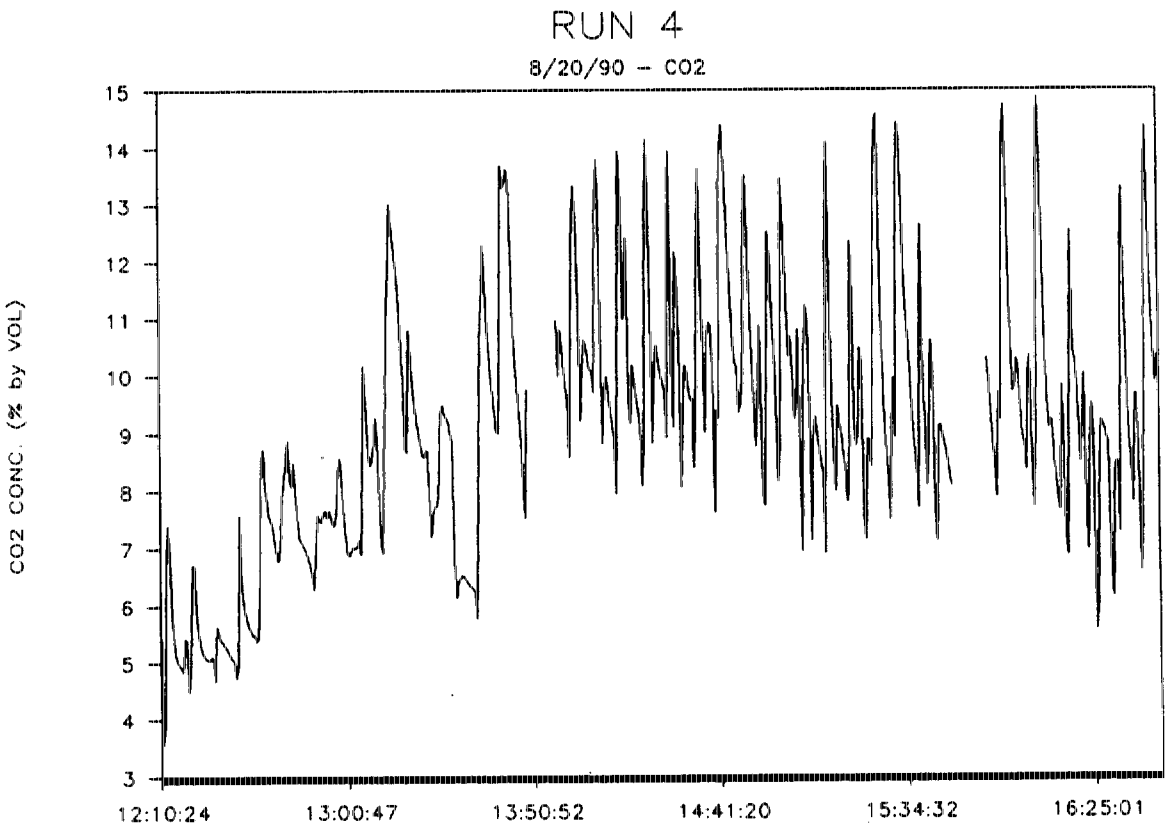

RUN 3
8/19/90 -- SO2
SO2 CONC. (PPM by VOL - DRY)
400
350
300
250
200
150
100
50
0
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36

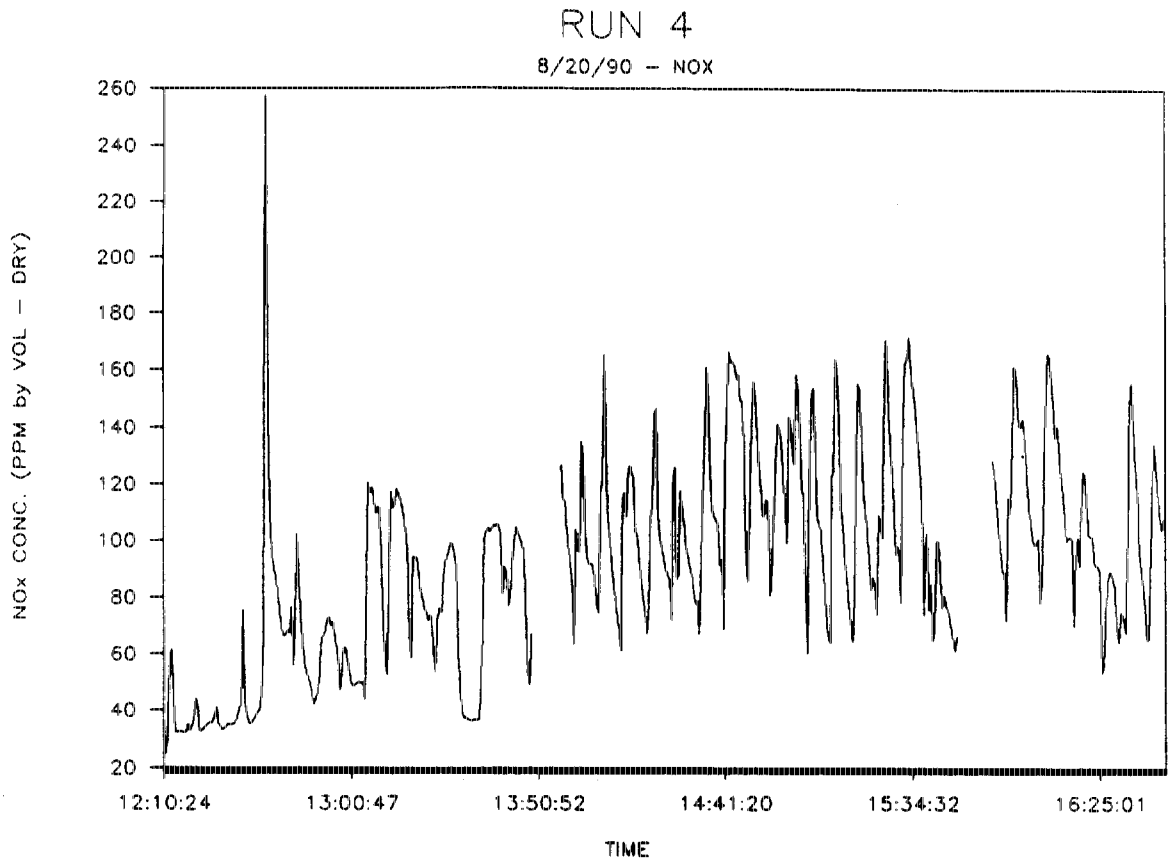

RUN 3
8/19/90 - CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36
TIME

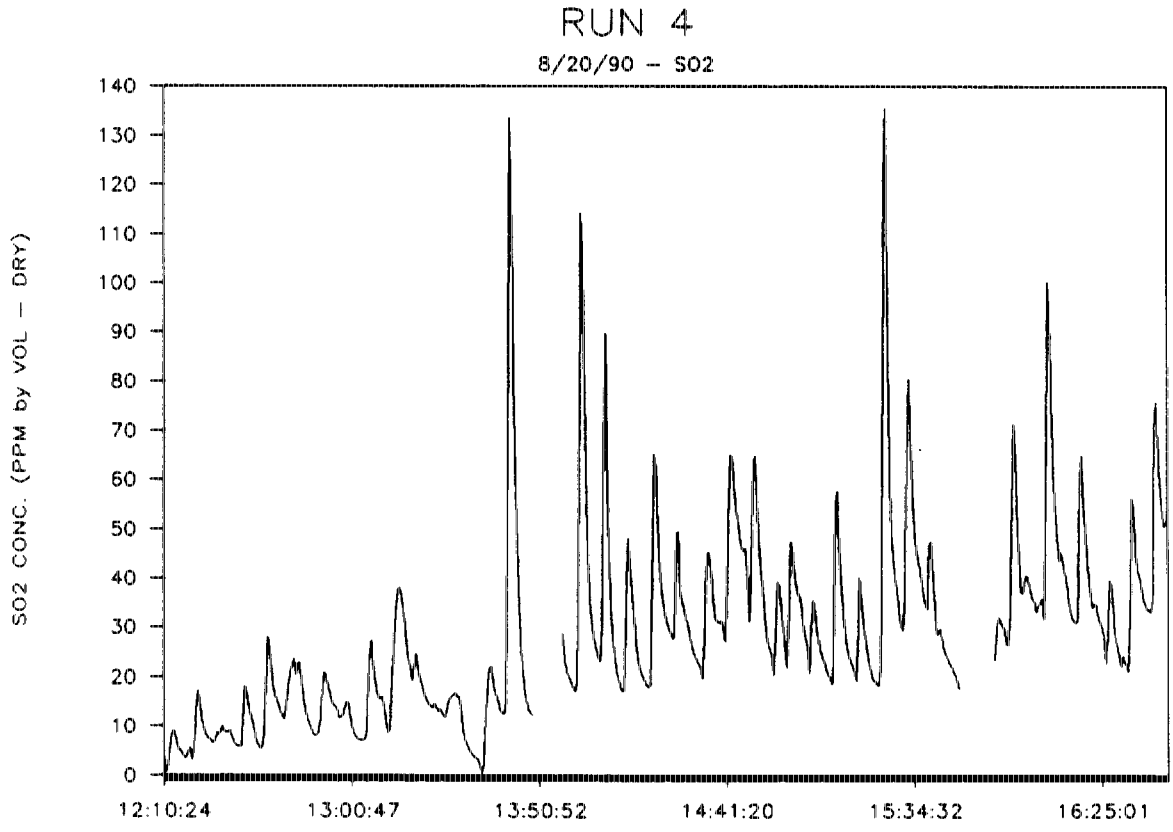

RUN 3
8/19/90 - HCl
HCl CONC. (PPM by VOL - WET)
(Thousands)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36

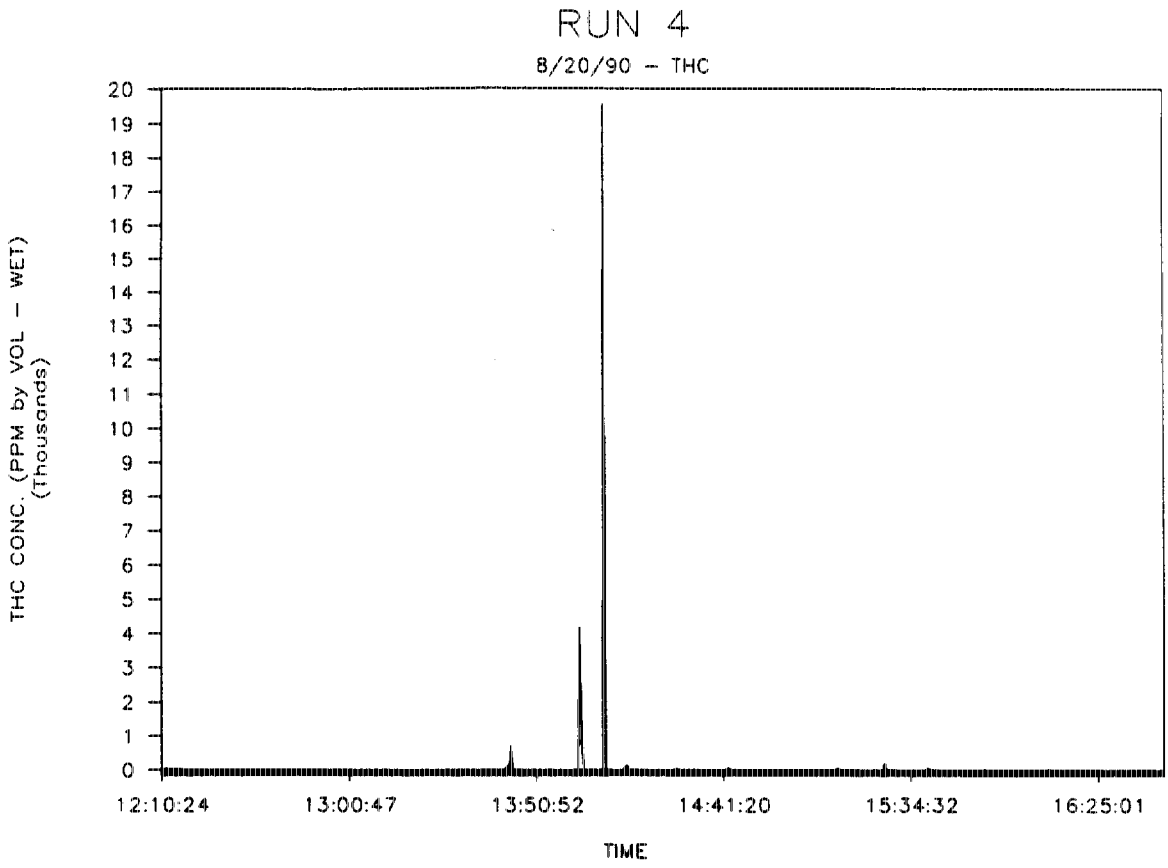

RUN 3
8/19/90 - THC
THC CONC. (PPMC by VOL - WET)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
10:00:07
11:15:31
12:30:44
13:59:35
15:14:28
17:27:36
TIME

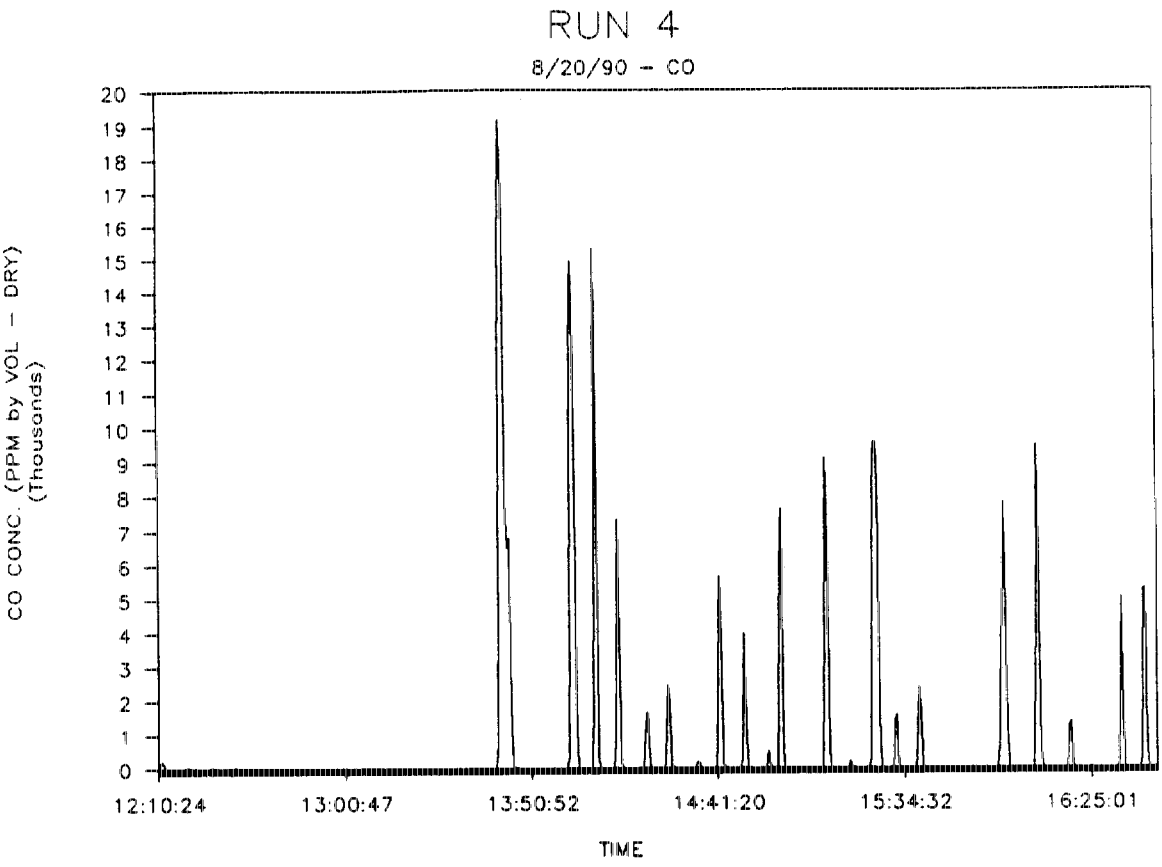

RUN 4
8/20/90 - O2
O2 CONC. (% by VOL)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01
TIME

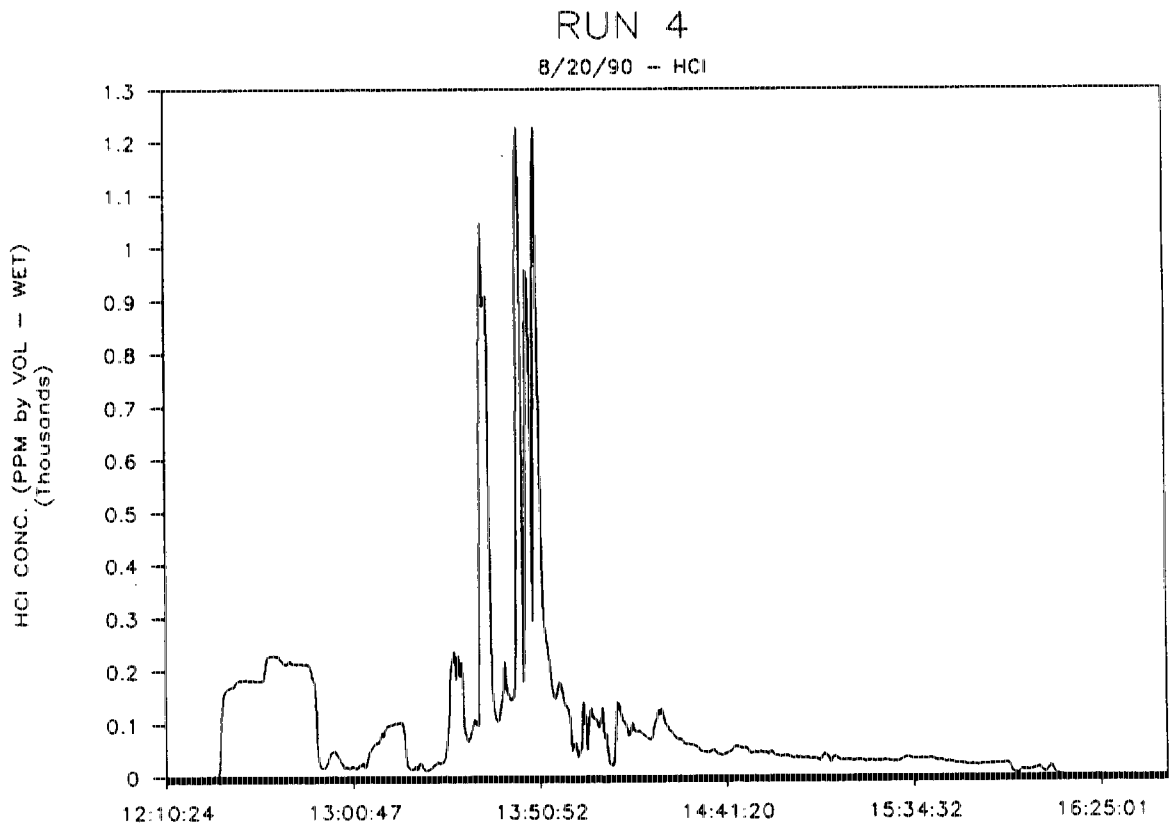

RUN 4
8/20/90 - CO2
CO2 CONC. (% by VOL)
15
14
13
12
11
10
9
8
7
6
5
4
3
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01

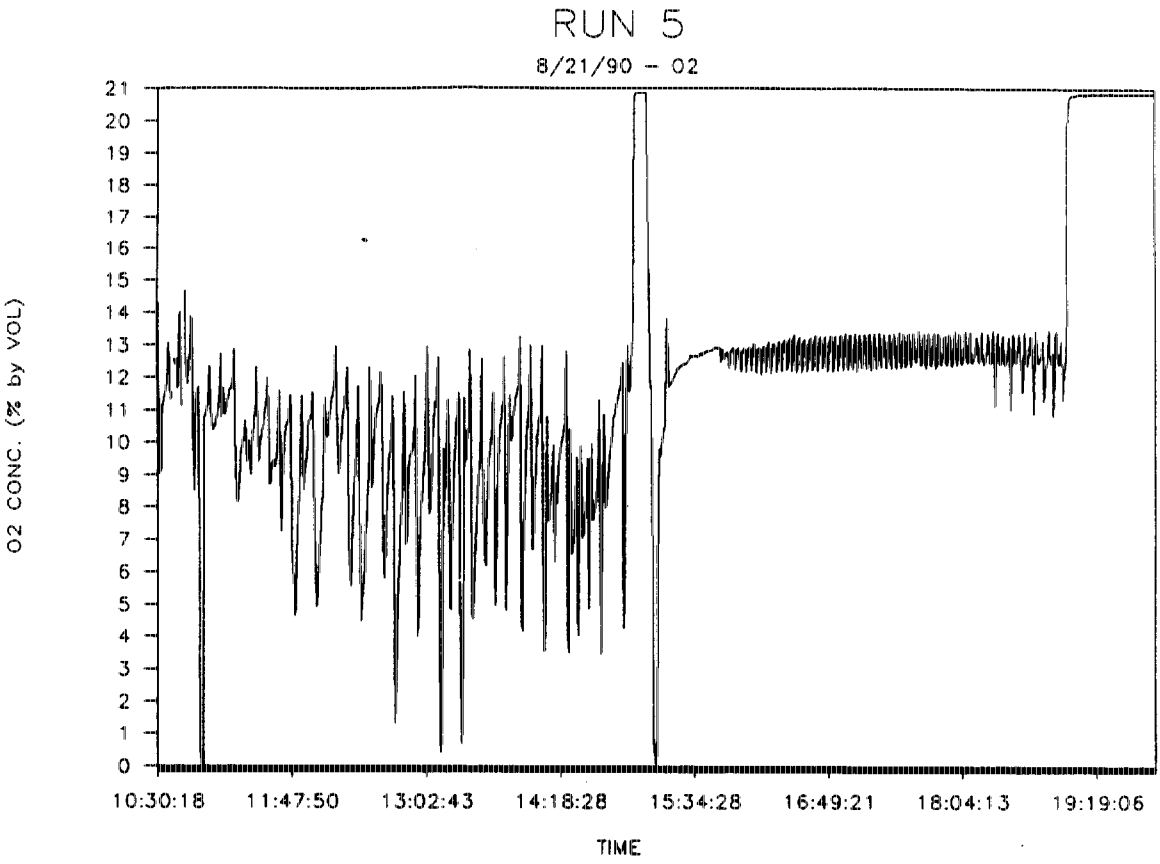

RUN 4
8/20/90 - NOX
NOx CONC. (PPM by VOL - DRY)
260
240
220
200
180
160
140
120
100
80
60
40
20
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01
TIME

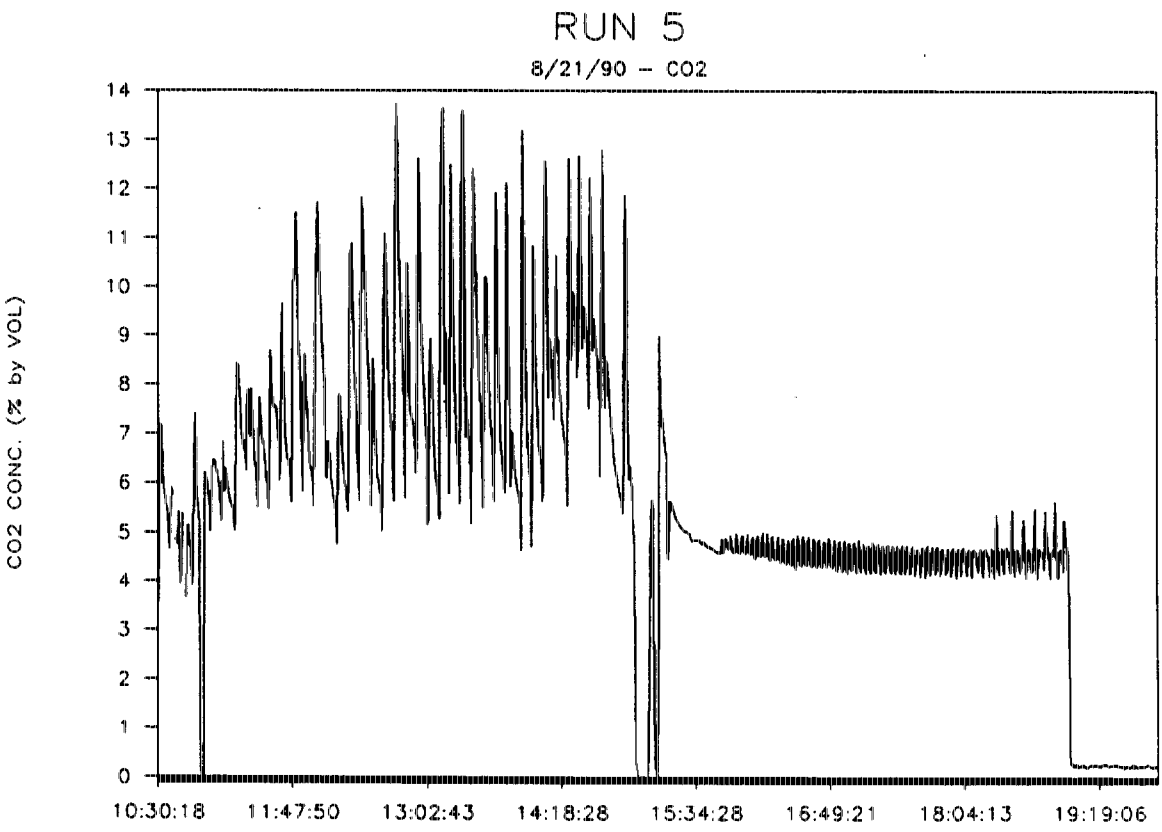

RUN 4
8/20/90 - SO2
SO2 CONC. (PPM by VOL - DRY)
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01

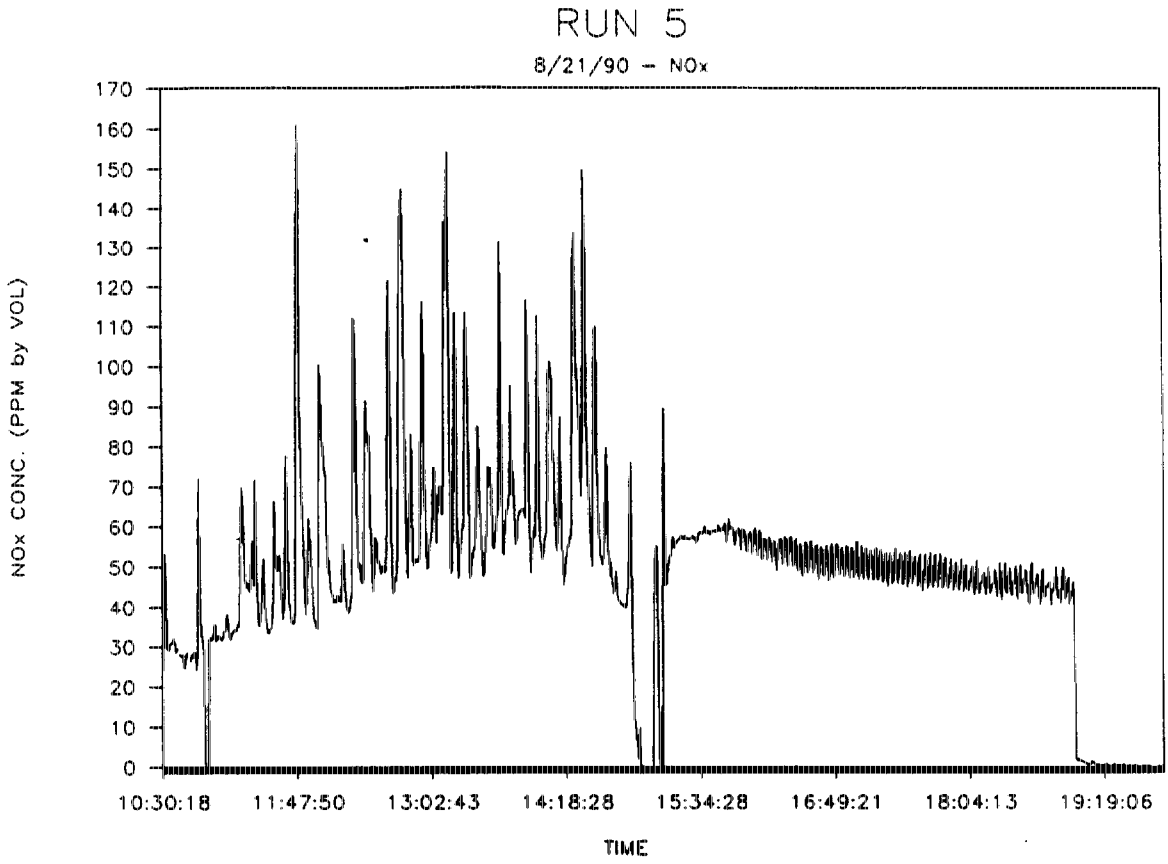

RUN 4
8/20/90 - THC
THC CONC. (PPM by VOL - WET)
(Thousands)
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01
TIME

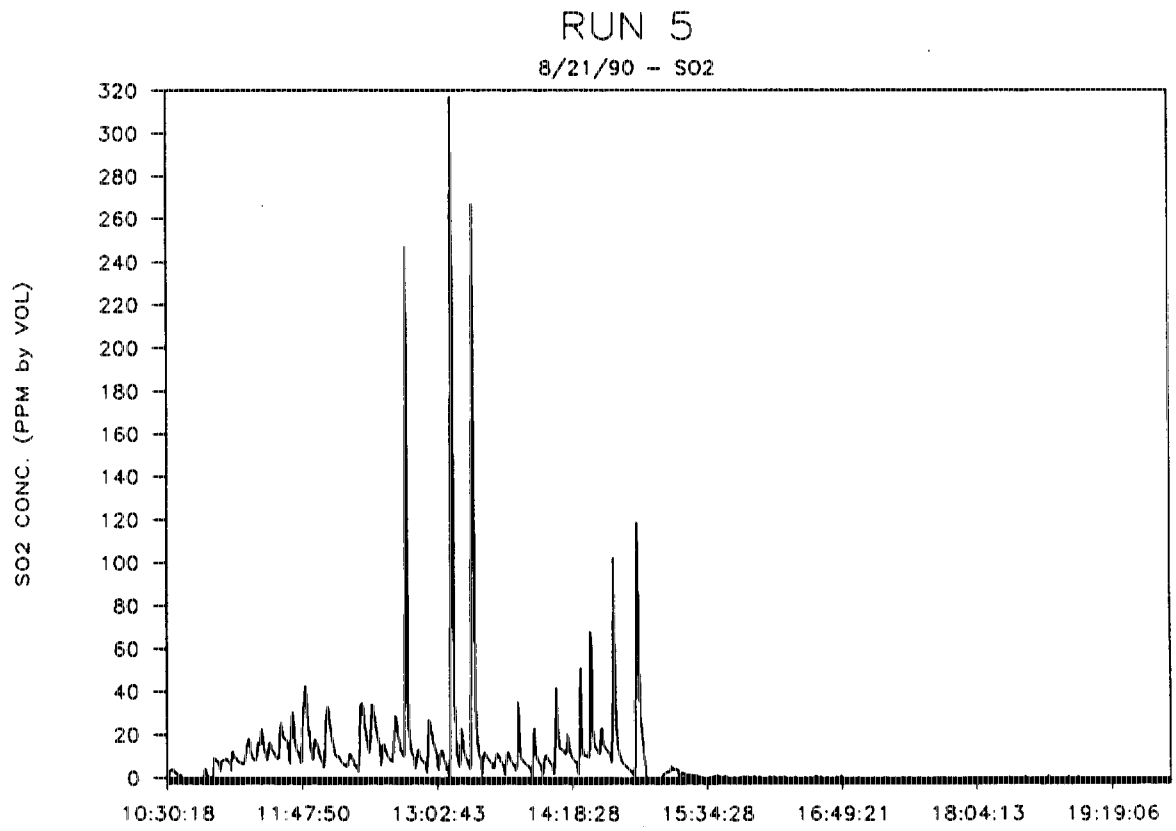

RUN 4
8/20/90 - CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01
TIME

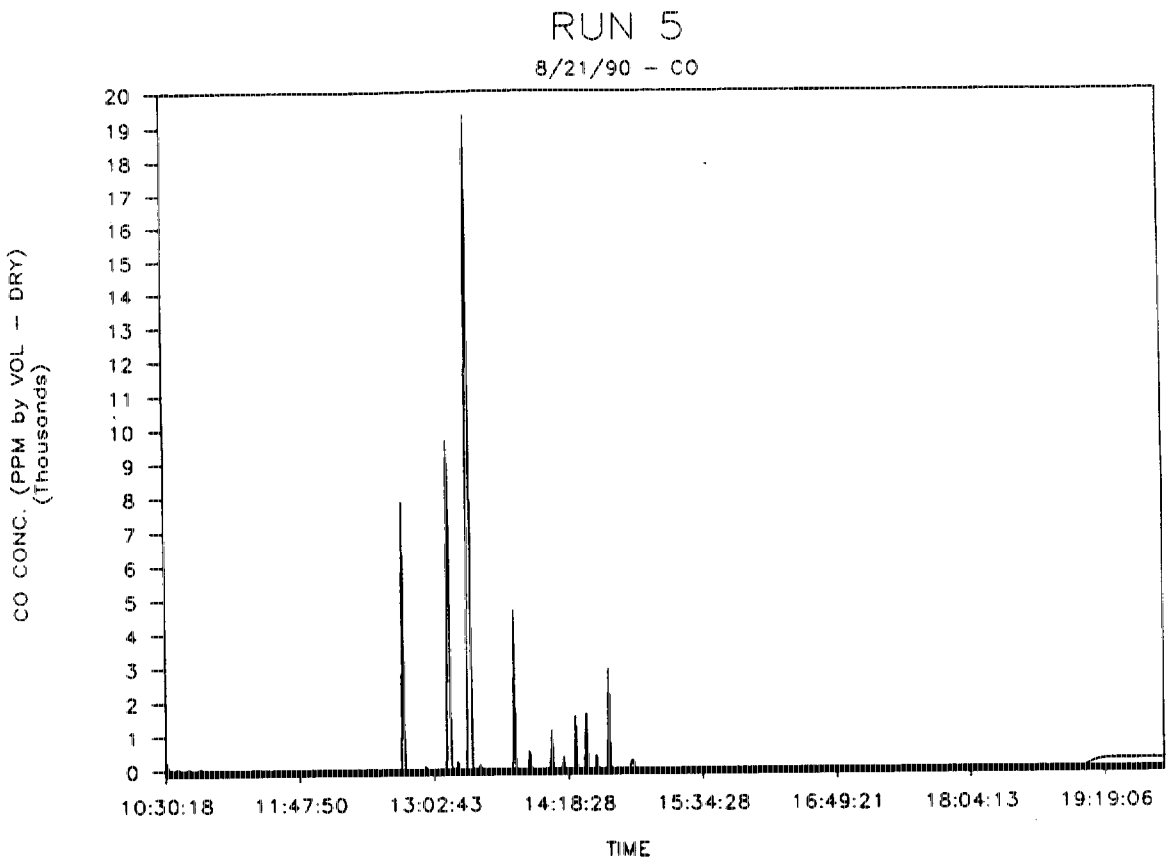

RUN 4
8/20/90 - HCl
HCl CONC. (PPM by VOL - WET)
(Thousands)
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
12:10:24
13:00:47
13:50:52
14:41:20
15:34:32
16:25:01

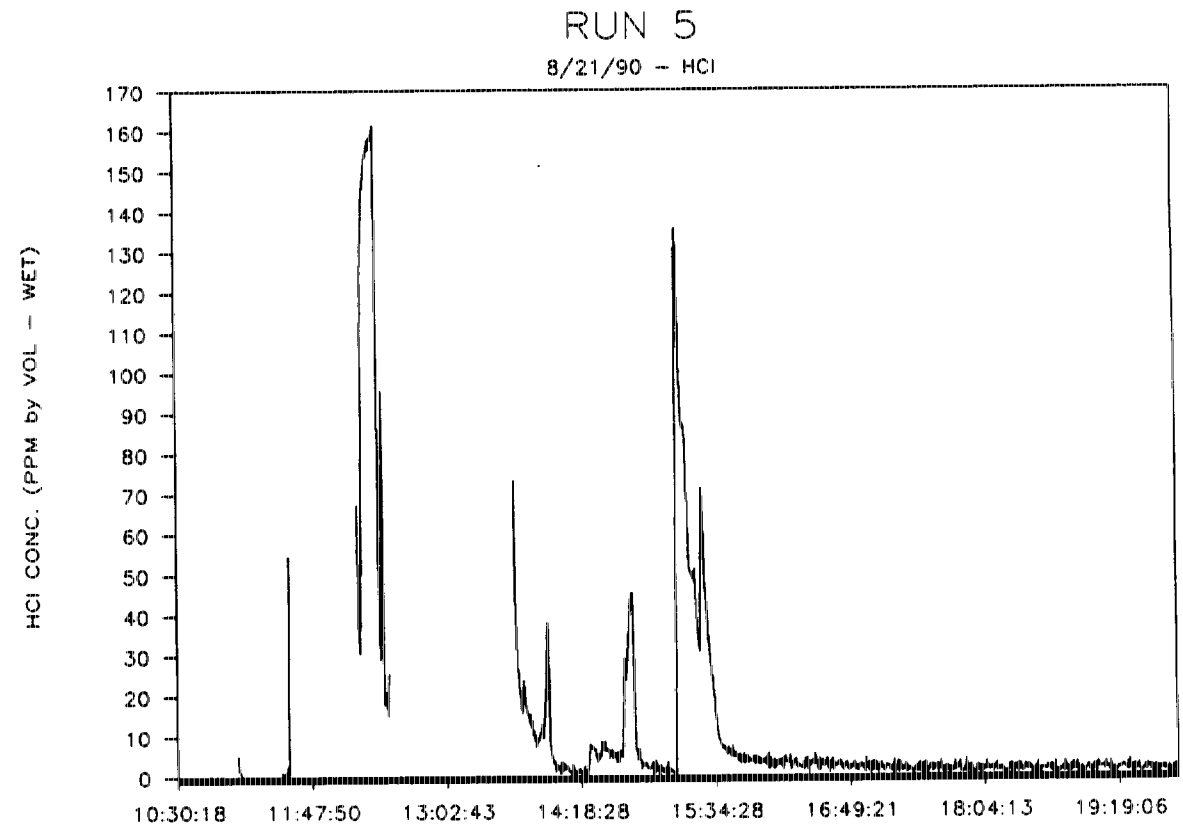

RUN 5
8/21/90 - O2
O2 CONC. (% by VOL)
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
10:30:18
11:47:50
13:02:43
14:18:28
15:34:28
16:49:21
18:04:13
19:19:06
TIME


RUN 5
8/21/90 - CO2
CO2 CONC. (% by VOL)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
10:30:18
11:47:50
13:02:43
14:18:28
15:34:28
16:49:21
18:04:13
19:19:06


RUN 5
8/21/90 - NOx
NOx CONC. (PPM by VOL)
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10:30:18
11:47:50
13:02:43
14:18:28
15:34:28
16:49:21
18:04:13
19:19:06
TIME

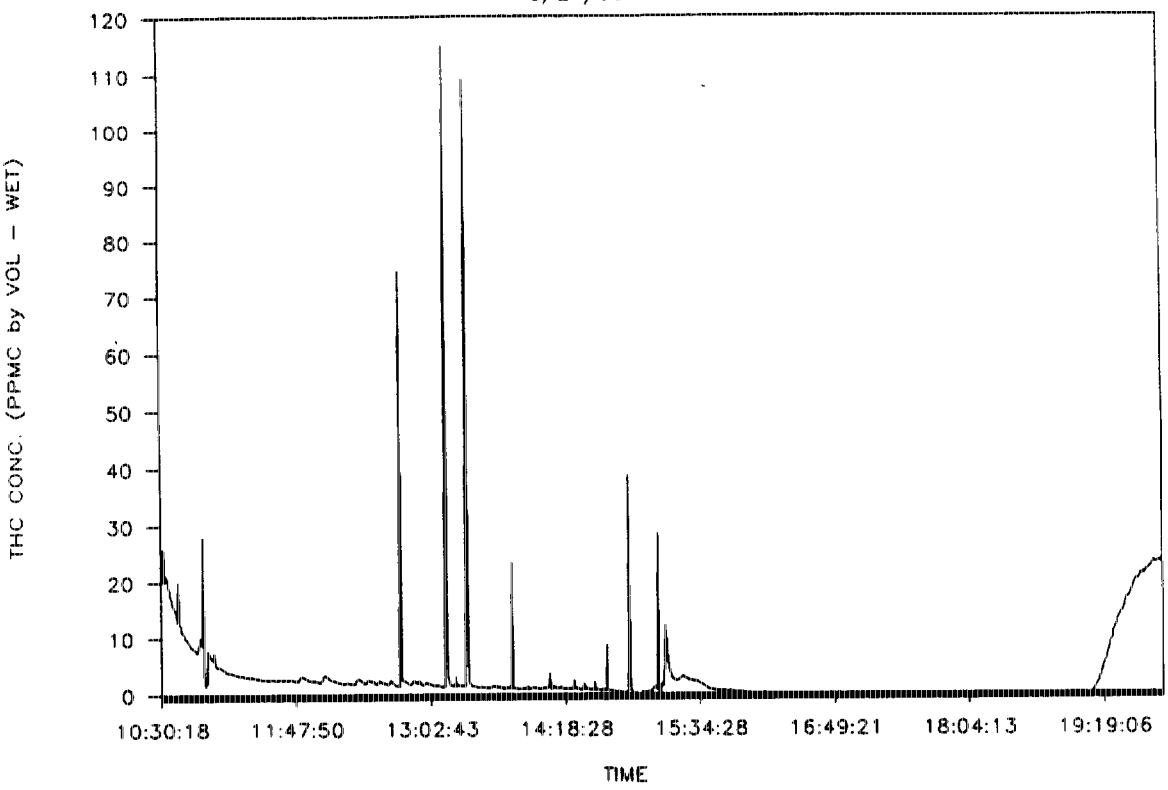

RUN 5
8/21/90 - SO2
SO2 CONC. (PPM by VOL)
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
10:30:18
11:47:50
13:02:43
14:18:28
15:34:28
16:49:21
18:04:13
19:19:06

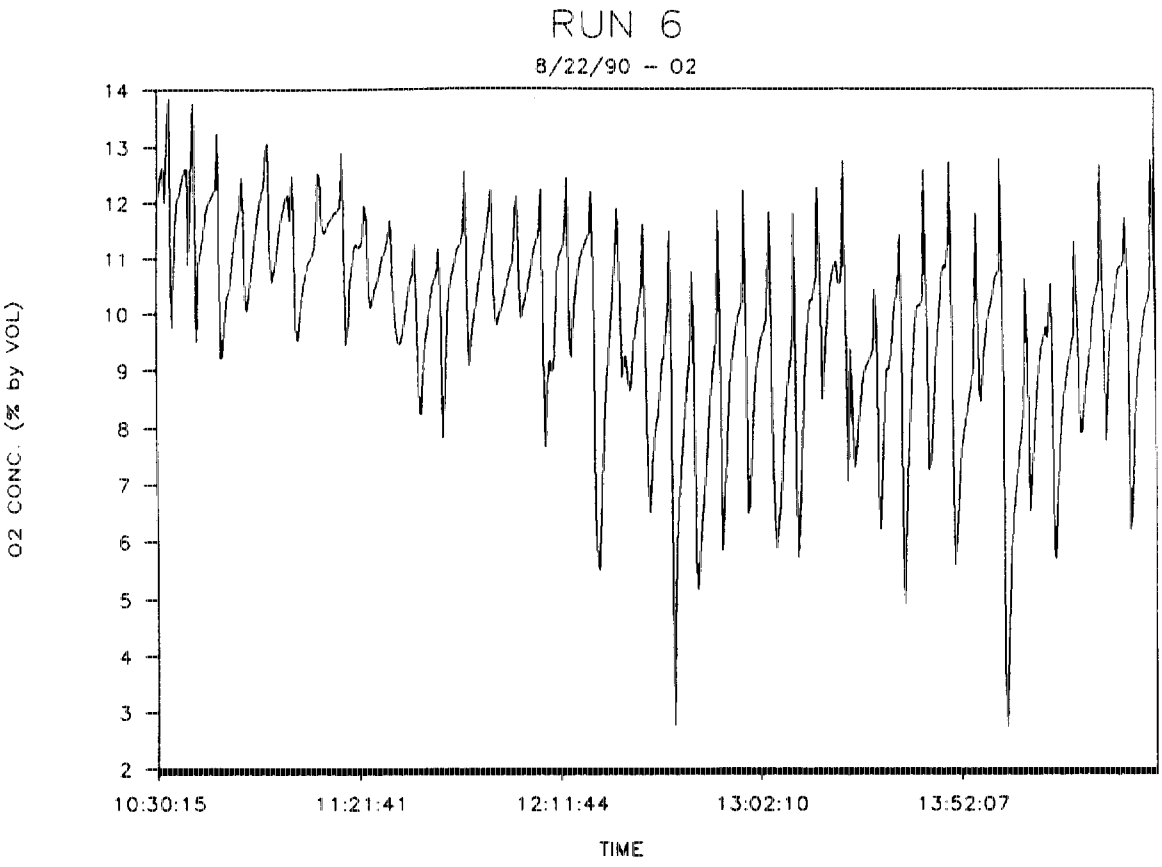

RUN 5
8/21/90 - CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
10:30:18
11:47:50
13:02:43
14:18:28
15:34:28
16:49:21
18:04:13
19:19:06
TIME

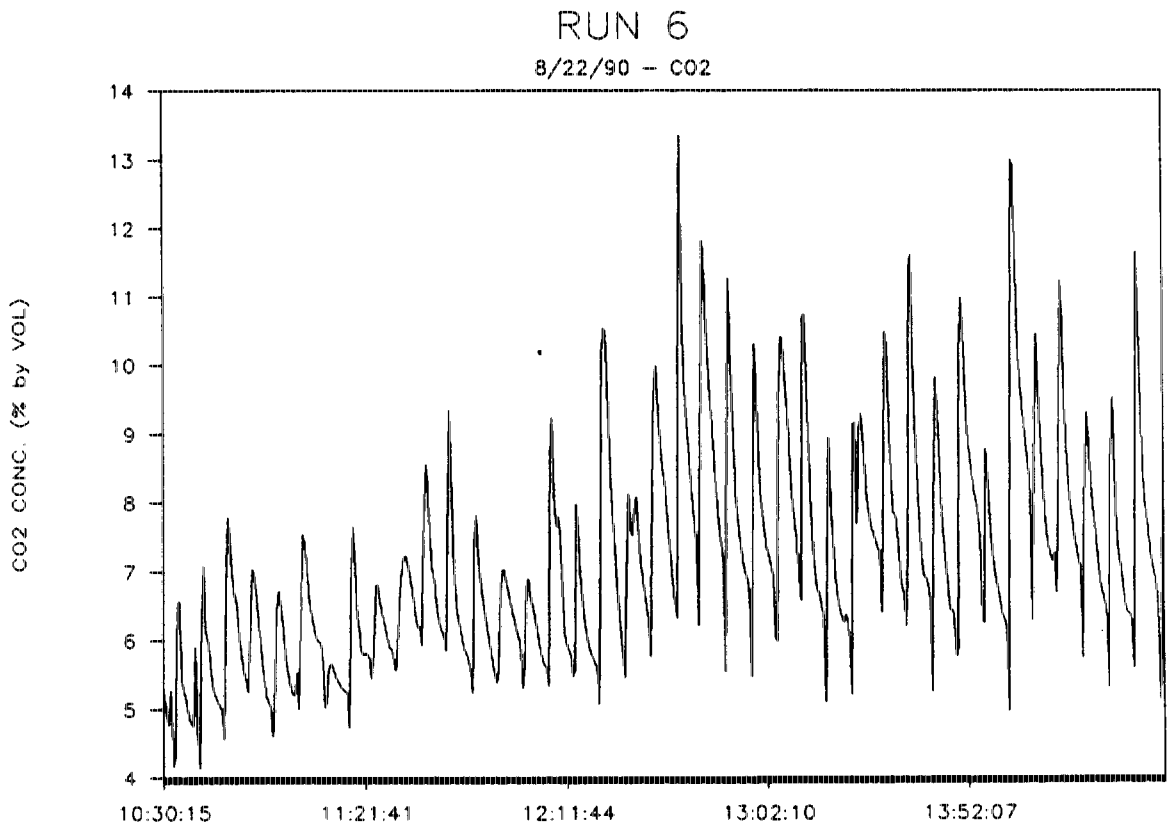

RUN 5
8/21/90 - HCl
HCl CONC. (PPM by VOL - WET)
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
10:30:18
11:47:50
13:02:43
14:18:28
15:34:28
16:49:21
18:04:13
19:19:06

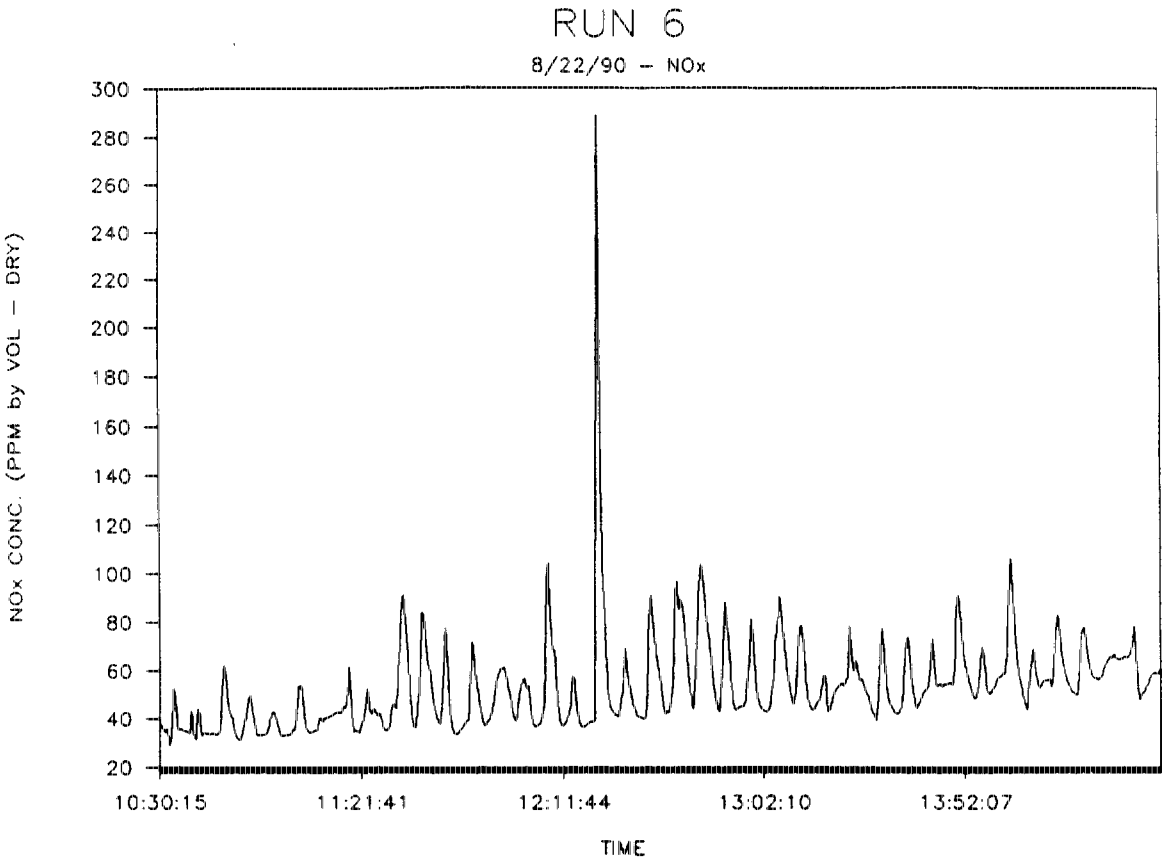
RUN 5

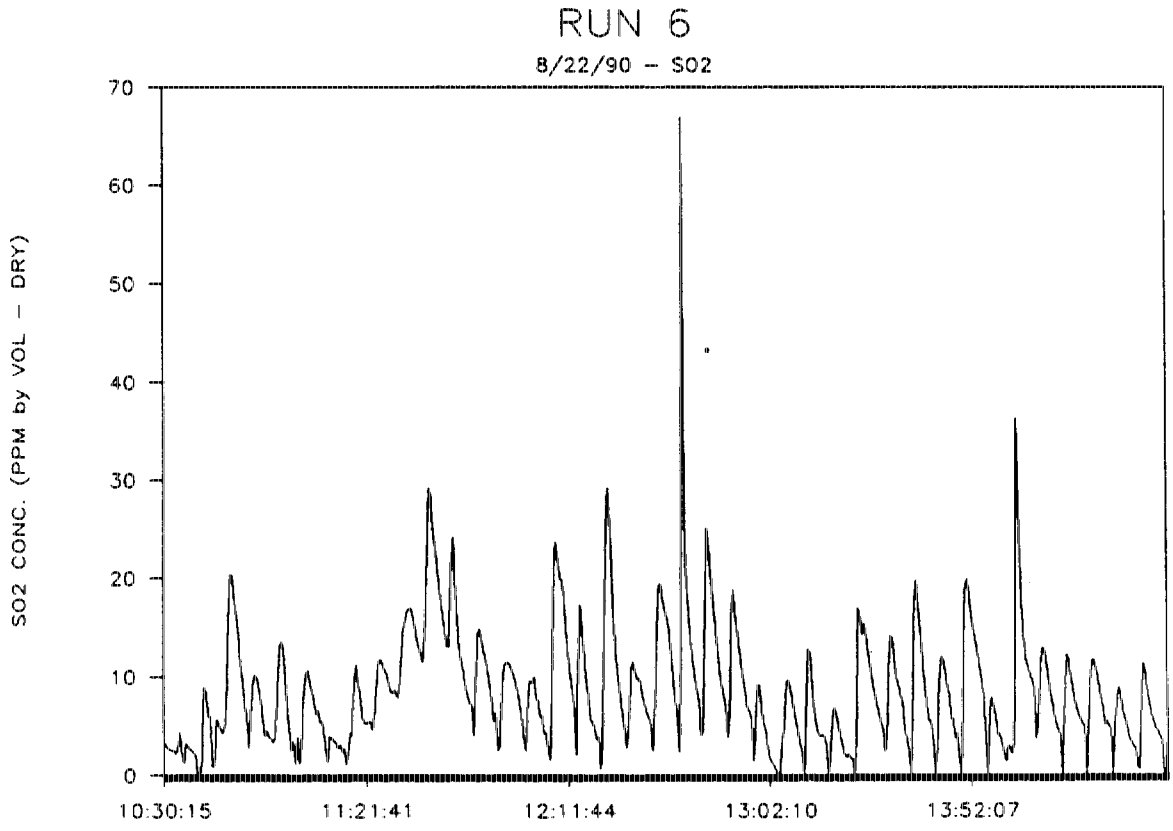
8/21/90 - THC

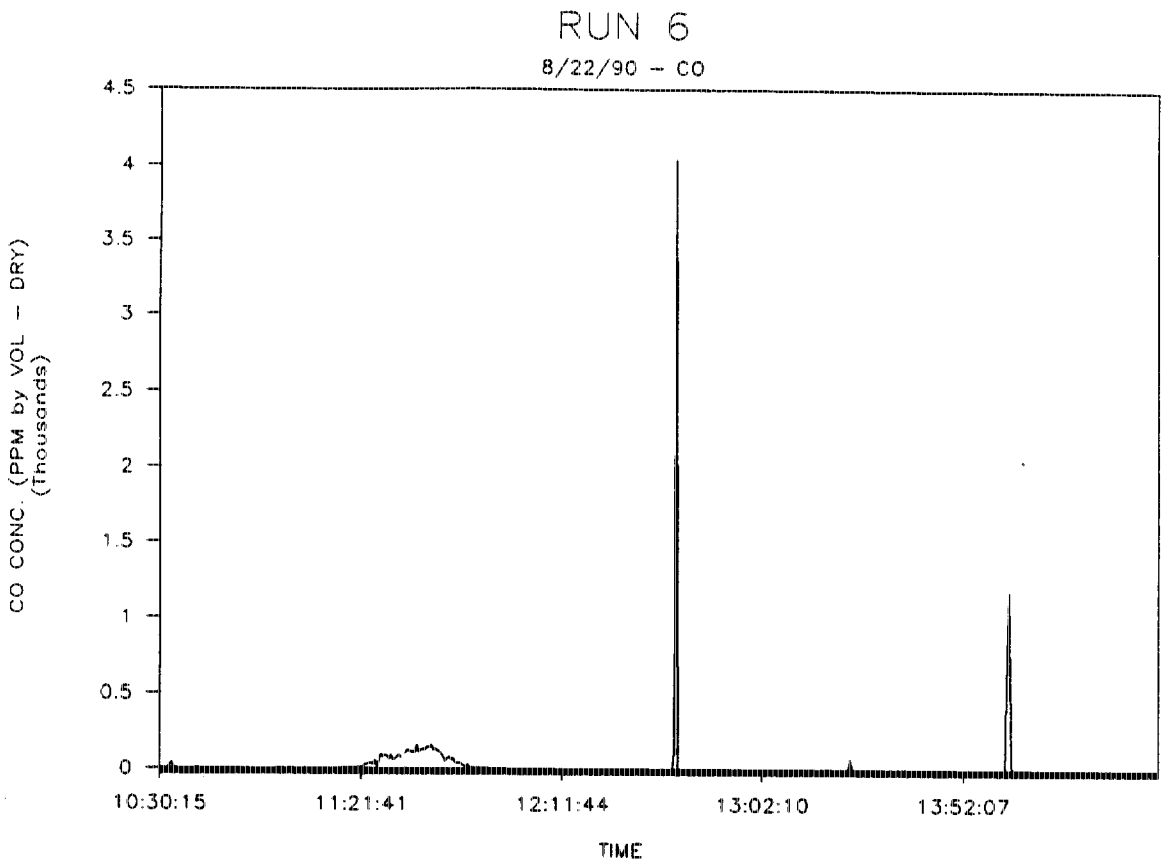


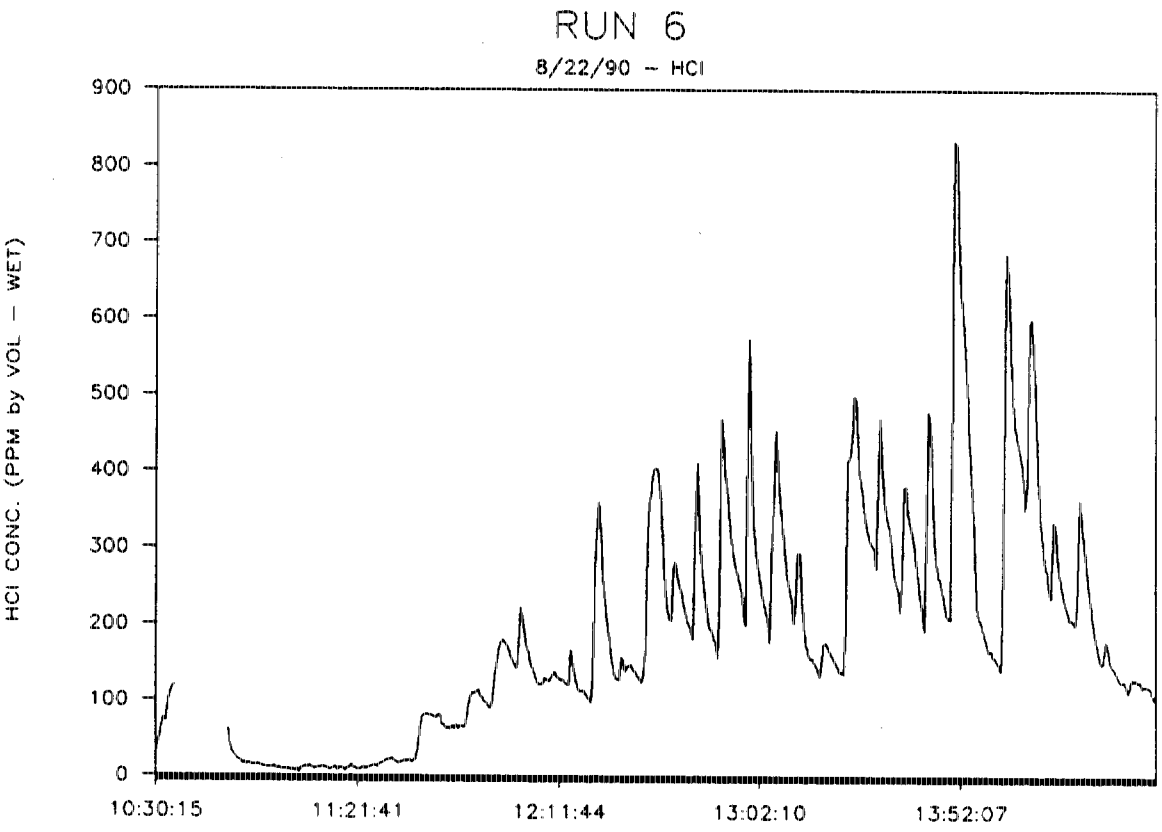

RUN 6
8/22/90 - O2
O2 CONC. (% by VOL)
14
13
12
11
10
9
8
7
6
5
4
3
2
10:30:15
11:21:41
12:11:44
13:02:10
13:52:07
TIME


RUN 6
8/22/90 - CO2
CO2 CONC. (% by VOL)
14
13
12
11
10
9
8
7
6
5
4
10:30:15
11:21:41
12:11:44
13:02:10
13:52:07


RUN 6
8/22/90 - NOx
NOx CONC. (PPM by VOL - DRY)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
10:30:15
11:21:41
12:11:44
13:02:10
13:52:07
TIME

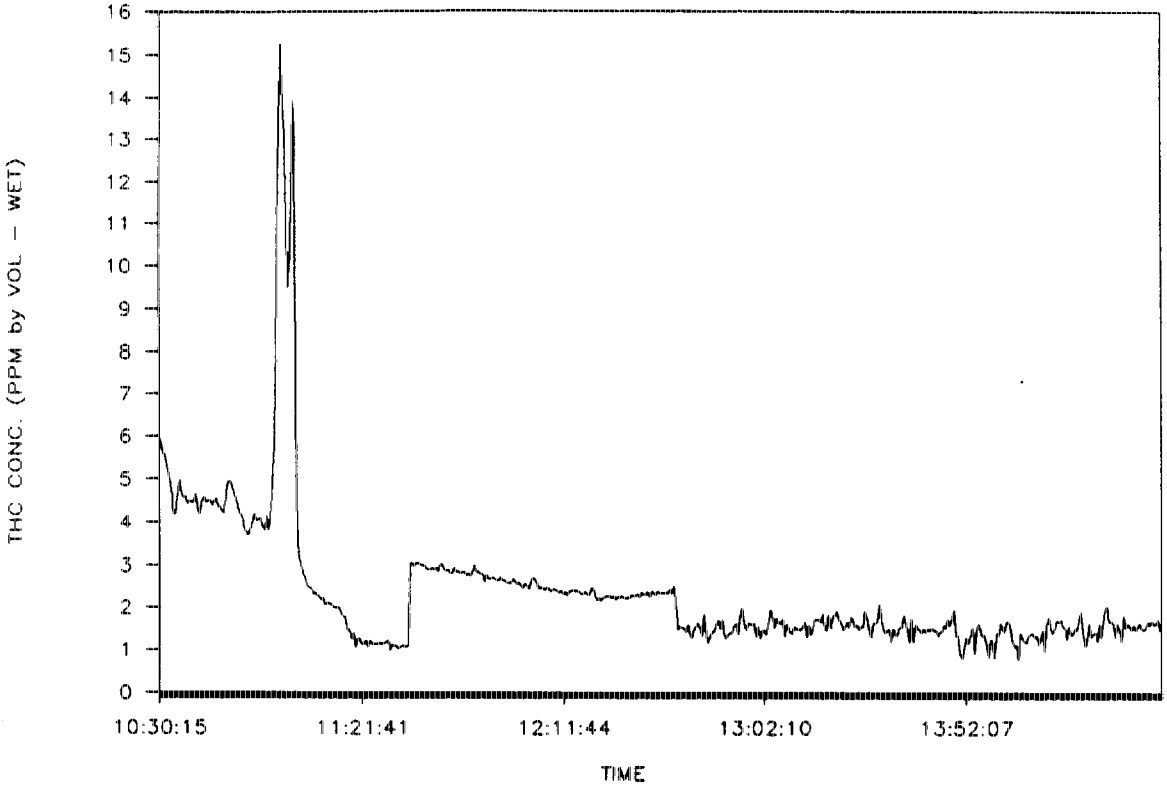

RUN 6
8/22/90 - SO2
SO2 CONC. (PPM by VOL - DRY)
70
60
50
40
30
20
10
0
10:30:15
11:21:41
12:11:44
13:02:10
13:52:07

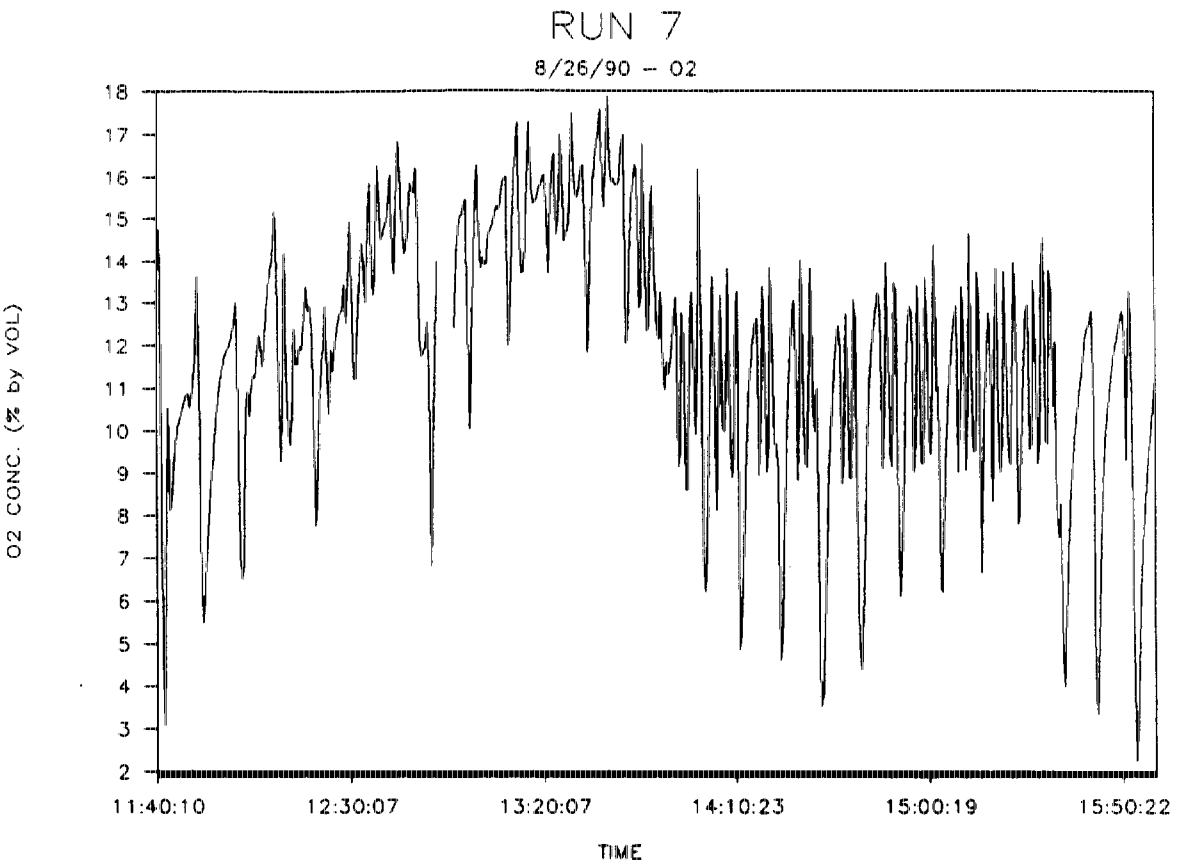

RUN 6
8/22/90 - CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
10:30:15
11:21:41
12:11:44
13:02:10
13:52:07
TIME

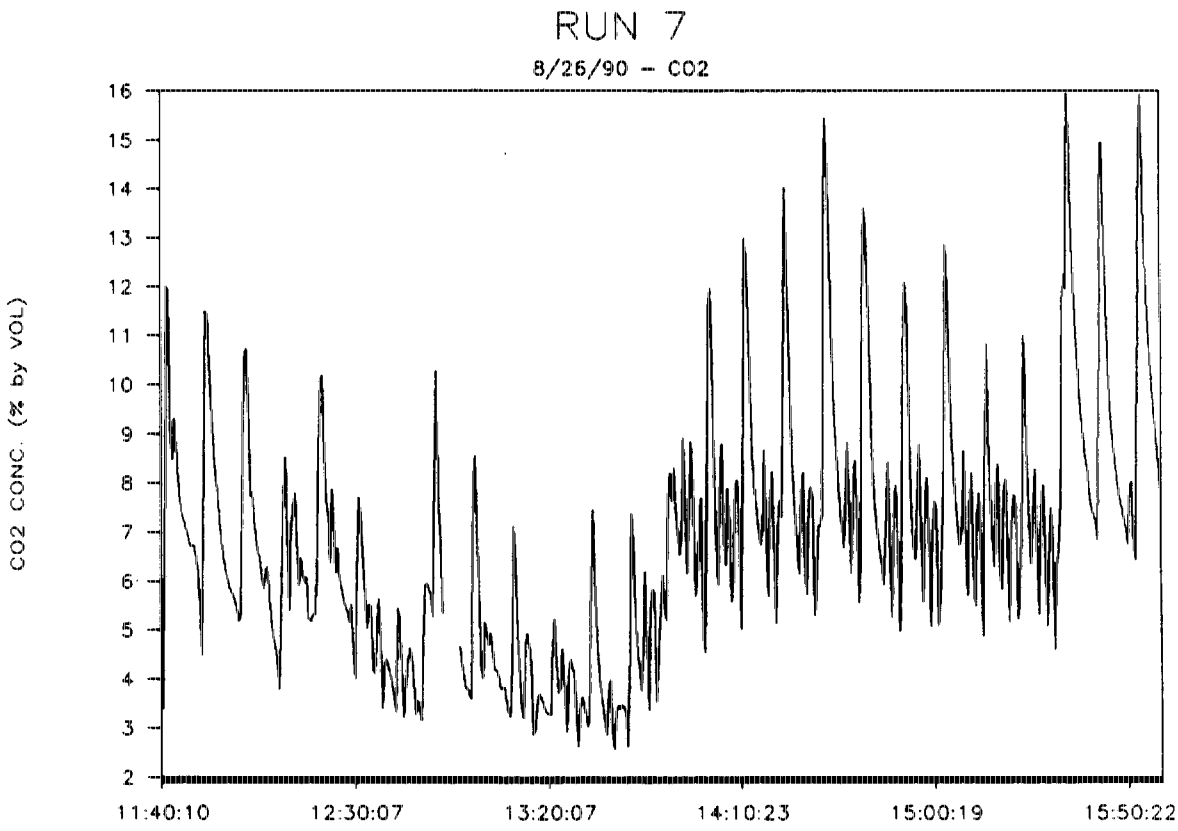

RUN 6
8/22/90 - HCl
HCl CONC. (PPM by VOL - WET)
900
800
700
600
500
400
300
200
100
0
10:30:15
11:21:41
12:11:44
13:02:10
13:52:07

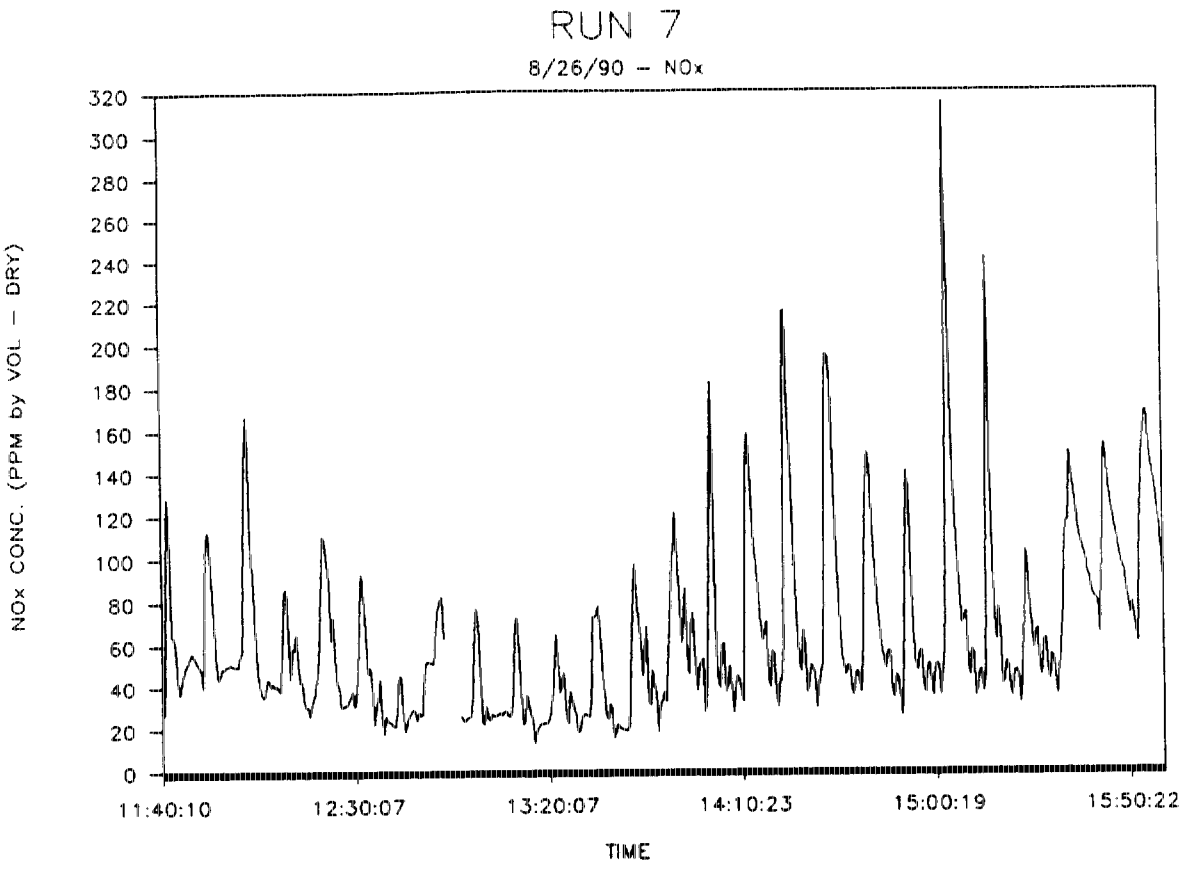
RUN 6

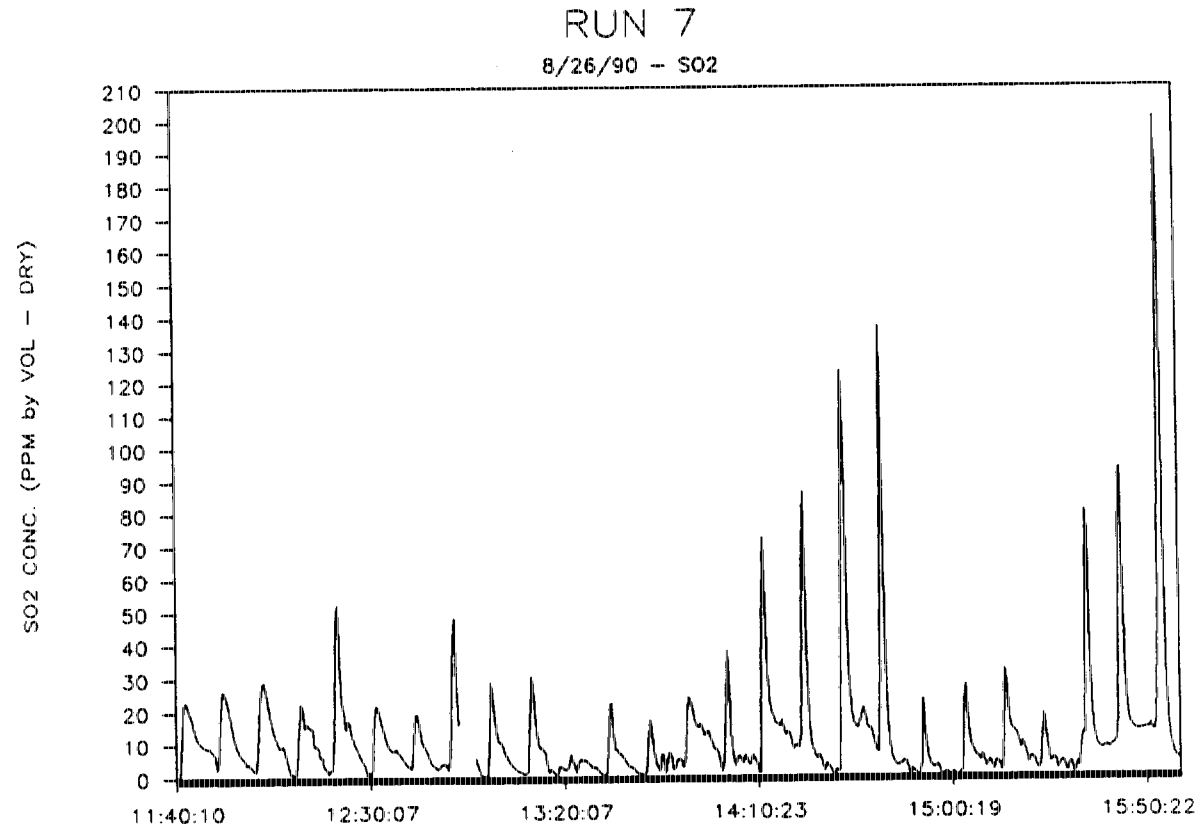
8/22/90 - THC

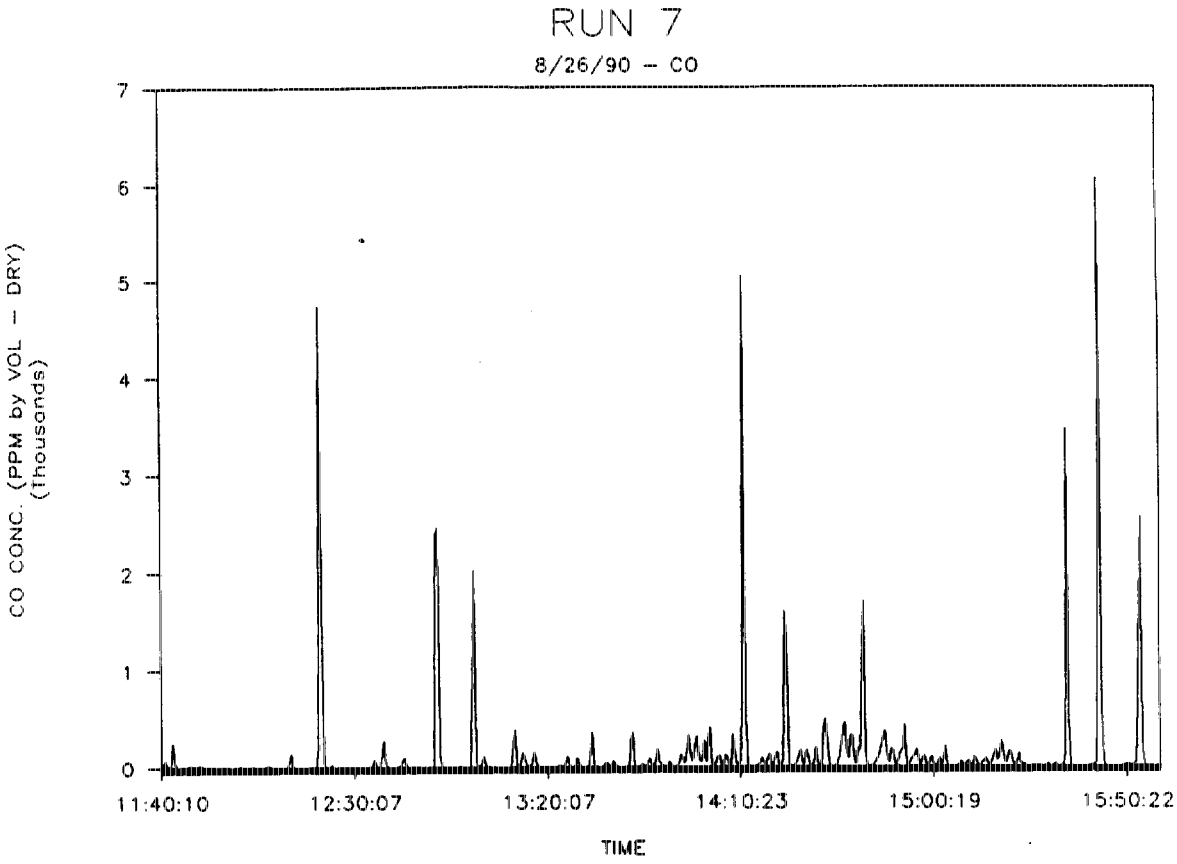


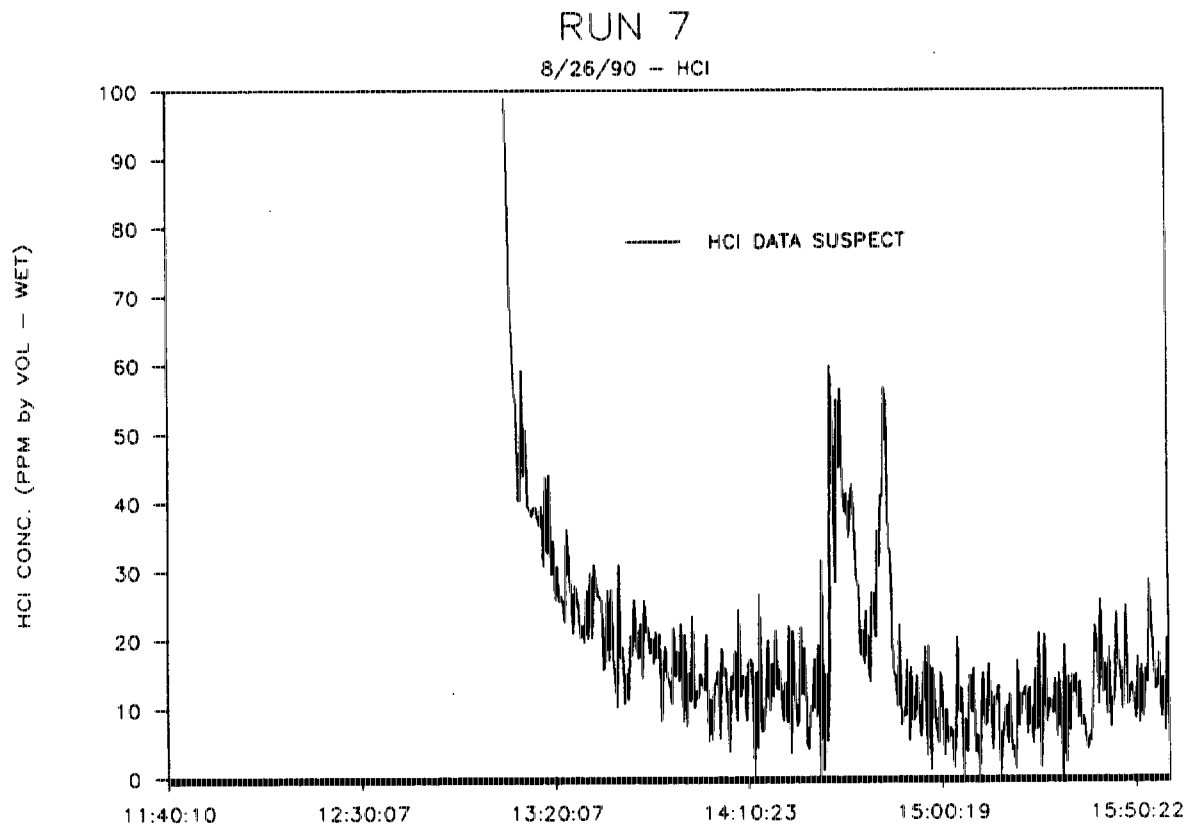

RUN 7
8/26/90 - O2
O2 CONC. (% by VOL)
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22
TIME

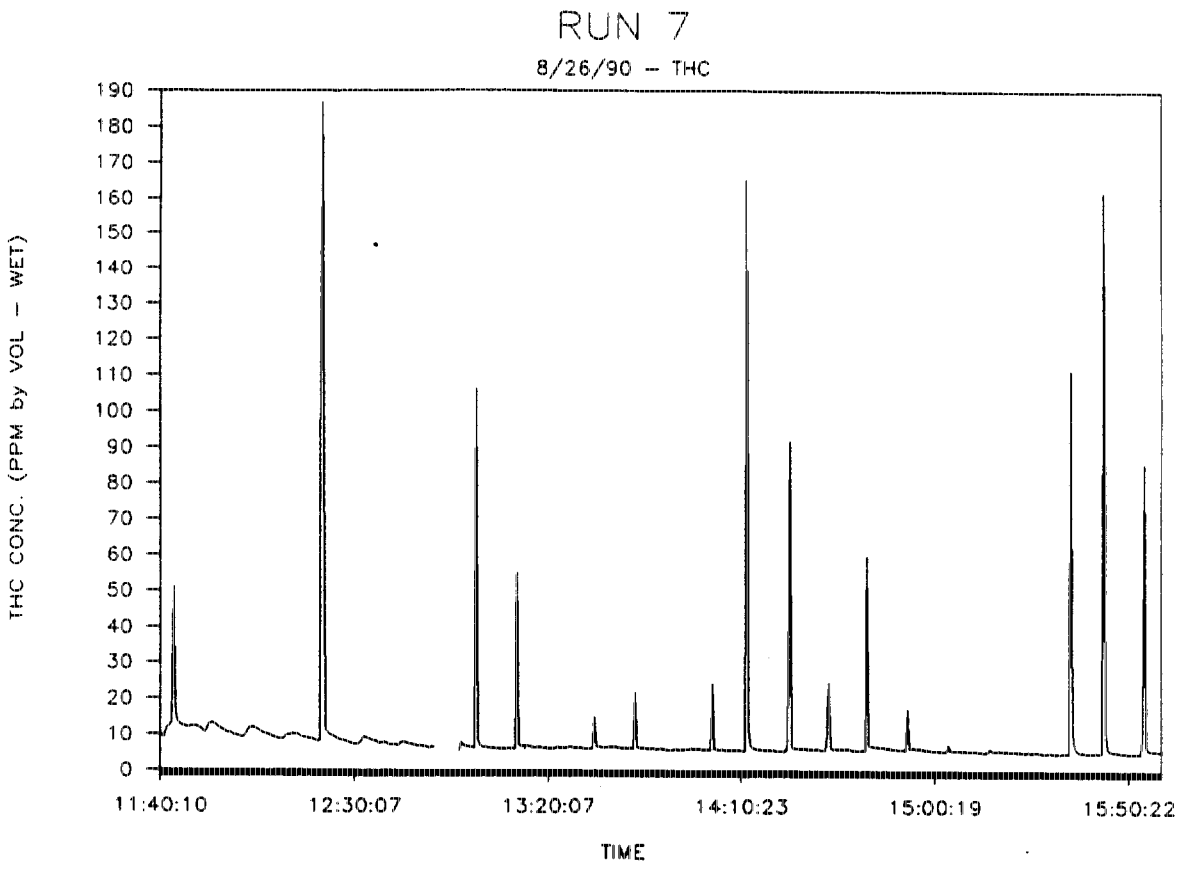

RUN 7
8/26/90 - CO2
CO2 CONC. (% by VOL)
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22

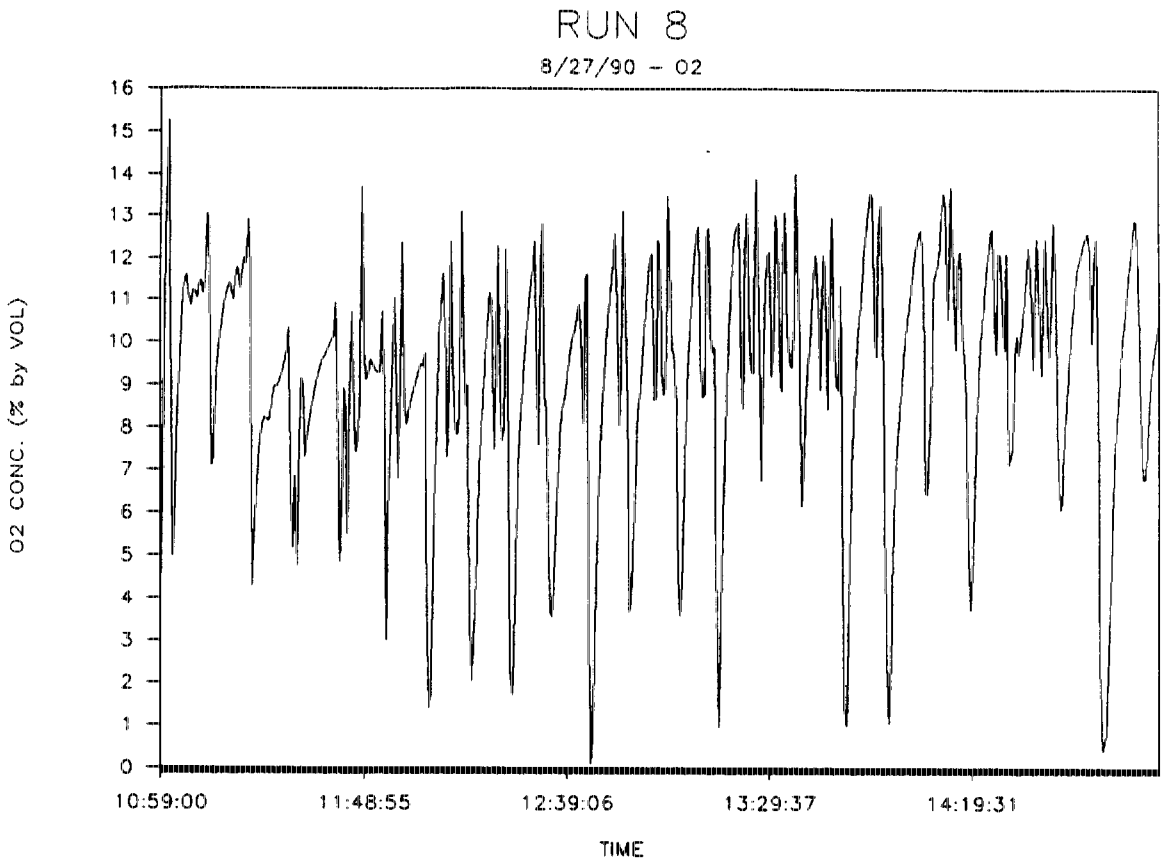

RUN 7
8/26/90 - NOx
NOx CONC. (PPM by VOL - DRY)
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22
TIME

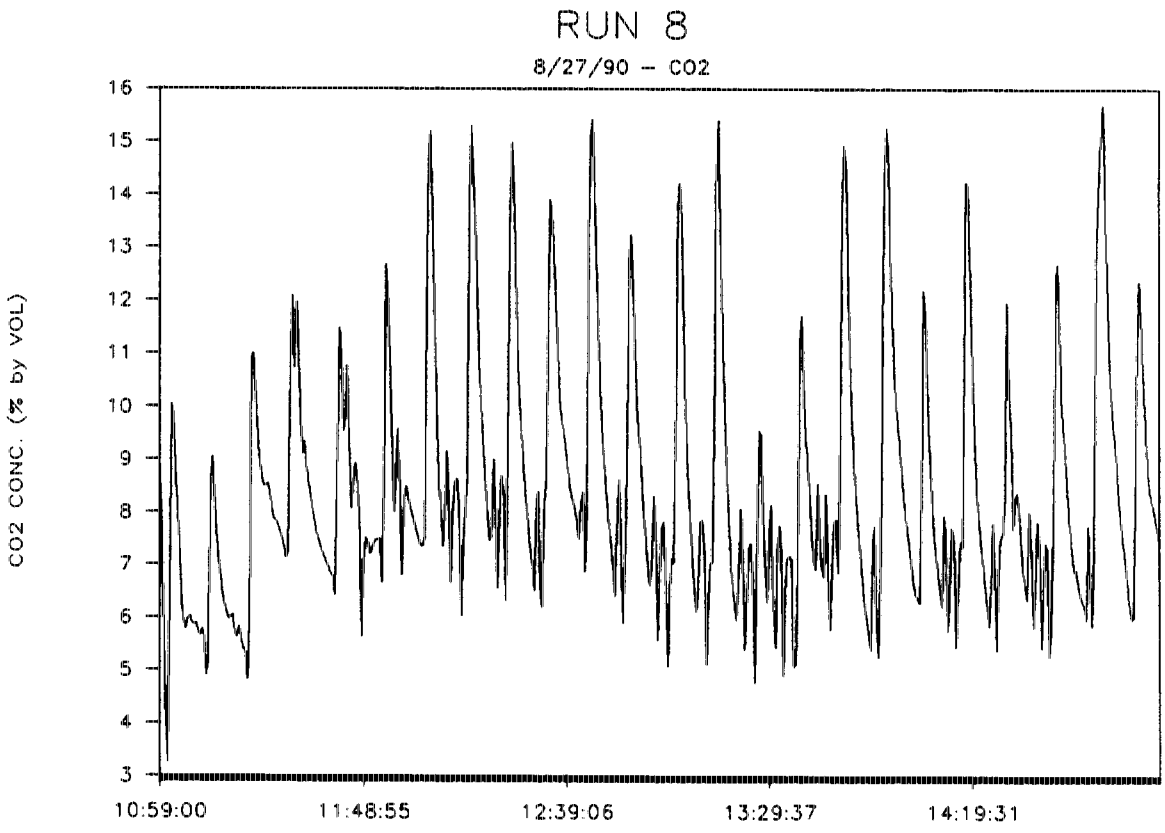

RUN 7
8/26/90 - SO2
SO2 CONC. (PPM by VOL - DRY)
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22

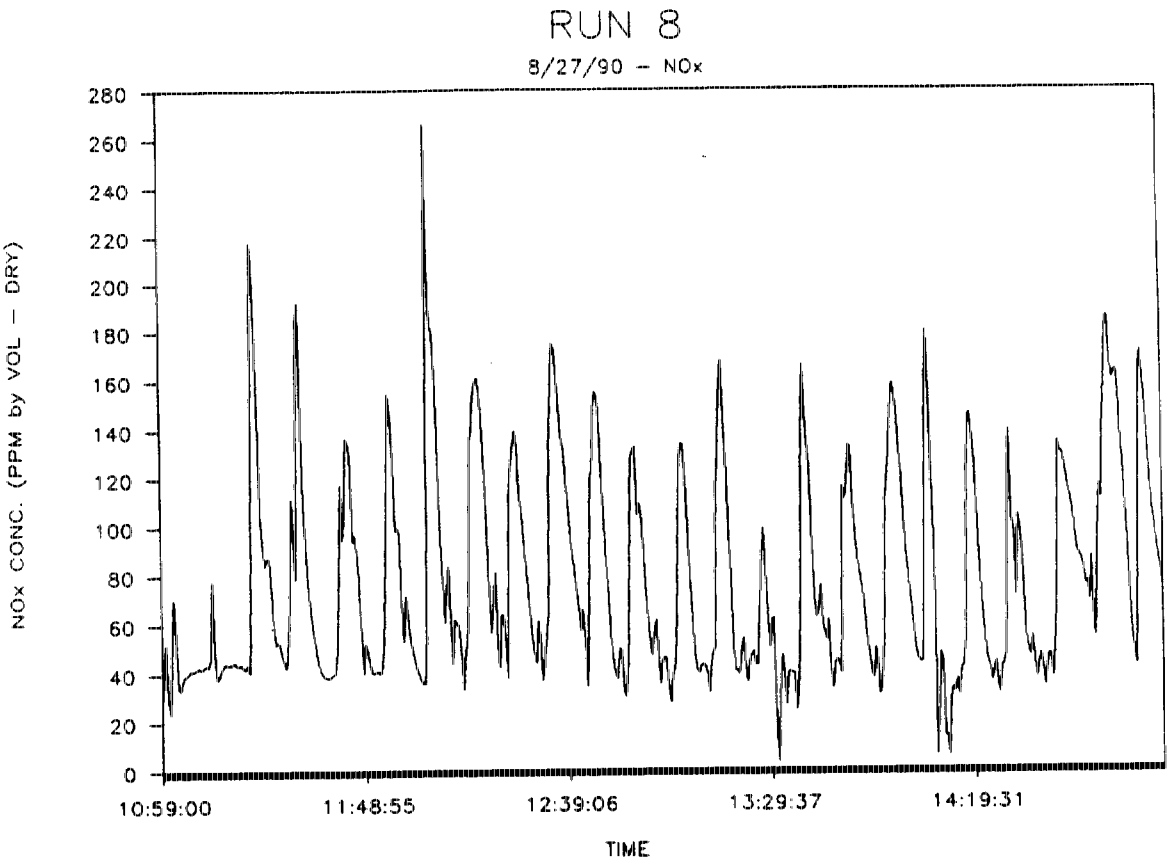

RUN 7
8/26/90 -- CO
CO CONC. (PPM by VOL -- DRY)
(thousands)
7
6
5
4
3
2
1
0
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22
TIME

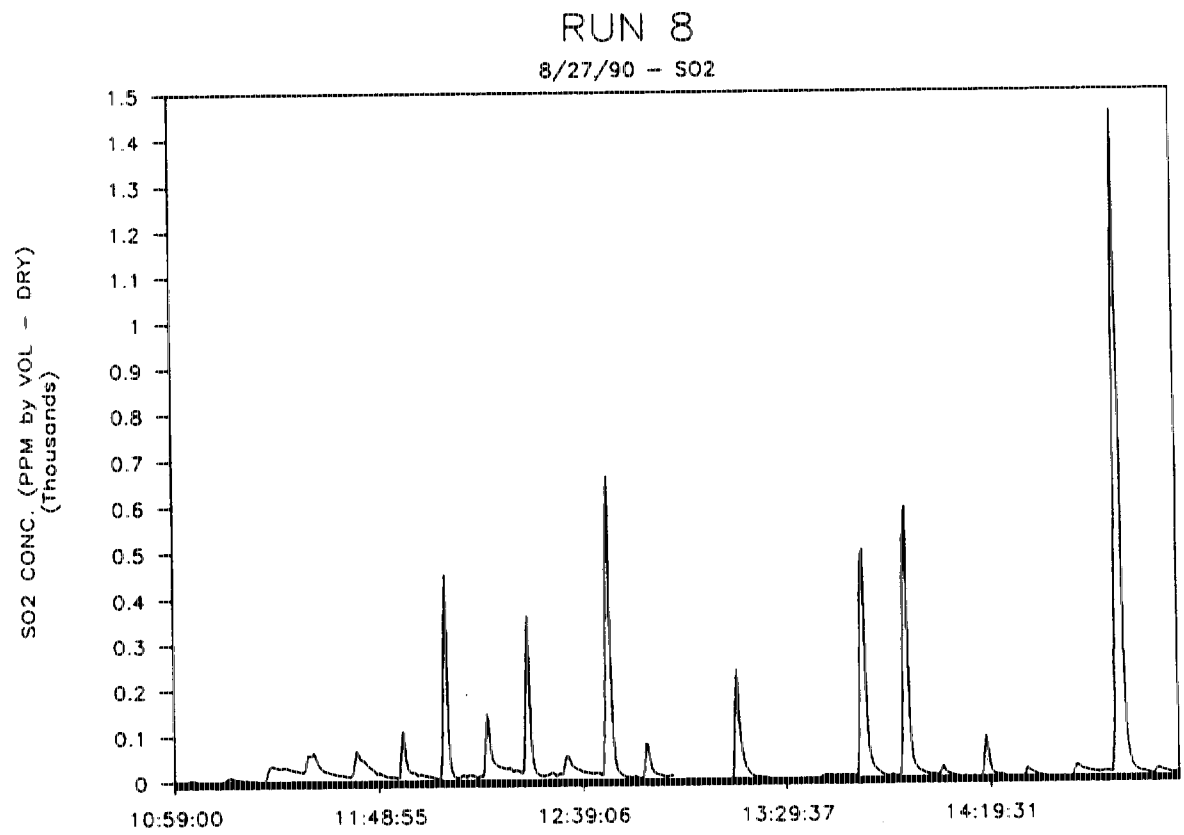

RUN 7
8/26/90 -- HCl
HCl CONC. (PPM by VOL -- WET)
HCl DATA SUSPECT
100
90
80
70
60
50
40
30
20
10
0
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22

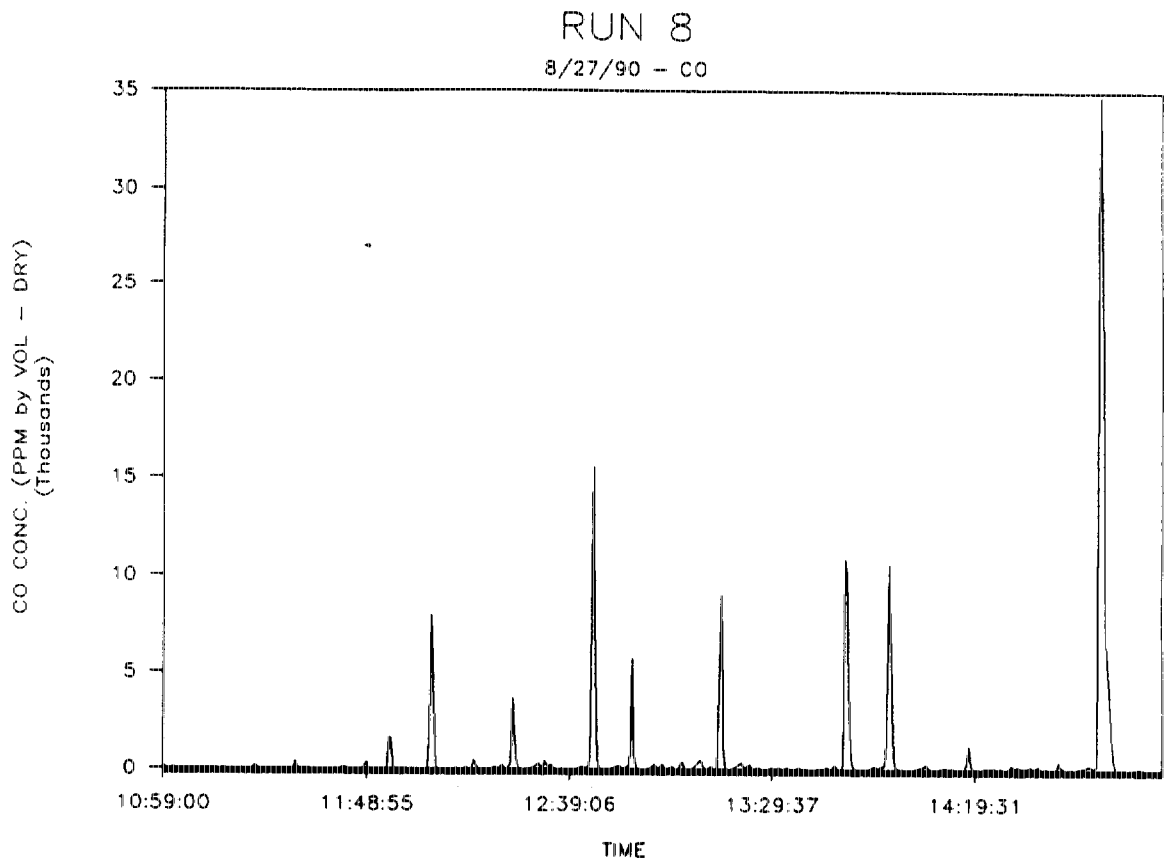

RUN 7
8/26/90 – THC
THC CONC. (PPM by VOL – WET)
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
11:40:10
12:30:07
13:20:07
14:10:23
15:00:19
15:50:22
TIME

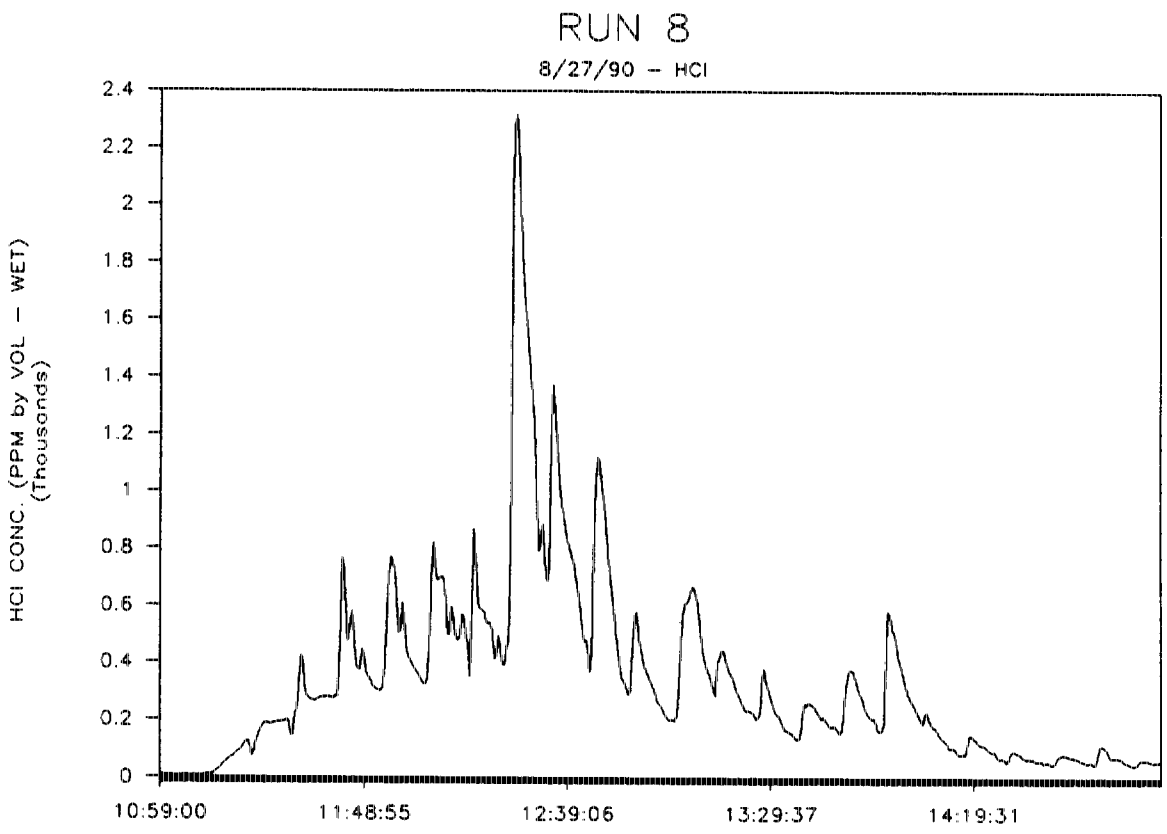

RUN 8
8/27/90 - O2
O2 CONC. (% by VOL)
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31
TIME

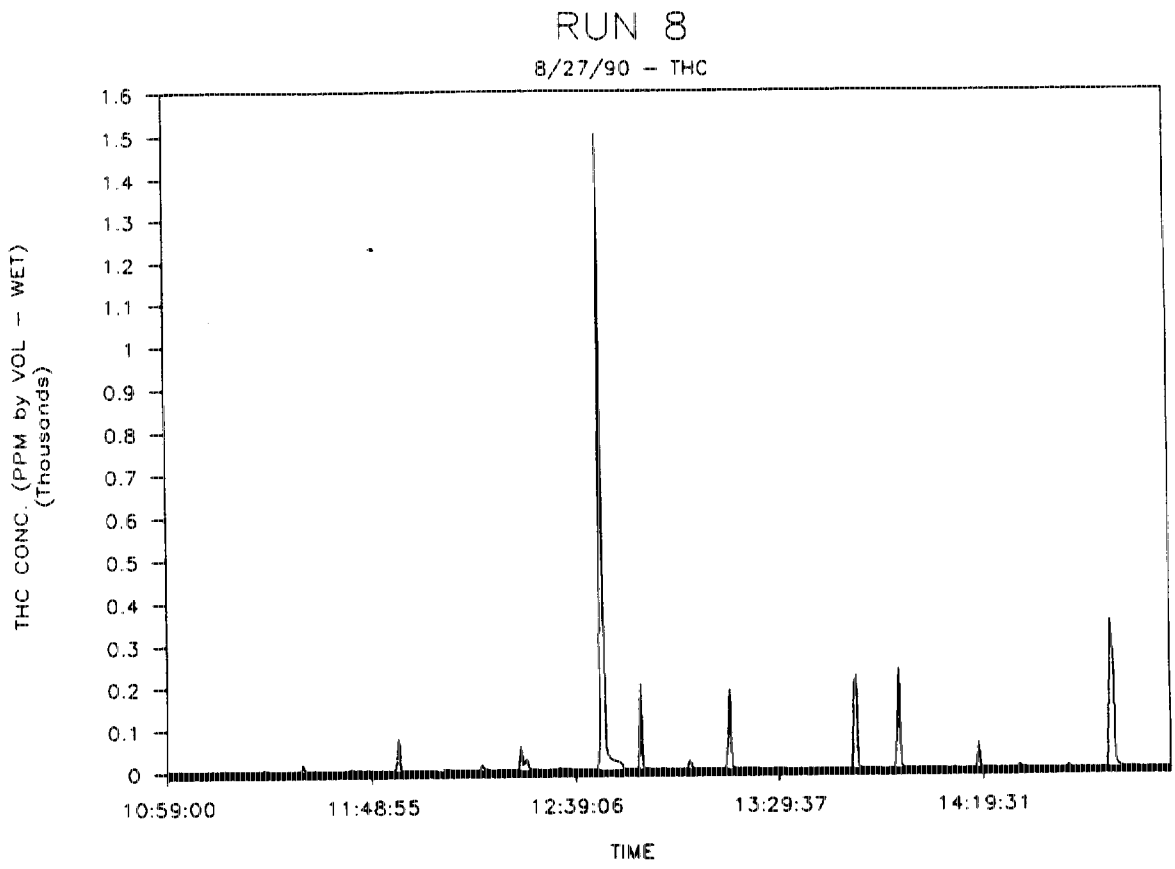

RUN 8
8/27/90 - CO2
CO2 CONC. (% by VOL)
16
15
14
13
12
11
10
9
8
7
6
5
4
3
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31

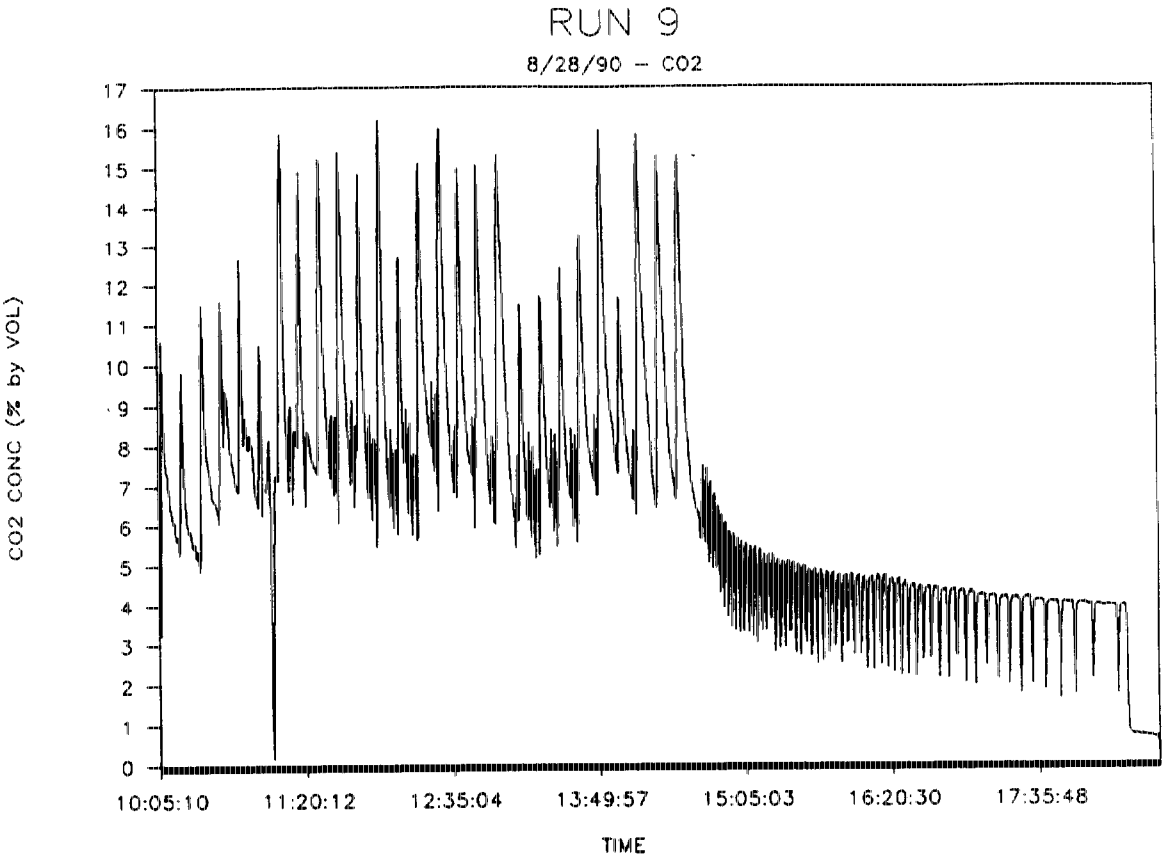

RUN 8
8/27/90 - NOx
NOx CONC. (PPM by VOL - DRY)
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31
TIME

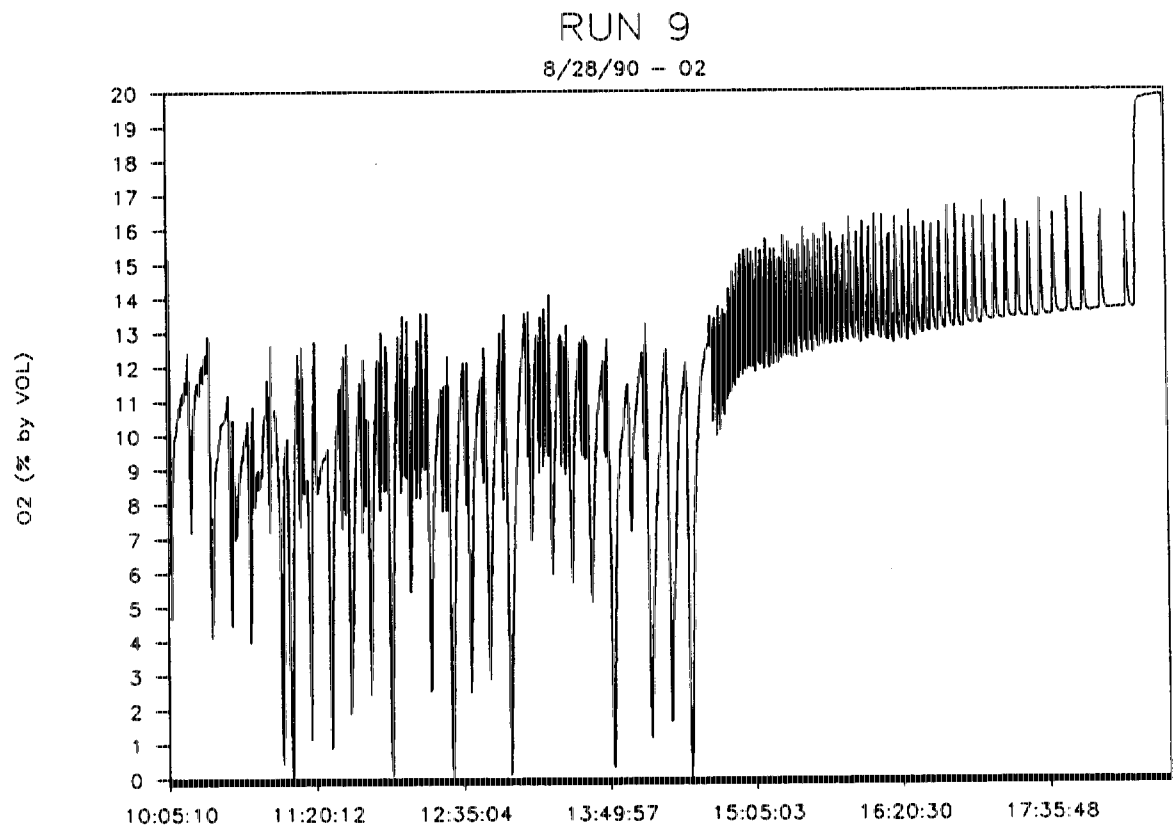

RUN 8
8/27/90 - SO2
SO2 CONC. (PPM by VOL - DRY)
(Thousands)
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31

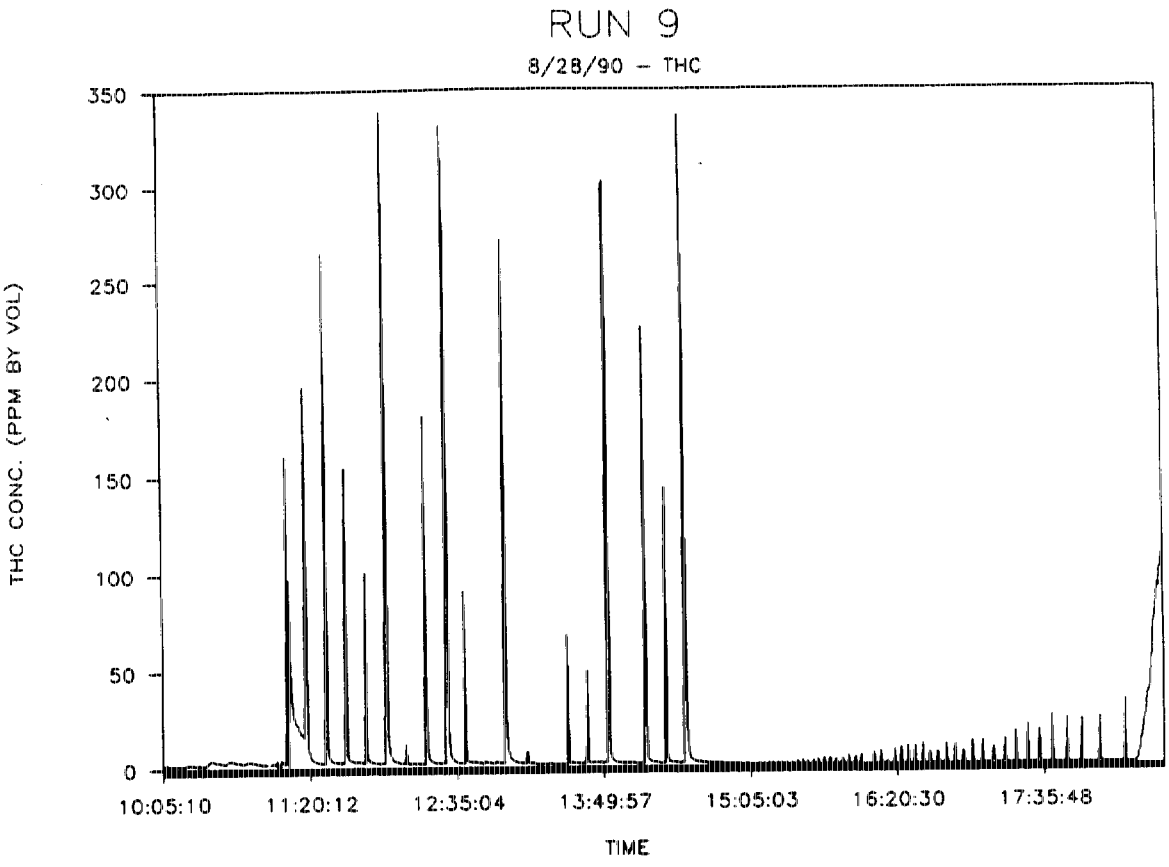

RUN 8
8/27/90 - CO
CO CONC. (PPM by VOL - DRY)
(Thousands)
35
30
25
20
15
10
5
0
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31
TIME


RUN 8
8/27/90 - HCl
HCl CONC. (PPM by VOL - WET)
(Thousands)
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31

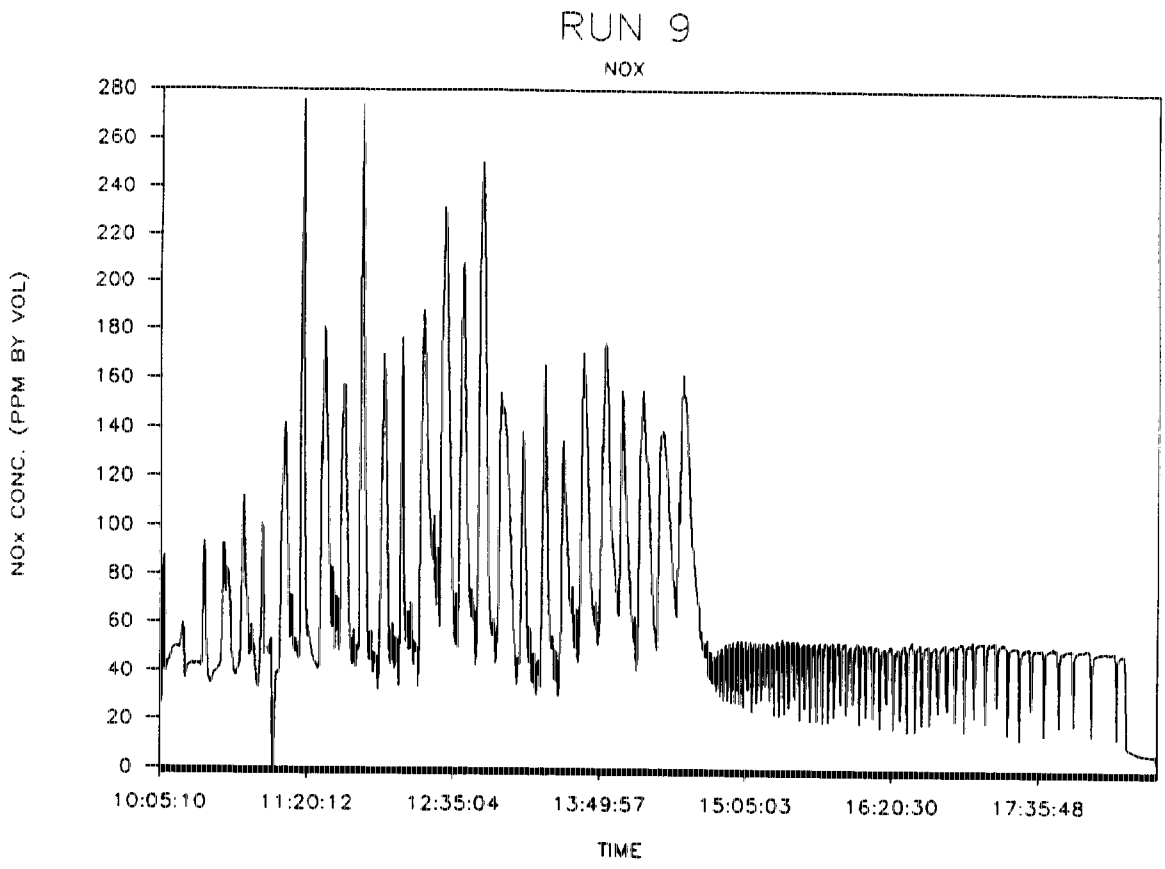

RUN 8
8/27/90 - THC
THC CONC. (PPM by VOL - WET)
(Thousands)
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10:59:00
11:48:55
12:39:06
13:29:37
14:19:31
TIME

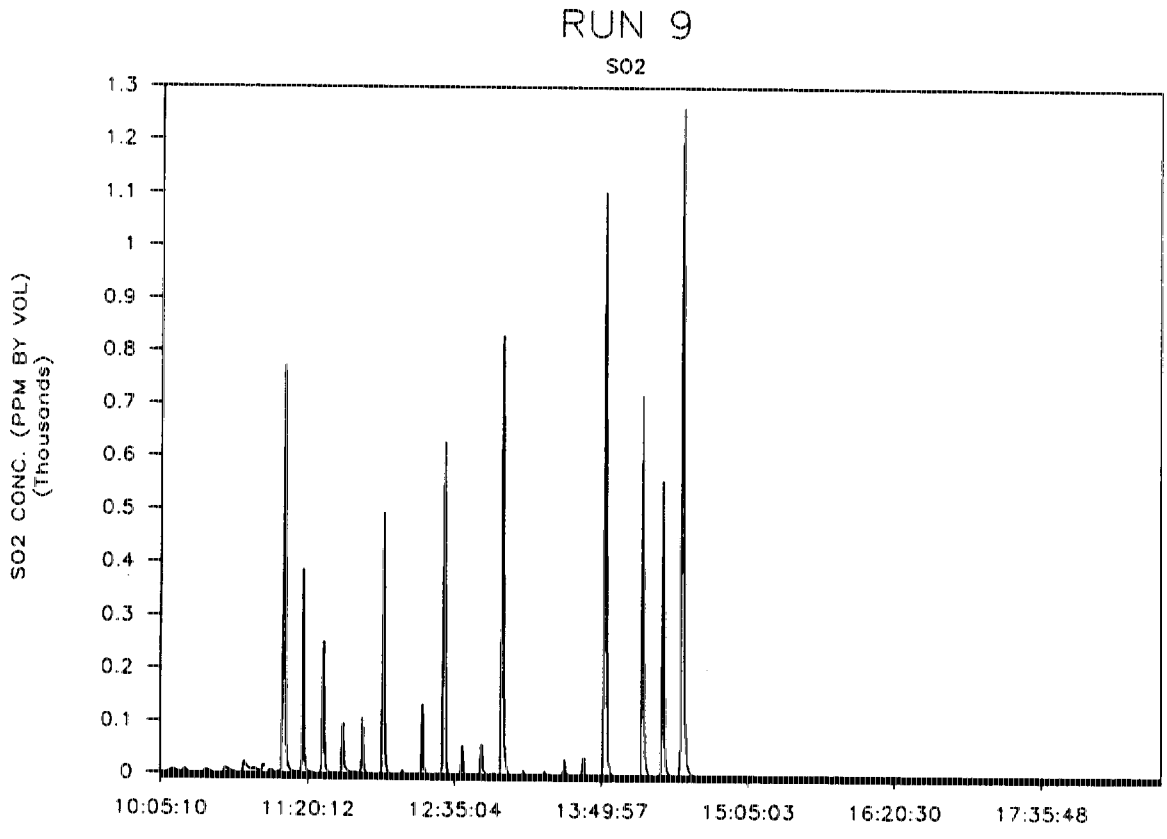

RUN 9
8/28/90 - CO2
CO2 CONC (% by VOL)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
10:05:10
11:20:12
12:35:04
13:49:57
15:05:03
16:20:30
17:35:48
TIME

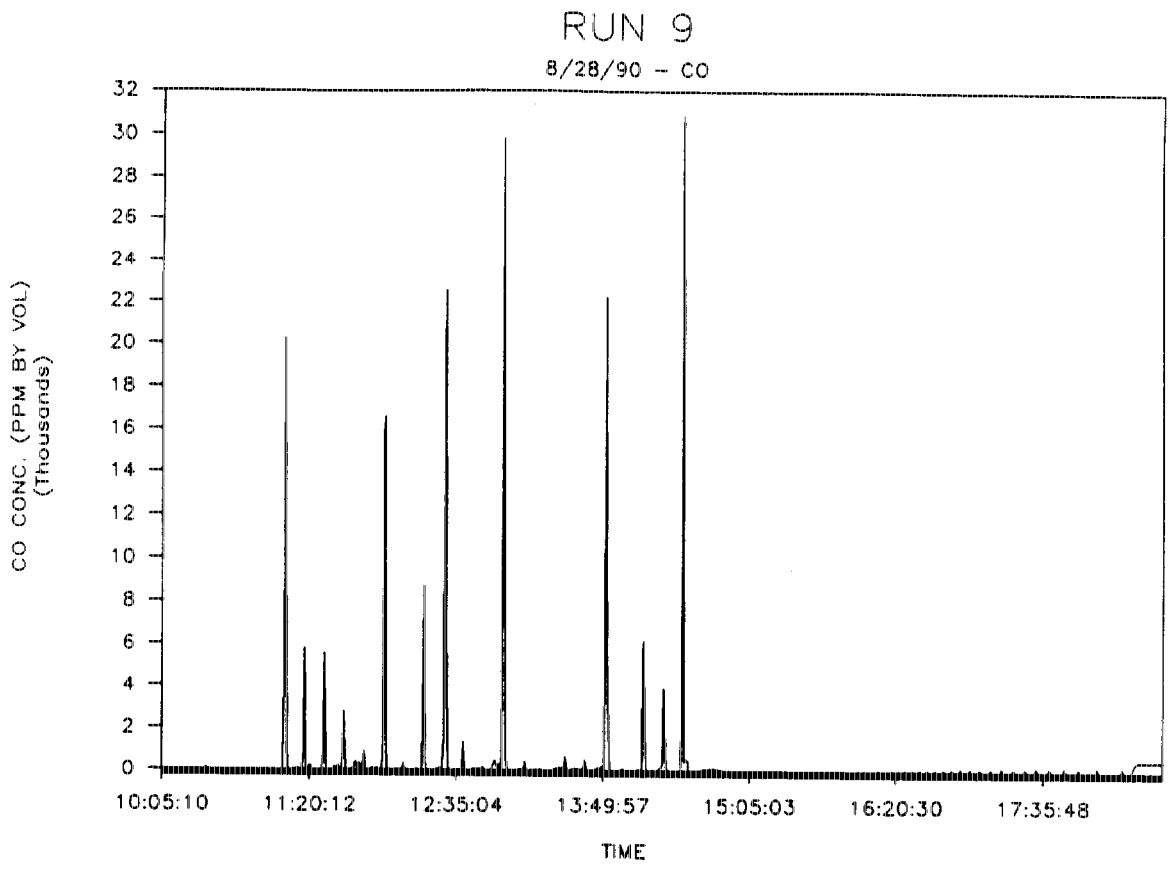

RUN 9
8/28/90 - O2
O2 (% by VOL)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
10:05:10
11:20:12
12:35:04
13:49:57
15:05:03
16:20:30
17:35:48

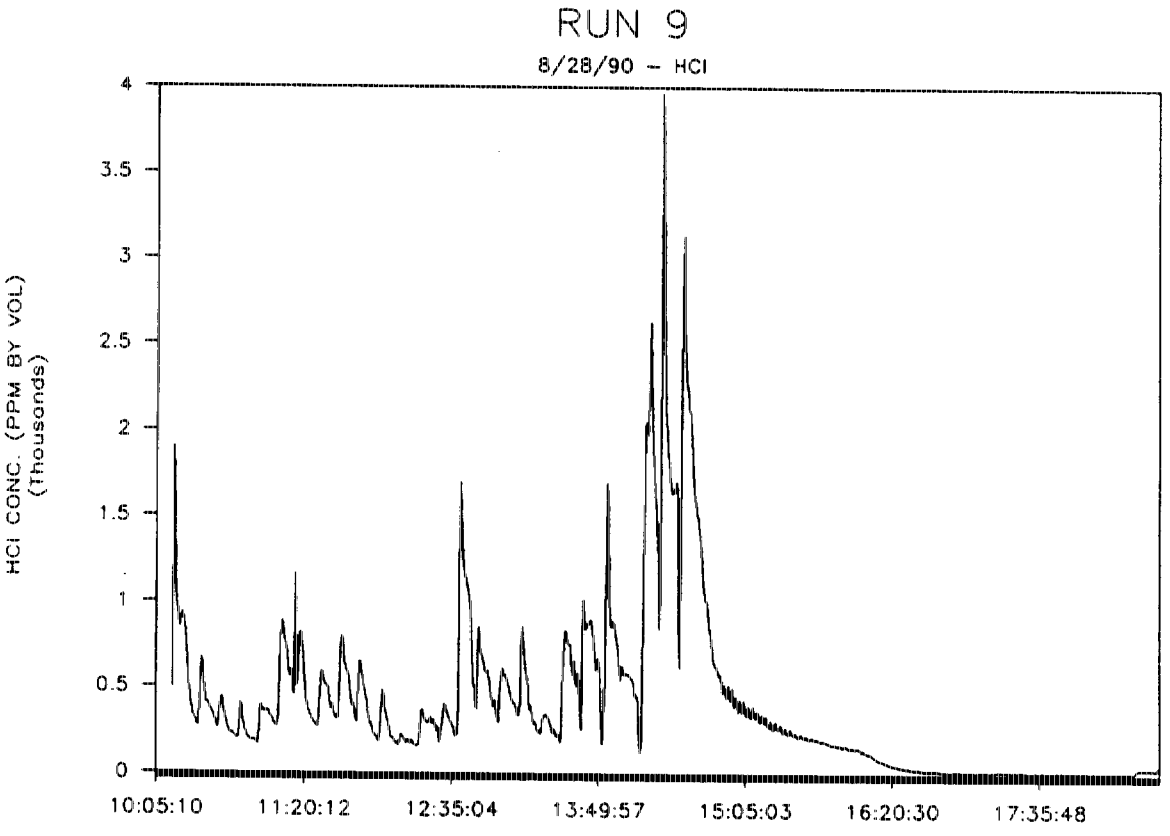

RUN 9
8/28/90 - THC
350
300
250
200
150
100
50
0
THC CONC. (PPM BY VOL)
10:05:10
11:20:12
12:35:04
13:49:57
15:05:03
16:20:30
17:35:48
TIME

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RUN 9
8/28/90 - CO
CO CONC. (PPM BY VOL)
(Thousands)
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
10:05:10
11:20:12
12:35:04
13:49:57
15:05:03
16:20:30
17:35:48
TIME


RUN 9
8/28/90 - HCl
HCl CONC. (PPM BY VOL)
(Thousands)
4
3.5
3
2.5
2
1.5
1
0.5
0
10:05:10
11:20:12
12:35:04
13:49:57
15:05:03
16:20:30
17:35:48



CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
12:31:55	9.49	7.19	0.00	60.55	12.82	370.42	0.00	23.51
12:32:25	8.34	9.68	0.00	90.12	16.77	305.13	0.84	1.09
12:32:55	5.03	11.81	0.00	115.61	55.44	307.73	1.16	5.71
12:33:25	5.23	11.00	0.00	110.97	55.20	329.75	2.50	7.28
12:33:55	6.74	9.65	0.00	94.66	40.07	338.64	5.37	10.40
12:34:24	6.78	9.58	0.00	89.12	33.09	329.54	2.44	14.02
12:34:54	7.38	8.97	0.00	76.44	30.74	318.49	2.31	8.10
12:35:24	8.15	8.29	0.00	60.71	27.58	320.00	2.22	12.73
12:35:54	8.91	7.73	0.00	47.74	23.69	312.79	2.31	17.94
12:36:24	9.34	7.41	0.00	42.95	20.40	305.14	2.64	10.22
12:36:54	9.67	7.11	0.00	41.11	17.78	287.02	2.57	12.72
12:37:24	9.97	6.85	0.00	42.13	15.70	275.77	2.64	13.18
12:37:54	9.91	6.82	0.00	45.99	14.15	256.86	2.88	12.66
12:38:24	11.34	5.73	0.00	52.11	13.62	235.87	3.01	21.75
12:38:54	9.88	7.59	0.00	63.53	15.19	223.21	2.95	17.70
12:39:24	7.73	8.89	0.00	108.13	27.80	325.00	2.56	14.39
12:39:54	6.43	9.86	0.00	119.86	29.77	412.59	3.46	8.39
12:40:24	6.00	10.03	0.00	108.18	30.19	460.89	3.59	3.82
12:40:54	6.71	9.43	0.00	93.90	27.30	431.56	4.00	11.03
12:41:24	7.30	8.88	0.00	81.48	24.04	401.85	4.01	18.67
12:41:54	7.89	8.44	0.00	71.60	21.44	375.48	4.05	7.74
12:42:24	8.31	8.13	0.00	63.64	19.01	364.30	4.03	11.63
12:42:54	8.70	7.81	0.00	53.65	17.16	346.01	3.82	0.00
12:43:24	9.00	7.60	0.00	47.08	16.23	338.18	3.68	4.81
12:43:54	9.15	7.46	0.00	43.29	15.24	316.32	3.46	1.03
12:44:23	9.85	6.61	0.00	49.38	14.17	290.03	3.40	7.17
12:44:53	11.21	6.37	0.00	53.00	13.25	250.26	3.16	0.00
12:45:23	10.19	6.94	0.00	49.09	14.59	232.82	2.68	8.75
12:45:53	9.17	7.46	0.00	57.19	18.02	290.02	2.59	1.07
12:46:23	9.21	7.36	0.00	56.03	20.20	300.98	2.69	0.00
12:46:53	8.91	7.53	0.00	59.58	21.82	287.95	2.70	4.01
12:47:23	8.15	8.08	0.00	60.08	24.40	284.94	2.76	4.71
12:47:53	8.13	8.15	0.00	55.68	25.26	315.44	2.79	12.39
12:48:23	8.24	8.07	0.00	55.33	23.18	316.35	2.86	6.60
12:48:53	8.25	8.05	0.00	53.71	20.65	321.74	2.74	3.57
12:49:23	8.31	7.96	0.00	51.27	19.04	315.97	2.72	5.99
12:49:53	8.42	7.87	0.00	48.98	18.15	315.93	2.65	0.00
12:50:23	8.31	7.89	0.00	49.14	17.58	308.00	2.58	1.43
12:50:53	10.49	6.96	0.00	54.85	17.59	288.70	2.56	0.00
12:51:23	3.05	13.43	932.65	123.23	121.70	497.88	2.59	1045.89
12:52:03	0.00	14.10	1327.75	107.84	407.97	1192.58	7.40	5062.02
12:52:37	0.00	14.76	14807.49	112.37	217.62	1340.43	123.60	4931.44
12:53:07	2.33	12.64	3375.00	113.79	61.99	1103.00	24.45	4922.30
12:53:37	4.51	10.94	294.09	102.69	27.42	915.95	8.68	1558.67

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
12:54:07	5.74	10.03	7.58	94.81	19.85	736.49	6.11	273.54
12:54:37	6.63	9.25	0.08	83.12	17.03	634.51	5.29	104.64
12:55:07	7.48	8.59	0.00	71.33	14.56	554.82	4.76	66.24
12:55:37	7.97	8.25	0.00	62.28	12.98	512.26	4.35	10.84
12:56:07	8.29	7.99	0.00	54.50	11.91	455.21	4.09	21.19
12:56:42	8.51	7.85	0.00	52.60	11.08	428.09	3.90	5.23
12:57:12	10.28	7.69	0.00	118.94	10.48	418.28	3.97	1.19
12:57:42	4.17	12.53	46.40	260.63	27.08	662.09	3.43	6.57
12:58:12	6.86	8.86	1246.11	104.07	44.89	504.44	4.09	651.39
12:58:41	8.96	7.90	174.16	81.90	21.43	370.26	23.65	61.27
12:59:11	8.11	8.49	0.00	79.01	17.62	348.40	4.10	14.48
12:59:41	7.87	8.53	0.00	74.73	17.68	336.05	3.84	15.67
13:00:11	8.02	8.31	0.00	72.14	15.35	323.34	3.78	3.77
13:00:41	8.35	7.99	0.00	62.39	13.33	305.15	3.52	20.54
13:01:11	8.88	7.66	0.00	53.90	11.32	294.36	3.31	0.00
13:01:41	9.17	7.40	0.00	47.17	9.79	282.39	3.03	2.50
13:02:11	9.41	7.19	0.00	43.15	8.60	281.78	2.85	1.74
13:02:41	9.72	6.96	0.00	40.96	7.67	275.51	2.74	5.04
13:03:11	9.81	6.86	0.00	41.60	6.83	281.25	2.60	8.00
13:03:41	9.99	6.72	0.00	45.86	6.18	273.67	2.51	5.85
13:04:11	10.08	6.62	0.00	48.38	5.54	280.84	2.45	7.62
13:04:41						274.04	2.34	0.00
13:05:11						249.03	2.34	0.00
13:05:41						365.85	2.08	7.16
13:06:11						623.89	2.85	0.00
13:06:41						638.49	3.17	9.56
13:07:11						555.19	3.35	4.10
13:07:41						499.29	3.43	0.00
13:08:11						462.52	3.42	5.48
13:08:41						422.70	3.36	0.00
13:09:11						391.50	3.29	0.00
13:09:41						362.89	3.07	0.00
13:10:11						335.87	2.85	3.07
13:10:41	11.58	5.64	0.00	37.22	5.43	321.96	2.62	0.90
13:11:10	11.23	5.82	0.00	50.84	5.42	311.27	2.35	5.71
13:11:40	12.85	5.15	0.00	53.78	6.06	267.26	2.15	5.85
13:12:10	10.34	6.28	0.00	53.46	7.65	318.68	1.78	0.00
13:12:40	8.67	7.38	0.00	53.74	13.22	429.68	1.91	0.00
13:13:10	8.85	7.51	0.00	48.16	18.39	436.60	2.15	0.00
13:13:40	9.23	7.28	0.00	45.01	16.52	426.31	2.11	0.00
13:14:10	9.63	6.98	0.00	42.37	13.65	404.46	2.10	0.00
13:14:40	10.04	6.68	0.00	41.50	11.17	370.22	2.11	0.00
13:15:10	10.21	6.51	0.00	41.63	9.44	338.97	2.04	0.00
13:15:40	10.32	6.39	0.00	43.67	8.44	301.67	2.01	0.33

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
13:16:10	9.98	6.45	0.00	47.96	7.79	269.74	1.97	5.86
13:16:40	10.02	6.39	0.00	47.71	6.98	240.00	1.97	2.04
13:17:10	11.54	5.60	0.00	36.83	5.82	230.55	1.94	0.00
13:17:40						210.87	1.90	16.59
13:18:10	8.55	7.63	7.21	96.00	17.19	360.74	1.75	7.95
13:18:40	4.15	11.33	209.71	99.06	77.39	706.87	1.80	76.66
13:19:10	2.43	12.38	553.66	101.65	68.22	620.92	2.96	324.23
13:19:40	3.34	12.03	292.25	100.64	44.53	487.87	4.00	146.90
13:20:10	4.56	11.10	18.95	96.69	30.42	419.56	3.47	17.83
13:20:40	5.78	10.12	0.00	88.56	24.45	361.73	3.04	9.88
13:21:10	6.64	9.39	0.00	81.22	20.32	337.60	2.81	0.00
13:21:40	7.30	8.82	0.00	75.82	17.62	315.26	2.65	2.44
13:22:09	7.91	8.33	0.00	67.17	15.88	306.02	2.52	3.75
13:22:39	8.24	8.03	0.00	62.92	14.61	283.03	2.42	1.65
13:23:09	8.59	7.75	0.00	55.37	13.34	270.29	2.36	3.04
13:23:39	9.48	7.16	0.00	53.53	12.03	253.78	2.29	9.79
13:24:09	10.82	6.80	0.00	80.81	11.49	224.96	2.19	6.70
13:24:39	3.69	11.77	431.09	130.54	60.12	253.21	1.91	116.96
13:25:09	3.09	12.50	898.94	132.62	74.92	288.75	2.58	459.12
13:25:39	5.08	11.16	57.72	133.48	39.97	340.07	3.74	65.60
13:26:09	6.33	10.00	0.00	110.05	30.01	377.18	2.40	5.35
13:26:39	7.07	9.26	0.00	94.41	26.09	345.39	2.33	5.18
13:27:09	7.67	8.69	0.00	82.87	24.01	299.45	2.27	10.83
13:27:39	8.01	8.33	0.00	71.72	22.75	280.26	2.20	0.63
13:28:09	8.64	7.85	0.00	57.79	20.35	266.57	2.11	0.00
13:28:39	9.04	7.51	0.00	50.20	17.86	260.99	2.03	4.42
13:29:09	9.41	7.23	0.00	45.15	16.24	251.90	1.99	2.00
13:29:39	9.59	7.04	0.00	44.64	14.53	246.57	1.97	0.86
13:30:09	10.78	6.39	0.00	59.40	13.32	226.82	1.90	12.80
13:30:39	9.97	7.27	0.00	79.25	12.43	249.48	1.88	0.00
13:31:09	3.94	11.45	124.68	107.46	57.74	596.20	1.54	44.73
13:31:39	2.15	13.01	225.15	110.15	80.26	809.19	2.41	40.70
13:32:08	3.39	12.16	76.54	99.57	54.19	749.52	3.05	5.04
13:32:38	8.42	9.60	6.30	100.67	36.12	770.65	3.12	8.09
13:33:08	9.85	8.33	0.00	93.12	28.70	703.45	2.88	0.00
13:33:38	9.22	8.13	0.00	83.60	24.79	565.72	2.79	8.16
13:34:08	6.36	9.28	1.20	83.15	25.51	475.77	2.66	8.81
13:34:38	6.53	9.13	0.00	74.11	22.58	421.53	3.26	0.00
13:35:08	6.76	8.95	0.00	71.60	20.05	387.25	3.12	0.00
13:35:38	6.66	8.95	0.00	75.51	19.26	376.02	2.88	7.69
13:36:08	6.73	8.86	0.00	68.59	19.89	359.44	2.78	0.00
13:36:38	10.42	6.95	0.00	65.08	17.84	310.54	2.62	18.45
13:37:33	4.52	10.62	1708.37	93.85	73.80	337.63	2.50	707.91
13:38:03	3.68	12.59	5195.32	103.98	149.53	766.84	25.14	2116.48

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
13:38:33	7.66	10.35	260.87	95.35	48.73	891.73	5.92	281.72
13:39:03	9.87	8.58	2.51	77.21	27.33	786.11	2.81	68.26
13:39:33	10.27	7.67	1.11	67.82	21.61	676.96	2.72	42.25
13:40:03	7.13	8.78	0.83	70.16	19.39	600.17	2.64	17.07
13:40:33	7.31	8.65	0.00	65.68	17.12	549.75	3.05	14.51
13:41:03	7.52	8.45	0.00	62.41	15.84	533.99	3.10	7.90
13:41:33	7.89	8.16	0.00	56.06	14.94	497.71	2.93	12.23
13:42:03	8.20	7.92	0.00	52.38	14.39	471.69	2.80	0.00
13:42:33	8.38	7.72	0.00	55.30	14.00	430.00	2.69	0.00
13:43:02	11.58	6.23	0.00	68.90	12.87	364.46	2.57	6.62
13:43:32	5.08	10.50	706.84	124.14	59.28	787.01	2.36	372.67
13:44:02	0.65	13.63	4241.17	120.89	150.77	1026.93	2.87	1553.23
13:44:32	2.89	13.22	2316.55	146.54	102.16	777.87	16.88	1557.47
13:45:02	6.53	11.38	140.56	145.85	45.22	716.95	5.41	259.98
13:45:32	8.09	10.15	0.00	132.23	32.59	611.79	3.52	61.85
13:46:02	10.03	8.64	0.00	107.84	27.83	508.79	3.36	11.18
13:46:32	7.25	9.42	0.00	105.85	25.98	441.88	3.13	19.54
13:47:02	4.88	10.60	0.00	113.95	28.56	418.20	2.70	12.48
13:47:32	4.81	10.68	0.00	114.13	27.42	415.11	3.18	0.17
13:48:02	9.16	8.46	0.00	75.61	22.71	409.31	2.98	5.08
13:48:32	10.77	7.44	0.00	62.56	19.81	427.07	2.72	9.66
13:49:02	9.38	7.54	0.00	69.07	24.16	360.42	1.88	11.46
13:49:32	6.14	10.27	90.59	97.05	31.33	358.46	2.29	66.07
13:50:02	2.10	13.41	395.57	105.69	76.67	706.63	2.03	201.86
13:50:32	4.91	12.14	97.76	128.43	51.85	907.04	3.31	30.35
13:51:02	7.34	10.69	3.22	130.44	36.57	920.19	2.87	0.00
13:51:32	8.17	9.87	0.00	123.36	30.33	779.86	2.36	1.34
13:52:02	9.69	8.69	0.00	100.73	26.76	676.37	2.51	5.53
13:52:32	6.77	9.33	0.00	85.78	22.55	587.09	2.52	24.06
13:53:02	6.11	9.64	0.00	80.94	21.14	534.70	2.48	0.00
13:53:32	6.56	9.34	0.00	74.68	18.55	500.26	2.93	8.68
13:54:01	6.83	9.06	0.00	71.21	16.81	469.00	2.78	6.95
13:54:31	7.06	8.86	0.00	63.78	16.23	454.50	2.58	6.07
13:55:01	7.86	8.28	0.00	57.73	16.58	431.68	2.41	5.70
13:55:31	10.84	6.82	0.00	65.94	13.12	364.48	2.37	5.26
13:56:01	5.08	10.64	0.00	98.43	29.92	635.58	2.00	9.01
13:56:31	3.73	11.79	2.80	93.08	53.18	764.75	2.05	6.38
13:57:01	6.40	10.46	0.18	86.08	56.10	753.51	2.73	3.58
13:57:31	9.97	8.49	0.00	77.63	63.83	828.80	2.73	0.00
13:58:01	10.22	7.79	0.00	71.20	73.88	708.11	2.20	9.15
13:58:31	6.95	9.06	0.00	72.66	78.77	592.15	2.08	8.42
13:59:01	6.96	9.05	0.00	67.34	74.71	518.39	2.38	11.49
13:59:31	7.25	8.81	0.00	62.51	73.02	450.05	2.56	6.93
14:00:01	7.40	8.62	0.00	61.17	72.70	414.85	2.39	5.91

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
14:00:31	7.54	8.51	0.00	58.90	71.18	382.65	2.22	8.94
14:01:01	7.34	8.57	0.00	61.30	70.59	381.85	2.10	16.64
14:01:31	8.63	7.87	0.00	61.15	65.47	358.98	2.04	0.37
14:02:01	8.17	8.67	0.00	88.80	52.84	340.20	2.01	6.55
14:02:30	3.42	12.05	11.21	106.97	96.16	478.93	1.68	9.24
14:03:00	4.33	11.49	1.52	97.66	88.15	516.03	2.13	0.00
14:03:30	9.77	8.85	0.00	78.59	67.57	453.92	2.43	5.95
14:04:00	10.79	7.61	0.00	68.74	55.56	411.04	2.19	13.53
14:04:30	7.09	8.88	0.00	74.96	50.01	386.10	1.68	7.82
14:05:00	7.01	8.90	0.00	63.22	42.17	389.75	1.85	12.06
14:05:30	7.50	8.53	0.00	54.47	35.29	383.12	2.18	0.00
14:06:00	7.93	8.15	0.00	50.85	31.01	354.20	2.06	8.79
14:06:30	8.25	7.86	0.00	49.20	27.94	321.66	1.97	5.06
14:07:00	8.54	7.61	0.00	48.94	25.22	293.13	1.89	0.00
14:07:30	8.71	7.43	0.00	52.56	23.14	271.81	1.84	10.45
14:08:00	10.48	6.49	0.00	63.30	21.28	248.03	1.72	0.00
14:08:30	10.50	6.69	0.00	76.98	18.95	229.95	1.64	7.61
14:09:00	7.18	8.90	0.00	99.04	29.07	320.42	1.30	14.18
14:09:37	6.47	9.53	0.00	93.11	36.27	361.97	1.69	5.11
14:10:07	7.41	8.86	0.00	74.45	29.84	311.72	2.14	0.81
14:10:36	8.03	8.32	0.00	65.82	25.95	292.35	1.99	7.50
14:11:06	8.46	7.90	0.00	58.32	22.85	273.23	1.86	8.24
14:11:36	8.84	7.58	0.00	54.21	20.46	259.45	1.77	12.65
14:12:06	9.12	7.33	0.00	53.96	18.57	245.12	1.69	8.14
14:12:36	9.32	7.13	0.00	55.38	17.29	240.53	1.61	2.28
14:13:06	9.45	6.97	0.00	55.93	16.30	233.80	1.56	0.00
14:13:36	9.53	6.93	0.00	58.05	15.52	234.76	1.52	3.68
14:14:06	9.86	6.70	0.00	64.86	14.92	232.41	1.48	5.70
14:14:36	10.93	6.76	0.00	92.51	13.51	215.44	1.45	7.31
14:15:06	3.40	12.23	275.64	142.67	55.51	275.78	1.30	95.75
14:15:36	2.46	13.32	130.83	136.73	59.02	332.43	1.91	24.53
14:16:06	3.56	12.38	2.04	121.44	43.56	352.65	2.31	5.69
14:16:36	4.43	11.52	0.00	108.86	36.71	346.39	2.13	0.00
14:17:06	8.19	9.32	0.00	88.38	31.27	359.35	1.99	6.73
14:17:36	11.22	7.42	0.00	69.98	26.24	379.09	1.87	7.61
14:18:06	6.54	9.27	0.00	86.44	28.08	386.04	1.37	2.01
14:18:36	3.34	11.26	0.00	85.87	33.27	393.21	1.45	4.63
14:19:06	2.00	12.24	0.00	78.77	40.05	404.39	1.91	15.58
14:19:36	3.97	11.17	0.00	62.73	36.63	391.67	2.10	3.12
14:20:06	11.34	7.52	0.00	42.45	24.98	418.01	2.06	0.00
14:20:36	10.28	7.09	0.00	70.72	21.15	341.59	1.70	3.34
14:21:05	8.84	8.04	0.00	73.91	17.95	250.93	1.27	0.00
14:21:35	6.58	9.73	0.00	87.28	20.87	231.40	1.44	0.00
14:22:05	5.88	10.14	0.00	86.97	24.40	238.13	1.82	4.44

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
14:22:35	7.22	9.25	0.00	76.56	20.96	238.56	1.94	0.00
14:23:05	7.74	8.70	0.00	70.44	17.64	236.13	1.76	0.00
14:23:43	8.34	8.15	0.00	61.09	15.79	231.47	1.62	7.07
14:24:13	9.04	7.58	0.00	56.62	13.66	227.30	1.47	6.59
14:24:43	9.33	7.31	0.00	54.72	12.72	225.65	1.38	0.00
14:25:13	9.41	7.19	0.00	53.43	12.57	212.58	1.33	8.25
14:25:43	9.70	6.98	0.00	50.37	12.33	212.98	1.28	0.27
14:26:13	9.64	6.93	0.00	51.62	12.13	205.06	1.25	5.81
14:26:43	9.91	6.72	0.00	57.05	12.16	206.14	1.22	12.34
14:27:13	11.78	6.29	0.00	65.84	10.68	181.37	1.23	11.48
14:27:43	6.20	10.16	0.00	86.80	21.40	388.18	1.05	6.90
14:28:12	5.04	11.03	0.00	90.48	33.03	588.42	1.13	8.94
14:28:42	5.92	10.29	0.00	83.18	33.08	605.84	1.46	9.00
14:29:12	6.69	9.53	0.00	80.20	24.78	567.44	1.49	6.88
14:29:42	7.46	8.84	0.00	79.60	19.43	518.30	1.50	13.24
14:30:12	8.01	8.31	0.00	76.64	16.79	479.00	1.49	9.13
14:30:42	8.58	7.85	0.00	74.80	15.27	453.26	1.52	6.59
14:31:12	8.84	7.62	0.00	72.57	14.43	438.58	1.46	7.90
14:31:42	9.03	7.43	0.00	65.39	13.73	417.39	1.45	1.26
14:32:12	9.20	7.33	0.00	62.80	12.89	410.06	1.43	6.49
14:32:42	9.28	7.25	0.00	62.96	12.47	403.87	1.40	8.19
14:33:12	9.24	7.19	0.00	56.99	12.22	399.05	1.36	5.40
14:33:43	10.62	6.57	0.00	62.55	12.35	379.96	1.35	6.19
14:34:13	5.25	10.83	750.00	110.39	48.84	539.71	1.37	424.47
14:34:43	3.16	12.72	3288.40	100.90	132.90	761.27	1.28	1780.67
14:35:13	7.95	10.40	515.25	106.39	74.31	653.31	4.26	420.54
14:35:43	9.51	9.06	1.90	111.17	51.65	603.52	2.12	61.03
14:36:17	10.99	7.69	0.00	98.59	45.07	490.36	1.65	35.14
14:36:47	7.80	8.46	0.00	113.25	32.11	385.16	1.78	21.43
14:37:17	5.08	10.17	0.00	131.75	31.14	401.82	1.67	24.41
14:37:47	2.92	11.60	486.79	122.62	64.77	475.62	2.23	34.80
14:38:17	8.15	9.67	470.52	113.75	66.37	526.05	2.50	19.74
14:38:47	9.90	8.37	5.59	91.41	37.26	536.35	3.01	11.48
14:39:17	6.43	9.93	0.00	99.07	32.12	482.85	2.05	11.93
14:39:47	5.35	10.03	12.64	85.82	34.46	439.58	2.06	12.46
14:40:17	10.39	7.16	0.44	75.62	19.63	326.57	2.81	12.56
14:40:47	8.69	7.83	0.00	92.64	18.23	431.14	2.50	10.26
14:41:17	6.80	9.14	0.00	106.24	30.83	550.10	1.94	12.33
14:41:46	6.44	9.46	0.00	116.66	31.82	522.13	2.28	0.06
14:42:16	6.86	9.14	0.00	111.15	27.42	465.25	2.43	12.78
14:42:46	9.94	7.53	0.00	92.31	22.91	437.13	2.48	19.28
14:43:16	12.82	5.99	0.00	75.93	19.49	417.53	2.35	9.12
14:43:46	8.36	7.69	0.00	96.43	19.18	389.98	1.93	9.75
14:44:16	7.76	8.20	0.00	93.13	19.65	354.67	1.64	15.19

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
14:44:46	7.48	8.40	0.00	92.24	19.11	335.47	2.23	16.98
14:45:16	7.38	8.44	0.00	87.32	18.25	319.92	2.11	21.11
14:45:46	7.45	8.32	0.00	79.53	18.10	317.76	2.06	6.91
14:46:16	10.79	6.98	0.00	80.88	15.00	259.48	1.99	2.11
14:46:46	6.14	9.98	0.00	80.11	18.25	248.25	1.98	13.16
14:47:16	4.33	11.15	0.99	72.96	24.74	238.89	1.58	18.86
14:47:46	8.23	9.19	0.00	61.40	22.66	230.95	2.08	20.41
14:48:16	11.55	7.16	0.00	48.29	17.33	248.60	1.96	2.12
14:48:46	12.00	6.34	0.00	45.07	14.98	244.95	1.46	0.00
14:49:16	9.00	7.46	0.00	51.46	14.98	242.06	1.22	6.27
14:49:46	8.99	7.47	0.00	47.29	14.52	238.15	1.18	12.07
14:50:16	9.58	7.12	0.00	45.51	13.33	238.66	1.51	13.84
14:50:46	9.74	6.95	0.00	44.83	12.59	230.94	1.42	6.83
14:51:16	9.78	6.87	0.00	45.66	12.59	241.54	1.32	13.33
14:51:46	9.78	6.83	0.00	48.02	13.00	243.53	1.31	2.06
14:52:15	10.07	6.61	0.00	55.24	13.32	252.47	1.25	9.53
14:52:45	10.89	6.75	2.69	80.69	12.41	228.40	1.28	17.92
14:53:15	3.58	12.02	143.49	107.82	37.64	290.14	1.28	15.39
14:53:45	5.20	11.47	930.02	80.98	67.85	294.12	1.16	481.41
14:54:15	6.95	9.95	82.88	71.39	34.61	286.05	1.92	49.46
14:54:45	6.78	9.43	0.00	69.82	26.61	283.20	2.56	23.74
14:55:15	11.26	7.16	0.00	48.91	23.63	291.81	1.36	5.19
14:55:45	12.52	6.04	0.00	44.48	19.35	287.10	1.41	3.07
14:56:15	9.34	7.13	0.00	49.71	18.78	273.84	0.96	19.12
14:56:45	9.38	7.23	0.00	47.41	18.84	273.52	1.07	0.00
14:57:15	9.44	7.13	0.00	47.93	17.80	268.37	1.27	12.39
14:57:45	9.46	7.02	0.00	48.02	17.90	268.07	1.21	8.81
14:58:15	9.85	6.81	0.00	43.56	18.29	269.73	1.22	14.83
14:58:45	9.98	6.69	0.00	43.19	17.26	264.82	1.22	21.15
14:59:15	9.88	6.67	0.00	45.08	17.21	263.98	1.18	15.78
14:59:45	10.09	6.55	0.00	48.71	17.01	256.46	1.16	20.29
15:00:15	10.92	6.07	0.00	61.08	16.53	241.61	1.16	13.76
15:00:44	10.27	7.05	0.00	72.81	16.36	219.44	1.14	8.99
15:01:14	6.65	9.65	0.00	86.78	32.54	343.17	1.08	13.36
15:01:44	5.96	10.24	0.00	84.97	37.85	463.93	1.14	10.17
15:02:14	6.56	9.77	0.00	81.70	32.19	490.50	1.86	5.28
15:02:48	6.92	9.38	0.00	80.29	27.94	483.42	1.77	30.10
15:03:18	9.06	8.05	0.00	65.96	23.66	444.29	1.59	2.99
15:03:48	13.20	6.04	0.00	52.58	19.48	460.08	1.55	9.86
15:04:17	9.06	7.48	0.00	66.19	19.62	439.02	1.43	10.39
15:04:47	6.22	9.22	0.00	66.68	23.71	480.93	1.06	13.39
15:05:17	4.80	10.27	0.00	63.21	26.44	510.98	1.39	17.81
15:05:47	8.02	8.94	0.00	50.99	25.54	586.26	1.62	16.27
15:06:17	11.99	6.98	0.00	41.87	21.15	660.87	1.76	35.30

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
15:06:47	8.33	7.91	0.00	59.78	20.55	577.16	1.59	18.94
15:07:17	8.34	8.56	0.00	84.13	19.44	493.34	1.26	17.26
15:07:47	5.36	10.74	0.00	89.27	32.72	758.71	1.61	22.01
15:08:17	6.88	9.85	0.14	91.59	38.44	960.53	1.52	18.02
15:08:47	10.85	7.78	0.00	89.74	30.20	821.18	1.93	6.65
15:09:17	12.99	6.01	0.00	61.64	24.50	458.13	2.00	24.45
15:09:47	10.83	6.35	0.00	67.21	18.62	377.48	1.57	11.51
15:10:17	10.89	6.26	0.00	67.17	16.15	341.47	1.52	12.52
15:10:47	11.61	5.78	0.00	66.25	14.03	305.40	1.67	18.38
15:11:17	12.44	5.24	0.00	64.70	12.19	272.33	1.77	11.86
15:11:47	12.24	5.27	0.00	61.98	11.54	277.23	1.64	0.00
15:12:17	12.35	5.21	0.00	61.86	11.30	274.12	1.47	10.86
15:12:46	12.53	5.08	0.00	61.33	11.12	264.40	1.43	19.17
15:13:16	12.03	5.38	0.00	59.57	10.95	269.03	1.38	9.03
15:13:46	9.53	6.76	0.00	50.86	14.54	317.01	1.44	20.09
15:14:16	9.38	7.00	0.00	49.54	18.15	334.47	1.48	19.66
15:14:46	9.84	6.74	0.00	47.99	17.04	335.77	1.53	5.08
15:15:16	9.81	6.67	0.00	47.84	15.54	321.85	1.64	2.35
15:15:46	9.98	6.57	0.00	48.62	14.34	314.81	1.56	13.81
15:16:16	9.84	6.58	0.00	50.82	13.19	306.86	1.47	22.94
15:16:46	9.81	6.59	0.00	50.99	12.68	302.46	1.47	12.25
15:17:16	9.67	6.64	0.00	52.21	11.75	301.45	1.43	17.72
15:17:46	9.34	6.83	0.00	56.78	11.01	298.88	1.44	17.25
15:18:33	8.90	7.11	0.00	61.36	10.74	295.33	1.44	15.46
15:19:03	6.02	8.84	0.00	70.74	11.81	316.60	1.47	6.72
15:19:33	5.90	8.92	0.00	73.28	11.22	308.10	1.54	10.83
15:20:03	6.27	8.74	0.00	74.24	10.21	298.31	1.67	14.67
15:20:33	6.62	8.52	0.00	74.73	8.95	287.35	1.65	23.10
15:21:03	8.19	7.62	0.00	75.02	8.18	261.89	1.63	0.00
15:21:33	12.82	5.17	0.00	66.90	5.61	194.05	1.64	20.74
15:22:03	13.09	4.69	0.00	62.24	4.20	162.57	1.62	19.51
15:22:33	11.92	5.17	0.00	58.44	4.16	165.04	1.19	22.60
15:23:03	11.77	5.29	0.00	60.54	4.13	165.07	1.30	19.11
15:23:33	11.76	5.28	0.00	61.18	3.90	158.33	1.24	18.87
15:24:03	11.86	5.23	0.00	61.59	3.62	154.26	1.22	17.28
15:24:33	11.02	5.67	0.00	67.61	3.50	160.02	1.18	20.06
15:25:03	8.67	6.92	0.00	76.31	3.88	172.37	1.17	18.24
15:25:33	7.69	7.59	0.00	77.37	4.74	183.14	1.21	22.83
15:26:03	7.77	7.65	0.00	77.25	5.02	176.82	1.36	16.35
15:26:33	7.66	7.70	0.00	78.99	4.69	176.99	1.45	22.99
15:27:02	7.76	7.64	0.00	78.90	4.56	172.12	1.48	16.63
15:27:32	8.61	7.13	0.00	76.36	4.29	170.34	1.50	20.13
15:28:02	12.65	5.43	0.00	68.30	3.21	142.55	1.50	20.80
15:28:32	10.05	6.92	0.00	68.94	3.86	141.02	1.52	19.90

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
15:29:02	8.04	8.20	0.00	72.65	12.36	211.01	1.22	15.99
15:29:32	8.10	8.22	0.00	68.20	19.86	301.63	1.62	17.10
15:30:02	8.77	7.72	0.00	61.49	20.21	281.69	1.65	3.54
15:30:32	9.56	7.15	0.00	54.96	18.38	259.92	1.64	11.40
15:31:02	8.42	7.62	0.00	61.50	18.75	256.03	1.65	15.09
15:31:32	6.34	8.76	0.00	66.69	21.47	280.68	1.66	8.39
15:32:08	5.34	9.35	0.00	68.95	23.86	296.64	1.64	28.45
15:32:38	5.51	9.33	0.00	71.89	23.77	297.96	2.08	15.08
15:33:08	5.75	9.14	0.00	73.38	21.46	282.55	2.16	21.57
15:33:38	6.04	8.94	0.00	75.44	19.41	254.57	2.21	11.19
15:34:08	6.82	8.37	0.00	78.62	17.86	237.04	2.16	12.85
15:34:38	9.45	7.84	10.01	142.77	15.15	261.96	2.08	16.46
15:35:08	1.37	13.29	6263.67	221.67	264.31	466.81	2.04	2142.91
15:35:38	5.01	12.71	5510.63	209.95	280.05	583.90	1.78	1370.75
15:36:08	8.58	10.19	31.36	152.36	61.66	317.37	31.15	123.37
15:36:38	9.89	8.89	0.00	129.08	26.08	263.43	3.63	51.81
15:37:08	11.31	7.51	0.00	93.01	14.61	225.15	2.14	31.39
15:37:37	7.14	8.91	0.00	95.83	13.45	204.35	2.07	18.42
15:38:07	4.55	10.40	0.00	85.80	16.86	197.71	1.93	27.16
15:38:37	3.42	11.11	0.00	73.52	24.56	204.71	2.15	7.08
15:39:07	7.32	9.11	0.00	50.63	27.08	205.15	2.39	16.82
15:39:37	12.12	6.69	0.00	48.88	24.04	211.61	2.52	28.37
15:40:07	6.16	8.84	0.00	67.96	27.18	198.45	2.46	8.20
15:40:37	6.98	8.56	0.00	76.18	27.33	172.98	1.86	17.90
15:41:07	10.69	6.95	0.00	77.07	19.73	158.94	2.35	19.65
15:41:37	5.27	10.36	0.00	86.27	27.74	414.27	2.70	19.12
15:42:07	3.26	11.80	1.73	100.18	43.93	635.48	1.78	10.61
15:42:37	6.34	10.14	0.00	84.27	36.78	670.13	2.05	21.79
15:43:07	10.39	7.81	0.00	67.17	26.59	611.78	2.37	8.18
15:43:37	11.38	6.75	0.00	53.87	20.92	495.53	2.41	13.21
15:44:07	7.03	8.56	0.00	66.27	19.67	459.54	2.21	0.00
15:44:37	4.32	10.18	0.00	64.02	23.97	509.33	2.05	13.79
15:45:07	3.79	10.63	0.00	60.60	28.89	510.87	2.40	18.51
15:45:37	8.84	8.05	0.00	42.69	25.85	525.10	2.57	23.20
15:46:06	11.90	6.35	0.00	55.66	18.43	514.97	2.64	11.88
15:46:36	6.91	8.13	0.00	72.05	19.06	442.47	2.20	14.51
15:47:06	11.48	6.30	0.00	75.42	16.07	320.70	1.57	22.44
15:47:36	7.66	8.83	0.00	88.68	16.13	608.64	2.01	12.03
15:48:06	4.54	10.83	0.00	103.91	27.42	985.53	1.85	6.45
15:48:36	5.08	10.62	0.00	103.62	28.67	927.11	1.82	13.84
15:49:06	6.41	9.44	0.00	86.82	23.17	763.05	2.36	9.63
15:49:36	12.46	6.39	0.00	48.21	18.82	679.79	2.54	0.55
15:50:06	10.55	6.79	0.00	61.62	16.48	598.26	2.52	21.29
15:50:36	6.23	8.86	0.00	70.20	19.66	590.03	2.07	18.86

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
15:51:06	4.45	10.02	0.00	71.01	24.88	573.72	2.00	11.33
15:51:36	4.69	9.98	0.00	73.96	25.80	529.13	2.28	17.74
15:52:06	4.94	9.80	0.00	76.98	24.03	484.92	2.49	19.01
15:52:36	7.93	8.21	0.00	63.08	22.27	459.40	2.40	22.96
15:53:06	13.65	5.23	0.00	63.97	17.91	423.98	2.31	16.68
15:53:36	11.65	5.87	0.00	80.56	15.87	306.82	2.32	26.59
15:54:06	8.57	7.65	0.00	104.31	18.11	312.89	1.72	11.14
15:54:36	7.08	8.68	0.00	100.47	23.57	304.37	1.62	32.80
15:55:06	7.29	8.62	0.00	95.03	23.34	292.70	2.01	10.95
15:55:36	7.71	8.30	0.00	84.41	21.27	271.11	2.17	9.23
15:56:05	8.19	7.91	0.00	75.04	18.44	256.43	2.08	22.30
15:56:35	7.21	8.44	0.00	77.87	17.50	263.03	2.03	9.74
15:57:05	4.80	9.79	0.00	73.41	20.07	301.46	1.98	9.04
15:57:35	4.15	10.29	0.00	68.46	22.34	311.54	1.93	22.77
15:58:05	4.31	10.21	0.00	67.41	21.62 *	315.36	2.05	43.98
15:58:35	9.64	7.53	0.00	49.32	18.01	312.53	2.03	0.00
15:59:05	10.63	6.83	0.00	59.40	13.72	326.19	2.08	7.06
15:59:35	10.57	6.40	0.00	78.57	15.24	259.29	1.81	28.61
16:00:05	12.04	5.53	0.00	79.78	11.49	225.12	1.63	24.40
16:00:35	10.42	6.28	0.00	67.48	12.27	240.07	1.77	19.93
16:01:05	9.56	6.82	0.00	64.85	12.77	242.60	1.83	0.00
16:01:35	9.49	6.88	0.00	64.62	11.99	224.60	1.97	0.00
16:02:05	9.73	6.72	0.00	64.80	11.16	217.79	1.85	0.00
16:02:35	9.68	6.71	0.00	68.49	10.36	209.69	1.89	7.70
16:03:05	8.29	7.46	0.00	80.41	10.55	228.46	1.95	11.44
16:03:35	6.50	8.44	0.00	81.99	12.29	252.85	1.83	30.64
16:04:05	6.37	8.63	0.00	81.41	12.94	253.62	1.85	11.96
16:04:35	6.66	8.47	0.00	82.10	12.94	254.09	2.19	27.50
16:05:05	6.88	8.30	0.00	82.51	12.86	241.41	1.96	17.52
16:05:35	7.24	7.97	0.00	83.22	12.26	233.35	1.94	8.51
16:06:04	12.45	5.58	0.00	75.14	9.98	182.37	1.73	17.49
16:06:34	9.13	7.66	0.00	66.10	10.48	292.86	1.52	0.00
16:07:04	8.25	8.31	0.00	65.84	18.35	403.39	1.20	22.08
16:07:34	10.05	7.14	0.00	65.28	18.50	336.54	1.25	33.71
16:08:04	11.19	6.17	0.00	66.48	15.38	279.15	1.31	33.20
16:08:34	11.94	5.52	0.00	67.08	12.59	248.31	1.24	13.21
16:09:04	11.53	5.62	0.00	65.13	11.13	249.00	1.17	10.61
16:09:34	12.22	5.27	0.00	62.29	10.76	244.05	1.13	17.83
16:10:04	10.07	6.31	0.00	54.65	11.12	284.39	1.34	14.02
16:10:34	12.05	5.39	0.00	66.05	11.63	256.69	3.83	22.23
16:11:04	13.19	4.66	0.00	66.44	9.54	192.66	5.65	8.95
16:11:34	11.66	5.39	0.00	59.12	8.70	192.18	6.54	31.00
16:12:04	10.63	5.98	0.00	57.39	9.56	215.65	6.89	12.30
16:12:34	10.65	6.01	0.00	58.36	9.75	209.01	6.89	29.66

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
16:13:04	10.78	5.91	0.00	58.42	9.54	204.37	6.25	8.63
16:13:34	10.85	5.84	0.00	62.01	9.21	193.51	5.55	24.45
16:14:04	9.74	6.43	0.00	68.66	9.40	213.83	4.75	16.13
16:14:33	7.93	7.40	0.00	72.06	10.88	234.39	4.22	33.11
16:15:03	7.57	7.70	0.00	72.46	12.15	249.92	3.77	17.37
16:15:33	7.41	7.82	0.00	72.39	13.13	261.00	3.67	5.47
16:16:03	7.53	7.77	0.00	74.40	14.55	272.25	3.23	10.30
16:16:33	9.50	6.73	0.00	74.43	15.45	246.64	2.79	12.87
16:17:03	12.12	5.80	0.00	73.95	13.26	192.29	2.64	17.48
16:17:33	7.91	8.39	0.00	97.16	18.67	279.85	2.49	25.33
16:18:03	6.62	9.33	0.00	91.83	28.17	406.83	2.14	15.92
16:18:33	7.60	8.63	0.00	69.67	25.81	389.00	2.31	16.08
16:19:03	9.02	7.56	0.00	54.37	21.90	312.85	1.99	27.11
16:19:33	9.64	6.99	0.00	54.17	18.35	269.18	1.82	26.99
16:20:03	10.09	6.61	0.00	57.57	15.82	254.25	2.12	4.84
16:20:33	10.32	6.41	0.00	60.10	13.80	251.23	1.78	0.00
16:21:03	10.21	6.46	0.00	64.88	12.49	250.50	1.54	24.23
16:21:33	8.81	7.27	0.00	73.98	12.52	287.78	1.39	5.66
16:22:03	6.98	8.33	0.00	75.89	14.68	333.91	1.24	11.85
16:22:33	6.96	8.34	0.00	79.60	16.15	337.12	1.16	14.90
16:23:03	11.25	6.47	0.00	81.07	14.55	275.21	1.23	21.14
16:23:32	7.84	8.95	0.00	100.18	15.59	311.67	1.17	23.48
16:24:02	5.14	10.67	0.00	132.07	29.00	376.71	0.93	31.58
16:24:32	5.61	10.47	0.00	116.32	32.40	413.29	1.15	28.67
16:25:02	6.08	10.02	0.00	103.69	29.71	420.80	1.21	18.85
16:25:32	6.57	9.51	0.00	91.18	27.72	418.57	1.07	25.61
16:26:02	6.38	9.52	0.00	97.02	25.40	411.83	1.05	16.39
16:26:32	5.38	10.05	0.00	83.64	28.81	475.72	1.02	23.67
16:27:02	9.84	8.33	0.00	64.35	26.71	604.11	1.01	15.04
16:27:32	9.42	8.11	0.00	60.08	25.02	548.16	1.09	16.90
16:28:02	4.75	10.12	0.00	66.09	31.32	463.21	0.81	11.78
16:28:32	3.90	10.66	0.00	67.15	31.91	427.51	0.82	9.15
16:29:02	8.64	8.33	0.00	47.00	28.01	402.93	1.20	21.04
16:29:32	13.15	5.69	0.00	37.80	18.32	345.30	1.16	12.12
16:30:02	10.72	6.22	0.00	46.71	15.99	284.50	0.96	15.79
16:30:32	10.31	6.40	0.00	49.50	14.95	258.55	0.63	10.19
16:31:02	10.49	6.28	0.00	49.67	14.07	252.28	0.87	0.00
16:31:32	10.88	6.03	0.00	48.45	12.90	242.32	0.83	23.70
16:32:02	10.85	6.06	0.00	53.22	11.99	248.39	0.78	21.34
16:32:32	10.30	6.33	0.00	55.94	12.83	242.07	0.77	14.25
16:33:02	10.32	6.34	0.00	55.38	12.90	241.30	0.75	21.18
16:33:32	10.47	6.27	0.00	55.61	12.33	231.13	0.78	13.02
16:34:02	10.53	6.20	0.00	57.04	11.92	223.27	0.78	0.00
16:34:32	10.68	6.09	0.00	59.38	11.50	213.13	0.71	4.24

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING FOR AUGUST 15, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet	CO WET (ppmV,wet)
16:35:02	10.78	6.01	0.00	60.47	10.91	207.16	0.72	8.08
16:35:32	10.99	5.88	0.00	59.98	9.84	199.34	0.72	10.04
16:36:01	11.32	5.67	0.00	60.24	8.67	192.71	0.73	12.30
16:36:31	11.35	5.62	0.00	61.64	7.95	181.89	0.68	18.88
16:37:01	11.39	5.52	0.00	62.07	7.35	181.55	0.64	14.49
16:37:31	11.43	5.43	0.00	63.05	6.87	179.15	0.65	34.24
16:38:01	11.52	5.39	0.00	63.10	6.35	178.69	0.65	19.24
16:38:31	11.58	5.33	0.00	63.45	5.86	172.40	0.63	28.18
16:39:01	11.71	5.24	0.00	63.35	5.42	166.76	0.63	23.20
16:39:31	11.81	5.17	0.00	57.36	5.08	163.53	0.61	15.78
16:40:01	11.84	5.17	0.00	56.66	4.78	155.49	0.63	18.89
16:40:31	11.93	5.15	0.00	64.31	4.64	148.77	0.57	19.31
16:41:01	11.97	5.11	0.00	63.84	4.34	140.73	0.56	10.54
16:41:31	12.06	5.05	0.00	63.68	4.11	140.16	0.52	35.39
16:42:01	12.09	5.02	0.00	64.44	4.16	132.03	0.48	36.70
16:42:31	12.11	4.98	0.00	64.71	4.09	130.38	0.50	21.91
16:43:01	12.42	4.71	0.00	61.37	3.95	121.95	0.48	9.80
16:43:31	12.20	4.95	0.00	64.90	3.59	120.51	0.51	24.47
16:44:01	12.12	4.99	0.00	66.56	4.16	113.40	0.55	25.22
16:44:31	12.15	4.96	0.00	66.37	4.21	115.61	0.54	17.86
16:45:01	12.23	4.90	0.00	66.81	3.93	109.66	0.51	23.90
16:45:31	12.32	4.85	0.00	66.41	3.64	107.37	0.52	18.35
16:46:00	12.32	4.83	0.00	66.40	3.56	106.72	0.46	42.15
16:46:30	12.27	4.85	0.00	66.84	3.38	104.10	0.46	19.15
16:47:00	12.30	4.82	0.00	66.82	3.27	98.13	0.45	15.83
16:47:30	12.32	4.81	0.00	67.28	3.23	100.13	0.43	15.40
16:48:00	12.36	4.79	0.00	67.29	3.19	97.06	0.41	23.64
16:48:30	12.44	4.75	0.00	66.20	2.96	96.54	0.41	19.58
16:49:00	12.42	4.74	0.00	66.31	2.81	97.28	0.39	17.45
16:49:30	12.47	4.71	0.00	66.35	2.57	96.54	0.41	14.86
16:50:00	12.54	4.69	0.00	66.16	2.41	95.91	0.40	21.49
16:50:30	12.51	4.68	0.00	66.20	2.49	87.19	0.39	22.76
16:51:00	12.58	4.64	0.00	65.92	2.21	85.93	0.39	26.23
16:51:30	12.53	4.66	0.00	66.83	2.22	85.09	0.35	18.56
16:52:00	12.52	4.66	0.00	66.75	2.22	82.91	0.37	12.33
16:52:30	12.60	4.65	0.00	66.47	2.04	79.77	0.38	34.36
16:53:00	12.58	4.63	0.00	66.57	2.13	80.53	0.36	32.68
16:53:30	12.63	4.61	0.00	66.71	1.92	77.90	0.37	38.79
16:54:00	12.64	4.59	0.00	66.49	2.04	80.07	0.34	35.14
16:54:30	12.71	4.55	0.00	66.82	1.86	74.32	0.35	10.04
16:55:00	12.71	4.52	0.00	66.29	1.84	79.94	0.32	11.82
Average:	8.53	8.01	115.64	73.95	24.92	358.84	2.51	76.35

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
09:45:46	4.02	11.51	0.00	73.01	3.70	1208.66	8.14	4099.72
09:46:16	2.28	13.76	26.64	96.40	40.14	2337.32	6.33	8487.01
09:46:46	4.60	11.33	4.87	88.44	37.10	2352.49	6.38	7818.40
09:47:16	9.46	8.45	0.00	70.17	25.75	2329.98	6.89	7365.85
09:47:46	8.77	9.45	0.00	77.93	18.21	1953.59	7.30	5562.16
09:48:16	5.08	11.47	0.00	90.17	15.13	1974.00	6.80	4128.16
09:48:46	2.99	12.58	14.62	86.53	15.74	1956.95	7.53	2521.41
09:49:16	2.91	12.41	11.32	83.39	17.03	1808.76	7.87	1824.21
09:49:46	4.02	11.05	0.00	70.93	15.75	1720.30	7.49	1416.18
09:50:16	9.82	8.20	0.00	50.71	13.01	1739.34	7.28	1001.51
09:50:46	7.01	10.13	0.00	62.55	11.40	1666.91	6.92	910.62
09:51:16	6.41	9.08	0.00	65.50	10.34	1443.86	6.55	798.89
09:51:46	8.19	10.14	0.00	82.35	8.91	1218.34	6.66	698.36
09:52:16	4.97	12.47	0.00	91.72	11.63	1262.96	6.78	669.85
09:52:46	4.62	11.86	0.00	92.58	16.28	1255.75	6.29	637.38
09:53:16	5.65	10.80	0.00	86.21	16.29	1190.00	6.38	628.78
09:53:45	6.41	10.12	0.00	76.68	14.48	1088.09	6.12	620.04
09:54:15	7.11	9.56	0.00	68.28	13.17	1002.49	5.88	619.05
09:54:45	6.80	10.05	0.00	68.29	12.74	973.71	5.71	619.98
09:55:15	5.07	11.15	0.00	66.37	15.15	1020.35	5.60	617.48
09:55:45	4.67	11.07	0.00	62.54	19.72	1016.34	5.56	191.67
09:56:15	5.06	10.63	0.00	62.48	22.26	1018.13	5.56	35.45
09:56:45	5.46	10.28	0.00	64.46	23.01	964.64	5.45	73.64
09:57:15	5.90	9.62	0.00	68.32	22.97	912.65	5.42	60.28
09:57:45	8.69	8.80	4.27	78.94	21.19	769.37	5.37	39.11
09:58:15	2.51	14.08	1178.84	105.20	78.07	930.77	5.33	2121.91
09:58:45	0.00	15.04	1116.84	110.00	337.47	1271.62	5.32	11947.79
09:59:15	1.91	13.14	1120.86	106.07	367.38	1139.84	11.34	13010.82
09:59:45	8.28	9.56	1231.30	81.38	171.19	911.86	130.53	8913.90
10:00:15	7.13	11.70	63.31	131.02	75.54	837.07	19.79	3680.87
10:00:45	3.79	12.59	21.75	129.87	44.05	784.71	0.00	1676.91
10:01:15	4.51	11.37	11.36	112.92	30.06	745.40	2.75	795.92
10:01:45	5.74	10.28	6.29	100.15	21.96	691.95	2.63	373.68
10:02:15	6.83	9.47	4.27	86.91	16.78	624.73	2.32	225.25
10:02:45	6.42	10.04	0.00	81.87	13.65	591.14	2.16	147.63
10:03:15	4.85	11.02	0.00	69.10	11.99	599.31	2.08	112.28
10:03:44	4.51	11.01	0.00	62.08	11.49	583.16	2.02	111.69
10:04:14	4.83	10.64	0.00	62.84	10.96	548.23	1.96	47.59
10:04:44	5.30	10.24	0.00	67.24	10.48	520.23	1.91	50.34
10:05:14	5.72	9.90	0.00	70.50	9.92	492.25	1.86	62.79
10:05:44	7.35	8.36	0.00	74.04	9.40	462.54	1.77	29.86
10:06:14	7.22	11.69	319.51	219.71	12.19	545.11	1.76	103.26
10:06:44	2.46	13.65	1662.17	270.42	77.04	774.62	1.70	1777.24
10:07:14	7.25	10.33	303.03	170.63	61.95	944.96	1.62	1042.58

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:07:44	10.39	7.95	0.00	101.76	32.39	819.14	2.67	469.06
10:08:14	9.61	8.84	0.00	95.06	19.77	688.57	1.90	219.18
10:10:02	7.40	9.47	0.00	91.84	15.58	618.40	1.71	151.29
10:10:32	4.58	10.90	0.00	67.81	16.02	572.04	1.70	70.03
10:11:21	4.88	10.64	0.00	66.22	15.85	547.49	1.68	8.78
10:12:01	5.24	10.27	0.00	67.23	15.31	515.51	1.54	138.37
10:12:31	7.31	8.21	0.00	75.27	13.68	455.59	1.52	41.29
10:13:01	9.07	9.18	0.00	83.59	11.29	412.52	1.49	58.36
10:13:31	5.17	12.25	0.00	109.41	14.59	588.20	1.48	79.70
10:14:01	3.29	12.74	0.00	111.84	25.08	744.21	1.51	75.65
10:14:31	5.33	10.67	0.00	108.22	26.54	775.39	1.56	105.84
10:15:01	9.24	8.47	0.00	99.78	21.50	854.44	1.54	68.91
10:15:31	8.99	9.49	0.00	109.69	17.20	842.07	1.46	128.27
10:16:01	4.09	12.22	0.00	111.70	18.41	881.14	1.46	72.46
10:16:31	2.11	12.79	7.43	101.62	28.81	949.05	1.62	167.16
10:17:01	6.00	10.54	1.85	106.92	33.54	1115.28	1.69	214.09
10:17:31	9.07	9.13	0.00	86.48	26.92	1099.29	1.69	125.08
10:18:01	5.09	11.37	0.00	93.38	22.78	998.95	1.60	76.94
10:18:31	3.49	11.80	0.00	90.68	24.48	917.06	1.63	116.89
10:19:01	4.57	10.24	0.00	82.20	24.39	805.99	1.76	73.99
10:19:31	7.57	10.73	1.00	99.30	20.75	624.61	1.73	112.85
10:20:01	3.14	13.72	20.92	117.61	33.24	588.13	1.65	277.23
10:20:31	6.38	10.90	1.59	130.93	38.72	664.32	1.63	181.40
10:21:00	9.49	8.49	0.00	109.09	29.06	703.47	2.47	139.75
10:21:30	9.97	8.55	0.00	100.31	22.23	670.66	1.63	181.02
10:22:00	7.25	9.39	0.00	99.16	20.70	636.26	1.63	135.90
10:22:30	6.16	10.28	0.00	100.86	20.19	638.87	1.73	116.94
10:23:00	4.33	11.33	0.00	90.96	20.99	672.86	1.75	65.31
10:23:30	4.02	11.29	0.00	83.50	22.87	695.82	1.65	85.63
10:24:00	4.22	10.99	0.00	73.71	23.47	676.13	1.66	38.03
10:24:30	7.95	8.14	0.00	47.65	22.35	679.49	1.62	59.86
10:25:00	9.95	8.45	0.00	55.44	18.58	700.52	1.63	64.46
10:25:30	7.09	8.64	0.00	73.13	18.70	629.08	1.63	48.46
10:26:00	7.87	11.03	31.29	112.62	18.59	507.81	1.68	70.05
10:26:30	1.96	14.77	612.36	132.70	67.13	615.57	1.78	1689.58
10:27:00	3.20	12.97	69.39	134.63	75.08	759.49	1.66	1411.28
10:27:30	7.98	10.16	0.00	114.56	45.99	795.86	37.75	695.45
10:28:00	10.06	8.73	0.00	86.21	28.51	711.48	2.20	346.60
10:28:30	7.82	10.10	0.00	85.83	20.46	623.91	1.81	187.97
10:29:00	5.33	11.49	0.00	89.95	17.52	586.24	1.82	128.92
10:29:30	3.05	12.96	0.00	83.28	19.10	595.92	1.82	110.32
10:30:00	4.38	11.46	0.00	73.76	23.25	607.53	1.79	64.31
10:30:30	8.44	9.40	0.00	57.28	21.46	633.30	1.75	38.13
10:30:59	7.45	10.66	0.00	63.54	18.04	609.64	1.72	63.45

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:31:29	4.03	11.77	0.00	63.61	18.42	560.57	1.68	50.82
10:31:59	5.62	9.62	0.00	69.59	19.43	498.77	1.70	59.84
10:32:29	6.70	11.79	0.00	102.46	17.87	445.17	1.75	94.11
10:32:59	2.79	14.02	2.56	116.48	28.76	516.29	1.67	49.07
10:33:29	6.86	10.94	0.00	111.93	31.94	559.06	1.60	48.22
10:33:59	9.79	8.76	0.00	94.11	22.98	530.50	1.75	69.13
10:34:29	9.05	9.54	0.00	98.89	17.23	507.66	1.62	66.31
10:34:59	6.68	10.18	0.00	105.59	15.47	491.01	1.61	63.92
10:35:29	5.26	11.39	0.00	109.21	15.25	491.58	1.63	44.23
10:35:59	3.42	12.41	0.00	97.22	17.22	531.93	1.62	54.42
10:36:29	4.61	10.95	0.00	83.61	19.58	556.95	1.55	38.74
10:36:59	9.88	9.06	0.00	72.59	19.28	594.80	1.59	0.00
10:37:31	11.52	9.13	0.00	71.87	16.83	610.53	1.60	31.63
10:38:01	4.90	10.96	0.00	75.37	16.61	521.53	1.50	61.73
10:38:31	5.45	9.79	0.00	73.48	17.15	464.24	1.59	52.33
10:39:00	8.86	9.77	0.00	88.25	15.57	373.17	1.58	54.02
10:39:30	3.41	14.06	97.13	116.02	29.06	492.20	1.53	159.81
10:40:00	3.09	13.42	152.40	146.26	70.83	580.06	1.46	571.83
10:40:30	6.87	11.08	2.38	138.02	51.08	656.06	3.60	333.11
10:41:00	8.99	9.37	0.00	112.62	32.36	643.84	5.04	170.57
10:41:30	9.92	8.99	0.00	94.32	24.30	574.52	1.57	112.97
10:42:00	5.39	11.64	0.00	99.46	22.82	545.12	1.59	70.23
10:42:30	2.74	13.04	0.15	85.58	28.78	545.67	1.55	52.28
10:43:00	4.47	11.43	0.40	84.49	35.15	559.25	1.61	13.57
10:43:30	8.10	9.60	0.00	70.48	30.48	583.91	1.57	36.11
10:44:00	7.65	10.53	0.00	71.41	26.41	545.67	1.52	50.14
							0.00	0.00
							0.00	0.00
11:06:39	4.48	0.96	2.03	0.87	3.96	1062.71	0.00	283.37
11:07:09	0.05	0.02	0.00	0.73	0.31	1029.48	0.00	65.39
11:07:53	0.01	0.00	0.00	0.66	0.41	988.81	0.00	51.86
11:08:23	0.00	0.00	0.00	0.66	0.47	878.01	0.00	32.16
11:08:52	0.00	0.00	0.00	0.71	0.00	633.69	0.00	60.90
11:09:22	0.00	0.00	0.00	0.74	0.00	179.14	0.00	43.71
11:09:52	0.01	0.50	0.00	0.77	0.04	81.10	0.00	0.16
11:10:22	4.25	5.17	1.86	0.74	0.30	82.11	0.00	22.82
11:10:52	8.31	7.71	3.09	0.76	0.30	99.06	0.00	19.94
11:11:22	9.35	8.33	3.26	0.76	0.21	121.30	0.00	0.00
11:11:52	9.62	8.49	3.28	0.74	0.21	140.71	0.00	0.00
11:12:22	9.72	8.57	3.31	0.73	0.39	149.51	0.00	8.42
11:12:52	9.79	8.61	3.28	0.73	0.40	159.06	0.00	17.42
11:13:22	9.84	8.65	3.31	0.70	0.57	161.69	0.00	0.00
11:13:52	9.89	8.69	3.31	0.72	0.48	178.72	0.00	0.00
11:14:22	9.93	8.72	3.21	0.70	0.04	185.45	0.00	0.74

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:14:52	9.97	8.75	3.24	0.71	0.00	192.70	0.00	23.82
11:15:44	9.96	8.79	3.36	0.72	0.00	189.34	0.00	0.00
11:16:14	10.01	8.79	3.28	0.64	0.00	198.42	0.00	4.14
11:16:45	10.01	8.80	3.22	0.70	0.00	205.72	0.00	0.00
11:17:15	9.96	8.29	5.29	0.74	0.38	206.45	0.00	0.00
11:17:45	3.47	3.19	1007.51	0.71	0.43	213.22	0.00	0.00
11:18:15	0.11	0.63	1729.84	0.66	0.20	213.13	0.00	0.00
11:18:45	0.00	0.10	1729.73	0.66	0.38	221.85	0.00	0.00
11:19:15	0.00	0.00	1729.78	0.63	0.41	233.21	0.00	0.00
11:19:45	0.00	0.00	1729.90	0.63	0.54	220.11	0.00	0.00
11:20:14	0.00	0.00	1729.72	0.61	0.37	226.86	0.00	0.00
11:20:44	0.38	0.67	1729.57	0.62	0.38	229.64	0.00	0.00
11:21:14	4.17	1.28	1126.18	0.68	1.17	232.43	0.00	0.00
11:21:44	12.30	0.60	432.67	0.63	0.00	236.69	0.00	0.00
11:22:14								
11:22:44	7.46	0.26	666.41	0.66	0.00	248.01	0.00	0.00
11:23:14	0.60	0.03	1708.74	0.60	0.08	257.81	0.00	0.00
11:23:44	0.00	0.00	1729.26	0.55	0.00	259.89	0.00	0.00
11:24:14	0.00	0.00	1717.55	0.61	0.00	269.70	0.00	0.00
11:24:44	0.00	0.00	1703.32	0.57	0.00	263.20	0.00	0.00
11:25:14	0.00	0.00	1704.77	0.53	0.00	272.27	0.00	0.00
11:25:44	0.00	0.00	1701.32	0.56	0.00	269.61	0.00	29.45
11:26:14	0.00	0.00	1709.28	0.56	0.00	330.46	0.00	0.00
11:26:44	0.00	0.00	417.66	0.53	0.15	928.55	0.00	0.00
11:27:14	0.00	0.00	0.00	0.52	0.03	1259.92	0.00	0.00
11:27:44	0.02	0.00	930.65	7.83	0.09	1342.08	0.00	0.00
11:28:14	0.03	0.00	705.33	38.60	0.62	1347.97	0.00	0.00
11:28:44	0.00	0.00	120.42	48.15	0.53	1374.27	0.00	0.00
11:29:14	0.00	0.00	23.04	50.15	0.17	1375.57	0.00	0.00
11:29:44	0.00	0.00	0.00	50.77	0.62	1484.01	0.00	0.00
11:30:13	0.00	0.00	0.00	50.83	0.58	1593.59	0.00	0.00
11:30:43	0.00	0.00	0.00	50.83	0.74	1616.03	0.00	5.16
11:31:13	0.00	0.00	0.00	34.95	9.68	1609.70	0.00	0.00
11:31:43	0.00	0.00	0.00	6.59	71.67	1619.06	0.00	0.00
11:32:13	0.00	0.00	0.00	2.16	92.25	1745.47	0.00	0.00
11:32:43	0.00	0.00	0.00	0.99	96.92	1973.78	0.00	0.00
11:34:27	0.00	0.00	0.00	0.69	98.12	1975.70	0.00	0.00
11:34:57	0.00	0.00	0.00	0.57	99.08	1560.73	0.00	0.00
11:35:27	0.00	0.00	0.00	0.58	99.21	1598.64	0.00	0.00
11:35:57	0.00	0.00	0.00	0.52	99.39	1582.21	0.00	0.00
11:36:27	0.00	0.00	0.00	0.48	99.57	1651.05	0.00	0.00
11:36:57	0.00	0.00	0.00	0.47	99.65	1667.20	0.00	0.00
11:37:27	0.00	0.00	0.00	0.47	99.49	1691.68	0.00	0.00
11:37:56	0.00	0.00	0.00	0.43	99.54	1742.04	0.00	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:38:26	0.00	0.00	0.00	0.48	99.86	1842.56	0.00	0.00
11:38:56	0.00	0.00	0.00	0.42	99.63	1912.56	0.00	0.00
11:39:26	0.00	0.00	0.00	0.39	99.51	1938.13	0.00	0.00
11:39:56	0.00	0.00	0.00	0.44	99.80	1917.93	0.00	0.00
11:40:26	0.00	0.00	0.00	0.70	99.55	1883.80	0.00	0.00
11:40:56	0.01	0.01	160.17	1.64	74.71	1873.96	0.00	0.00
11:41:26	0.00	0.00	1246.98	0.63	15.68	1879.52	0.00	0.00
11:41:56	0.00	0.00	1659.06	0.46	2.94	1895.18	0.00	0.00
11:42:26	0.00	0.00	1702.01	0.38	1.25	1885.19	0.00	0.00
11:42:56	0.00	0.00	1710.94	0.43	1.04	1893.41	0.00	0.00
11:43:26	0.00	0.00	1708.05	0.43	0.81	1862.56	0.00	0.00
11:43:56	0.00	0.00	706.74	0.44	0.99	1902.14	0.00	0.00
11:44:26	0.00	0.00	1068.02	0.43	1.00	1889.71	0.00	0.00
11:44:56	0.00	0.00	1712.99	0.42	0.83	1904.99	0.00	0.00
11:45:26	0.00	0.00	1708.31	0.41	0.85	1890.82	0.00	8.13
11:45:56	0.00	0.00	1713.26	0.42	0.99	1902.82	0.00	0.00
11:46:26	0.00	0.00	1025.73	0.43	0.80	1900.38	0.00	0.00
11:46:55	0.00	0.00	965.61	0.41	0.91	1917.15	0.00	0.00
11:47:25	0.00	0.00	960.04	0.43	1.00	1906.12	0.00	0.00
11:47:55	0.25	0.00	934.69	0.53	1.79	1904.00	0.00	0.00
11:48:25	3.30	0.00	655.44	1.00	4.00	1902.38	0.00	0.00
11:48:55	3.47	0.00	465.02	0.66	3.19	1979.47	0.00	0.00
11:49:25	0.11	0.00	1663.34	0.44	1.61	2391.83	0.00	0.00
11:49:55	0.00	0.00	1729.07	0.45	1.14	2239.40	0.00	0.00
11:50:25	0.00	0.00	1729.36	0.41	1.00	2201.49	0.00	0.00
11:50:55	0.00	0.00	1729.54	0.45	0.83	951.87	0.00	0.00
11:51:25	0.00	0.00	1139.10	0.45	1.18	1018.35	0.00	0.00
11:51:55	0.00	0.00	1434.62	0.50	1.21	928.42	0.00	0.00
11:52:25	0.00	0.00	1506.16	0.48	0.84	834.90	0.00	0.00
11:52:55	0.00	0.00	1729.48	0.45	0.59	741.74	0.00	0.00
11:53:25	0.00	0.00	1547.15	0.46	0.87	674.48	0.00	0.00
11:53:55	0.00	0.00	1729.23	0.49	0.54	601.39	0.00	45.16
11:54:29	0.00	0.00	1730.10	0.48	0.39	506.68	0.00	93.40
11:54:59	0.00	0.00	1729.53	0.47	0.60	381.26	0.00	324.79
11:55:54	0.00	0.00	1729.39	0.47	0.85	522.54	0.00	6772.14
11:56:24	0.00	0.00	1729.31	0.39	0.47	542.13	0.00	7646.41
11:56:54	0.00	0.00	1730.54	0.48	0.48	440.13	0.00	6989.85
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
12:09:53	0.00	0.00	1781.05	0.48	1.36	404.39	0.00	23.36
12:10:29	0.00	0.00	1767.08	0.00	0.34	354.60	0.00	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:10:59	0.00	0.00	1729.18	0.46	0.71	362.85	0.00	0.00
							0.00	0.00
							0.00	0.00
12:18:25	0.00	0.00	19069.97	0.47	0.95	270.65	0.00	134.33
12:18:55	0.00	0.00	18998.19	0.44	0.74	276.03	0.00	77.10
12:19:25	0.00	0.00	19000.06	0.46	0.72	297.19	0.00	54.09
12:19:55	0.00	0.00	18998.52	0.48	0.67	311.80	0.00	43.93
12:20:25	0.60	0.27	17872.73	0.44	1.60	288.85	0.00	25.17
12:20:55	13.58	2.23	5579.80	20.17	6.48	288.35	0.00	25.51
12:21:25	8.57	8.06	199.27	67.04	19.15	293.02	0.00	65.74
12:21:55	7.34	8.36	0.00	66.01	13.44	293.44	0.00	0.00
12:22:25	11.86	6.46	0.00	59.72	7.80	263.34	0.00	20.12
12:24:10	10.84	7.73	0.00	72.32	7.50	264.93	0.00	33.70
12:24:40	8.99	7.16	0.00	64.12	4.02	244.20	0.00	37.92
12:25:10	13.02	5.87	0.00	58.96	1.26	225.78	0.00	19.53
12:25:40	9.01	7.85	0.00	77.55	3.51	239.21	0.00	4.29
12:26:10	8.26	8.00	0.00	79.85	3.08	234.11	0.00	15.91
12:26:40	8.44	7.83	0.00	81.53	2.70	229.69	0.00	22.26
12:27:10	8.64	7.67	0.00	83.14	2.52	230.79	0.00	33.77
12:27:40	10.10	6.24	0.00	62.50	1.86	211.46	0.00	28.41
12:28:10	14.45	4.84	0.00	54.70	0.00	199.92	0.00	16.59
12:28:40	10.43	6.88	0.00	80.01	2.36	227.05	0.00	23.17
12:29:09	9.49	7.21	0.00	83.37	2.19	228.41	0.00	0.00
12:29:39	9.29	7.22	0.00	86.25	2.12	225.70	0.02	30.05
12:30:09	9.42	7.12	0.00	86.81	1.81	228.56	3.00	31.83
12:30:39	9.52	7.07	0.00	87.49	2.07	225.16	13.68	27.51
12:31:09	9.48	6.87	0.00	85.58	1.72	219.54	7.72	0.00
12:31:39	11.58	3.95	237.84	42.33	0.64	186.77	2.61	4.95
12:32:09	15.41	0.58	2535.53	2.01	0.00	162.70	19.63	50.72
12:32:39								
12:33:09								
12:33:39								
12:34:09								
12:34:39								
12:35:09								
12:35:39								
12:36:09								
12:36:39								
12:37:09	10.17	6.83	0.00	82.02	1.38	211.01	37.36	10.52
12:37:39	9.04	7.21	0.00	83.68	1.33	211.56	33.56	24.00
12:38:09	8.95	7.23	0.00	84.50	1.41	207.19	2.41	51.78
12:38:39	8.90	7.24	0.00	85.22	1.44	205.85	1.28	26.73
12:39:09	8.91	6.89	0.00	77.62	1.34	201.38	0.97	38.51
12:39:38	14.25	3.79	0.00	36.50	0.00	165.89	0.84	21.88

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:40:08	12.62	5.97	0.00	75.83	0.00	186.93	0.73	27.22
12:40:38	10.07	6.12	0.00	73.42	1.07	188.95	0.64	36.07
12:41:08	12.68	6.46	0.00	77.74	0.00	177.76	0.56	31.05
12:41:38	6.25	12.23	45.12	132.74	4.47	324.67	0.60	51.64
12:42:08	2.31	14.07	197.69	155.31	43.84	469.16	0.50	15.01
12:42:38	5.92	10.99	0.61	157.46	31.90	516.91	0.49	26.67
12:43:08	9.28	9.07	0.00	127.76	15.39	485.51	0.69	25.70
12:43:38	10.51	8.49	0.00	102.23	8.26	412.08	0.51	31.51
12:44:08	6.44	10.77	0.00	109.00	5.66	371.25	0.53	4.08
12:44:38	4.03	12.06	0.00	90.64	5.21	374.20	0.61	33.04
12:45:08	3.68	11.51	0.00	73.59	5.11	386.42	0.57	0.00
12:45:38	8.72	8.67	0.00	60.49	4.58	371.81	0.52	24.20
12:46:08	9.18	9.28	0.00	67.47	3.47	345.59	0.45	4.75
12:46:38	5.62	10.53	0.00	71.91	3.46	321.64	0.38	2.45
12:47:08	5.21	10.52	0.00	77.23	3.39	321.70	0.42	12.41
12:47:38	5.65	9.65	0.00	77.89	3.03	307.51	0.42	16.82
12:48:08	11.22	6.80	0.00	64.58	2.28	278.87	0.35	18.53
12:48:38	9.42	8.49	0.00	77.45	2.16	278.27	0.32	16.87
12:49:08	7.06	9.05	0.00	81.03	2.46	273.74	0.33	17.39
12:49:38	7.09	8.61	0.00	81.45	2.09	264.05	0.37	3.19
12:50:08	8.66	8.87	0.00	90.22	1.90	250.57	0.34	21.08
12:50:38	3.54	14.59	1863.42	145.06	52.55	316.61	0.29	250.18
12:51:07	2.56	15.42	1238.00	180.45	106.88	441.70	0.24	869.60
12:51:37	3.82	14.35	13.64	171.28	49.16	537.13	0.25	407.83
12:52:07	5.42	12.44	0.00	148.83	26.85	564.63	8.07	195.21
12:52:37	7.50	10.70	0.00	122.97	17.68	501.96	0.22	101.43
12:53:07	8.54	10.10	0.00	105.18	12.75	434.81	0.24	57.70
12:53:37	8.10	10.65	0.00	86.25	9.91	399.80	0.26	42.21
12:54:07	8.18	9.82	0.00	61.54	8.89	379.29	0.29	12.71
12:54:37	8.13	10.23	0.00	64.92	7.98	361.62	0.33	22.24
12:55:07	4.59	11.37	0.00	71.28	8.13	351.83	0.31	6.92
12:55:37	6.46	9.42	0.00	61.66	7.91	345.67	0.29	8.80
12:56:07	11.08	7.42	0.00	54.91	5.55	338.71	0.27	0.00
12:56:37	8.15	9.18	0.00	72.23	4.79	345.76	0.23	17.94
12:57:07	6.29	9.79	0.00	75.48	4.81	337.27	0.25	28.77
12:57:37	6.05	9.77	0.00	77.08	4.58	327.53	0.27	19.23
12:58:07	7.63	8.23	0.00	67.46	4.20	306.07	0.26	0.00
12:58:37	12.28	6.18	0.00	62.02	1.39	284.86	0.21	36.98
12:59:07	11.71	7.04	0.00	83.11	1.65	259.46	0.20	19.81
12:59:37	5.94	11.92	38.32	119.60	7.20	471.88	0.25	8.42
13:00:07	2.26	13.15	690.26	141.98	104.00	618.72	0.28	45.46
13:00:37	7.55	9.76	104.39	132.29	79.27	523.69	0.32	37.93
13:01:06	10.34	7.96	0.00	100.69	33.31	445.64	0.97	31.89
13:01:36	12.11	6.65	0.00	70.36	15.39	363.06	0.39	37.50

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CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:02:06	9.23	9.03	0.00	86.08	9.61	321.87	0.33	26.79
13:02:36	4.77	11.32	0.00	90.54	7.46	306.40	0.36	30.94
13:03:06	3.75	10.98	0.81	77.44	7.98	300.13	0.42	15.24
13:03:36	8.88	8.63	0.00	63.29	7.25	300.72	0.38	19.93
13:04:06	10.87	7.85	0.00	56.89	4.96	284.75	0.32	4.24
13:04:36	5.83	10.33	0.00	71.69	5.03	279.28	0.32	57.86
13:05:06	4.61	10.58	0.00	72.91	6.34	258.36	0.35	27.66
13:05:36	8.02	7.89	0.00	54.68	6.79	233.65	0.37	3.33
13:06:06	12.09	6.85	0.00	52.94	4.21	228.13	0.29	0.00
13:06:36	6.82	9.51	0.00	70.67	4.68	234.11	0.30	69.96
13:09:10	5.68	9.98	0.00	72.20	5.24	227.86	0.31	11.15
13:09:40	3.45	12.54	0.00	134.97	17.26	467.09	0.31	11.76
13:10:10	7.45	9.40	0.00	101.49	20.41	475.08	0.30	0.00
13:10:40	10.47	7.84	0.00	80.21	16.90	501.72	0.29	35.82
13:11:10	10.21	8.51	0.00	76.64	13.48	442.52	0.29	0.00
13:11:40	6.61	10.17	0.00	83.55	13.53	370.62	0.34	6.49
13:12:10	4.31	11.54	0.00	80.18	17.23	349.13	0.40	0.00
13:12:40	5.70	9.96	1.42	65.43	22.44	338.32	0.42	0.00
13:13:10	9.72	7.98	0.00	55.49	21.00	337.39	0.37	13.98
13:13:40	8.87	9.30	0.00	68.21	18.29	319.28	0.36	56.67
13:14:10	5.24	10.47	0.00	75.51	19.66	275.83	0.38	6.05
13:14:42	4.93	10.44	0.00	77.38	20.89	253.11	0.39	12.79
13:15:11	10.27	6.97	0.00	54.90	18.86	203.91	0.38	16.78
13:15:41	10.52	8.08	0.00	67.91	15.28	207.20	0.37	12.89
13:16:11	6.34	9.65	0.00	78.66	15.22	189.14	0.33	4.80
13:16:41	5.75	9.72	0.00	81.71	16.05	169.49	0.35	33.49
13:17:11	7.21	8.03	0.00	73.94	15.32	153.93	0.32	30.95
13:17:41	13.75	5.51	0.00	62.86	10.67	133.16	0.27	14.68
13:18:11	7.93	10.81	0.00	92.22	11.64	163.72	0.26	22.20
13:18:41	3.28	13.66	4.90	103.51	21.89	178.05	0.26	22.80
13:19:11	5.63	10.62	0.00	83.32	32.37	198.89	0.28	28.82
13:19:41	10.27	8.09	0.00	62.11	25.28	218.30	0.31	18.86
13:20:11	11.25	7.74	0.00	58.22	18.02	197.48	0.24	24.39
13:20:41	7.94	9.23	0.00	68.76	15.43	181.53	0.27	25.55
13:21:11	6.15	10.27	0.00	73.79	15.73	175.71	0.29	11.74
13:21:41	5.06	10.75	0.00	73.15	17.32	178.01	0.30	19.97
13:22:11	4.88	10.42	0.00	70.73	17.93	175.72	0.24	25.45
13:22:41	9.58	7.56	0.00	58.65	16.90	167.58	0.25	17.33
13:23:11	10.33	8.33	0.00	69.09	13.59	184.49	0.23	19.96
13:23:41	6.40	9.74	0.00	78.88	13.16	175.86	0.20	12.84
13:24:11	6.05	9.68	0.00	80.34	13.06	163.16	0.27	14.25
13:24:41	8.16	7.78	0.00	65.42	12.86	154.11	0.24	33.96
13:25:10	12.84	6.22	0.00	58.94	10.04	159.01	0.23	27.01
13:25:40	8.10	8.73	0.00	80.52	9.85	179.75	0.21	13.48

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:26:10	6.75	9.09	0.00	84.10	9.65	164.53	0.22	0.00
13:26:40	9.34	7.10	0.00	81.72	9.12	141.95	0.21	69.44
13:27:10	7.27	11.42	0.00	81.16	9.18	126.25	0.22	94.79
13:27:40	6.58	10.63	0.00	62.71	15.15	113.60	0.18	21.25
13:28:10	11.83	7.24	0.00	47.58	16.93	99.82	0.17	24.36
13:28:40	10.31	8.04	0.00	66.70	14.51	105.17	0.19	11.58
13:29:10	9.15	8.14	0.00	70.85	12.95	99.10	0.16	26.23
13:29:40	9.21	8.00	0.00	75.51	12.29	98.84	0.16	0.00
13:30:10	8.52	8.52	0.00	80.67	11.99	93.03	0.17	15.84
13:30:40	7.53	8.98	0.00	82.31	11.84	98.60	0.15	47.82
13:31:10	7.28	9.05	0.00	84.03	11.50	95.61	0.13	27.66
13:31:40	7.87	7.68	0.00	69.09	11.22	90.95	0.12	5.14
13:32:10	14.08	5.80	0.00	58.84	7.78	82.08	0.08	0.00
13:32:40	10.71	7.58	0.00	78.64	8.14	92.38	0.08	28.13
13:33:10	8.29	8.29	0.00	82.59	7.85	94.63	0.08	0.00
13:33:40	8.03	8.31	0.00	85.37	7.91	95.43	0.09	35.72
13:34:09	8.23	7.54	0.00	75.21	7.62	90.15	0.07	10.76
13:34:39	14.05	4.66	0.00	45.36	3.63	76.58	0.04	41.33
13:35:09	11.82	6.73	0.00	77.70	4.75	84.02	0.01	13.11
13:35:39	9.83	7.02	0.00	79.78	5.27	84.87	0.01	17.35
13:36:09	6.20	12.75	420.34	141.70	15.03	87.98	0.02	19.06
13:36:39	1.93	14.94	3965.26	181.39	169.90	143.54	0.00	771.79
13:37:09	5.36	12.17	1254.62	157.50	145.33	200.75	0.00	986.91
13:37:39	8.98	9.46	16.35	102.07	64.00	204.85	4.77	460.69
13:38:09	10.62	7.99	0.00	78.55	32.94	182.85	5.43	210.12
13:38:39	10.01	8.83	0.00	77.12	20.38	163.05	0.08	115.36
13:39:09	6.58	10.55	0.00	83.79	14.62	150.23	0.05	84.81
13:39:39	4.64	11.44	0.00	85.80	11.70	137.04	0.03	17.54
13:40:09	4.32	11.50	0.00	87.88	9.91	131.01	0.05	41.52
13:40:39	6.50	9.46	0.00	99.62	8.69	123.93	0.01	17.41
13:41:09	11.25	7.48	0.00	100.37	7.22	113.34	0.00	11.05
13:41:39	7.85	9.21	0.00	113.67	6.45	121.39	0.00	21.30
13:42:09	6.92	9.39	0.00	119.03	6.60	110.37	0.00	0.00
13:42:39	6.89	9.49	0.00	115.97	6.54	101.43	0.00	6.03
13:43:09	7.44	8.57	0.00	110.32	6.83	96.06	0.00	19.89
13:43:38	12.48	6.29	0.00	101.65	5.97	84.51	0.00	0.00
13:44:08	10.09	8.00	0.00	114.91	6.18	96.98	0.00	10.23
13:44:38	8.07	8.56	0.00	119.20	6.40	98.14	0.00	13.91
13:45:08	7.98	8.43	0.00	120.61	6.53	90.80	0.00	0.00
13:45:38	8.21	8.09	0.00	116.50	6.54	87.38	0.00	16.45
13:46:08	12.15	5.33	0.00	82.93	4.87	72.31	0.00	9.55
13:46:38	13.04	6.16	0.00	95.34	3.38	80.05	0.00	10.11
13:47:08	9.46	7.51	0.00	105.82	5.16	86.46	0.00	6.20
13:47:38	8.95	7.61	0.00	106.19	5.00	83.55	0.00	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:48:08	8.93	7.54	0.00	103.92	4.68	77.84	0.00	22.09
13:48:38	9.13	6.91	0.00	91.57	4.44	75.01	0.00	0.00
13:49:08	14.45	4.36	0.00	59.87	0.00	60.48	0.00	9.07
13:49:38	12.04	6.34	0.00	93.71	3.17	75.61	0.00	6.92
13:50:08	9.72	7.09	0.00	98.61	3.59	78.61	0.00	11.77
13:50:38	9.45	7.09	0.00	97.13	3.46	78.62	0.00	37.90
13:51:08	10.05	6.52	0.00	88.47	3.50	73.94	0.00	0.00
13:51:38	11.26	5.84	0.00	86.61	3.44	67.42	0.00	0.00
13:52:08	11.55	5.72	0.00	84.57	3.30	65.12	0.00	0.00
13:52:38	11.63	5.66	0.00	81.58	3.01	61.78	0.00	4.72
13:53:08	11.67	5.63	0.00	80.85	2.94	60.41	0.00	0.00
13:53:38	12.31	5.06	0.00	73.15	2.00	58.99	0.00	26.95
13:54:07	9.74	10.01	22.94	98.05	3.02	69.77	0.00	8.90
13:54:37	2.84	14.24	926.63	113.31	51.46	129.97	0.00	44.09
13:55:07	4.42	11.48	1098.01	102.01	149.97	176.21	0.00	361.54
13:55:37	9.30	8.92	38.88	92.36	76.13	191.38	0.00	212.57
13:56:07	10.99	7.53	0.00	75.53	34.87	177.86	0.60	75.92
13:56:37	10.51	8.41	0.00	77.02	20.53	160.96	0.00	48.42
13:57:07	6.30	9.46	0.00	82.27	12.80	150.75	0.00	33.90
13:57:37	9.60	8.43	0.00	65.50	9.26	152.76	0.00	1.27
13:58:07	7.93	8.90	0.00	54.94	7.27	144.21	0.00	0.00
13:58:37	11.08	7.52	0.00	44.59	5.30	150.82	0.00	11.59
13:59:07	7.65	9.78	0.00	59.76	4.26	148.87	0.00	0.00
13:59:37	5.06	10.48	0.00	62.87	3.78	136.14	0.00	3.26
14:00:07	6.10	9.00	0.00	53.22	3.12	118.20	0.00	8.12
14:00:37	12.04	6.21	0.00	41.40	2.20	115.42	0.00	6.09
14:01:07	9.53	8.40	0.00	65.66	1.87	128.25	0.00	0.00
14:01:37	6.51	9.31	0.00	71.93	2.34	123.48	0.00	0.00
14:02:07	6.24	9.30	0.00	73.35	2.23	114.08	0.00	0.00
14:02:37	9.58	6.57	0.00	47.66	1.96	102.11	0.00	44.49
14:03:15	14.25	5.29	0.00	44.81	0.00	95.99	0.00	0.00
14:03:50	7.61	8.46	0.00	73.37	1.82	119.26	0.00	0.00
14:04:24	9.82	9.26	0.00	93.76	1.74	105.87	0.00	10.25
14:04:53	3.29	13.13	7.21	138.76	17.88	222.48	0.00	33.45
14:05:23	6.75	10.68	7.68	182.89	23.63	270.73	0.00	0.00
14:05:53	9.40	8.80	0.00	166.59	11.47	229.71	0.00	0.00
14:06:23	11.10	7.49	0.00	139.10	7.92	194.08	0.00	1.47
14:06:53	8.73	9.44	0.00	147.52	6.88	168.72	0.00	0.90
14:07:23	4.92	11.24	0.00	138.01	9.31	160.69	0.00	0.65
14:07:53	5.08	10.42	0.00	121.70	13.32	150.52	0.00	0.00
14:08:23	9.14	8.62	0.00	105.70	10.82	155.20	0.00	0.00
14:08:53	10.32	8.32	0.00	88.90	8.13	157.34	0.00	1.35
14:09:23	5.18	10.70	0.00	97.18	9.03	152.15	0.00	0.00
14:09:53	6.45	9.06	0.00	84.00	10.28	131.31	0.00	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:10:23	10.99	7.08	0.00	63.46	8.03	134.60	0.00	0.00
14:10:53	8.07	9.61	0.00	78.01	7.27	143.58	0.00	0.00
14:11:23	4.69	10.62	0.00	72.93	9.02	132.53	0.00	0.00
14:11:53	7.67	8.04	0.00	50.57	9.24	115.92	0.01	0.00
14:12:23	12.33	6.60	0.00	45.75	6.28	118.86	0.00	0.00
14:12:53	7.31	9.26	0.00	65.86	6.43	129.57	0.10	16.87
14:13:23	5.73	9.78	0.00	68.73	7.10	116.08	0.17	16.76
14:13:53	8.16	7.34	0.00	77.70	7.11	102.85	0.16	0.63
14:14:23	9.08	9.43	0.00	86.24	6.57	104.86	0.10	0.00
14:14:53	4.20	12.90	0.00	119.43	19.22	209.32	0.05	0.00
14:15:22	5.59	11.11	0.00	127.90	30.23	310.98	0.13	1.64
14:15:52	8.80	9.29	0.00	115.40	18.05	313.32	0.10	0.00
14:16:22	10.11	8.24	0.00	102.74	13.01	281.61	0.12	0.00
14:16:52	10.62	8.29	0.00	87.98	10.29	234.51	0.22	0.00
14:17:22	5.57	11.15	0.00	95.33	12.79	219.14	0.33	0.00
14:17:52	3.71	11.32	0.00	79.83	19.68	215.67	0.39	0.00
14:18:22	8.71	8.93	0.00	64.21	16.72	228.63	0.29	0.00
14:18:52	10.84	8.05	0.00	57.64	11.04	226.68	0.22	0.00
14:19:22	5.85	10.47	0.00	73.61	11.08	208.67	0.27	0.00
14:19:52	4.61	10.32	0.00	71.51	12.58	179.49	0.32	0.00
14:20:22	9.99	7.31	0.00	48.16	10.84	167.92	0.33	0.42
14:20:52	11.27	7.59	0.00	55.93	7.14	180.08	0.21	10.88
14:21:22	6.27	9.84	0.00	70.06	7.88	174.02	0.21	0.00
14:21:52	5.28	10.07	0.00	72.45	9.04	157.93	0.32	11.15
14:22:22	8.44	7.38	0.00	50.58	8.60	149.00	0.16	16.55
14:22:52	12.65	6.39	0.00	52.39	5.35	152.97	0.09	0.00
14:23:22	7.30	9.06	0.00	71.32	5.96	158.64	0.09	3.98
14:23:52	6.31	8.75	0.00	76.97	6.72	139.29	0.19	0.00
14:24:22	10.39	7.12	0.00	85.29	5.74	116.17	0.16	2.13
14:24:52	7.17	10.64	0.00	106.67	8.59	137.03	0.10	0.00
14:25:22	4.07	11.77	3.80	114.48	29.29	184.82	0.15	0.00
14:25:52	8.85	8.75	0.00	88.94	24.70	190.78	0.15	5.79
14:26:22	11.37	7.16	0.00	65.95	16.47	192.64	0.11	0.00
14:26:51	9.28	8.79	0.00	73.63	13.89	190.22	0.16	0.00
14:27:21	6.53	9.91	0.00	75.21	15.89	179.88	0.20	12.05
14:27:51	4.71	11.06	0.00	72.30	19.90	190.18	0.27	0.00
14:28:21	4.97	9.97	0.00	61.30	22.20	199.79	0.14	0.00
14:28:51	10.51	7.19	0.00	53.58	16.64	206.39	0.09	2.35
14:29:21	8.92	9.03	0.00	70.60	11.58	202.39	0.05	0.00
14:29:51	5.41	10.10	0.00	76.38	11.71	175.37	0.11	12.51
14:30:21	5.32	9.40	0.00	74.95	11.75	147.14	0.21	9.54
14:30:51	11.34	5.98	0.00	55.63	9.65	122.15	0.05	0.55
14:31:21	10.96	7.51	0.00	74.15	6.89	126.91	0.00	2.98
14:31:51	7.00	8.83	0.00	81.17	8.22	118.08	0.05	1.58

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:32:21	6.43	8.95	0.00	80.05	9.06	107.80	0.13	0.00
14:32:51	10.62	5.80	0.00	53.69	8.63	94.83	0.04	0.00
14:33:21	13.03	6.02	0.00	66.65	4.67	97.57	0.00	0.00
14:33:51	8.46	8.00	0.00	81.91	6.67	100.56	0.00	0.00
14:34:21	8.06	7.43	0.00	81.73	7.10	89.14	0.09	0.00
14:34:51	11.54	7.19	0.00	77.98	6.18	79.20	0.00	4.68
14:35:21	5.89	12.39	0.00	92.35	12.49	99.09	0.00	7.83
14:35:50	4.92	11.31	0.00	81.84	31.51	184.99	0.00	0.00
14:36:20	10.67	7.69	0.00	54.01	22.90	225.65	0.00	0.00
14:36:50	11.95	6.99	0.00	50.96	13.65	228.40	0.00	10.91
14:37:20	8.52	8.41	0.00	57.16	11.86	203.64	0.00	16.26
14:37:50	7.63	8.96	0.00	60.29	10.74	197.43	0.00	1.85
14:38:20	5.74	10.14	0.00	63.10	10.95	209.54	0.00	0.00
14:38:50	4.79	10.70	0.00	64.53	12.08	206.80	0.00	0.00
14:39:20	6.97	9.33	0.00	51.26	12.90	190.82	0.00	0.00
14:39:50	12.34	6.98	0.00	45.64	11.47	192.13	0.00	0.00
14:40:20	7.61	8.76	0.00	67.29	10.72	190.92	0.00	0.00
14:40:50	6.18	9.47	0.00	70.29	9.53	162.48	0.00	0.00
14:41:20	6.11	9.35	0.00	66.96	9.47	151.63	0.00	0.00
14:41:50	11.57	6.66	0.00	40.39	8.36	131.18	0.00	0.00
14:42:20	11.50	6.85	0.00	63.70	7.23	145.20	0.00	0.00
14:42:50	7.34	8.49	0.00	71.75	7.71	135.21	0.00	0.07
14:43:20	6.66	8.93	0.00	73.46	7.44	128.92	0.00	0.00
14:43:50	7.12	8.51	0.00	62.16	7.14	115.82	0.00	3.02
14:44:19	13.30	6.53	0.00	40.26	4.64	104.67	0.00	0.00
14:44:49	11.96	6.03	0.00	72.49	5.68	104.89	0.00	0.00
14:45:19	8.46	7.32	71.50	98.75	5.33	168.32	0.00	12.13
14:45:49	1.74	11.07	3813.26	124.75	15.90	284.10	0.00	520.01
14:46:19	4.96	12.03	3001.20	133.83	189.48	275.84	0.00	1117.88
14:46:49	7.38	11.20	140.05	130.41	267.16	260.34	19.71	527.12
14:47:19	8.78	10.28	3.58	113.94	190.52	223.21		229.72
14:47:49	10.23	9.19	0.00	95.92	117.36	201.65		94.34
14:48:19	9.46	8.68	0.00	91.54	73.40	207.55		81.30
14:48:49	4.18	10.34	0.00	88.65	49.86	214.30		81.57
14:49:19	6.96	10.29	0.00	67.31	36.66	218.62		13.87
14:49:49	10.56	8.93	0.00	55.82	28.47	227.28		11.48
14:50:19	7.46	8.89	0.00	72.98	22.79	205.95		22.16
14:50:49	4.98	9.87	0.00	76.85	19.32	183.25		7.41
14:51:19	7.35	9.64	0.00	65.05	16.75	165.82		18.33
14:51:49	11.14	7.89	0.00	60.60	14.36	186.84		19.31
14:52:19	11.71	8.30	0.00	80.98	12.22	179.68		0.00
14:52:49	7.61	9.21	0.00	84.54	11.13	165.28		0.00
14:53:19	6.20	9.00	0.00	71.66	16.32	106.56		6.51
14:53:49	9.17	7.12	0.00	63.46	9.89	0.00		0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:54:19	11.77	7.48	0.00	86.10	7.97	86.43		0.00
14:54:49	8.38	8.30	0.00	90.58	7.45	134.36		6.04
14:55:19	7.58	8.68	57.53	99.79	6.13	122.61		0.00
14:55:48	6.56	11.65	1581.03	130.88	8.50	156.89		73.86
14:56:18	4.72	13.55	298.19	142.49	38.04	223.41		62.57
14:56:48	4.88	12.76	6.20	119.30	49.64	185.02		15.18
14:57:18	7.39	10.86	0.00	100.57	40.94	151.32		11.52
14:57:48	9.75	9.17	0.00	74.84	29.75	129.38		2.58
14:58:18	11.45	8.24	0.00	78.50	21.83	127.74		0.00
14:58:48	9.31	10.25	2.79	81.46	16.73	131.59		38.71
14:59:18	4.68	10.92	11.52	62.88	13.82	114.63		0.00
14:59:48	7.29	9.82	0.00	50.69	11.59	113.54		0.00
15:00:18	9.86	8.99	0.00	57.59	9.77	122.42		0.00
15:00:48	7.83	10.28	0.00	61.93	8.54	114.94		46.19
15:01:18	4.98	10.26	0.00	45.50	7.31	104.56		1.27
15:01:48	8.05	8.62	0.00	39.43	6.68	112.07		0.00
15:02:18	10.42	8.90	0.00	56.41	5.81	123.25		2.04
15:02:48	6.57	10.14	0.00	58.54	5.42	119.11		0.00
15:03:18	4.97	9.78	0.00	43.68	5.07	112.99		10.86
15:03:48	8.86	8.09	0.00	43.65	4.84	135.55		0.00
15:04:18	10.45	8.70	0.00	62.74	4.51	143.91		3.82
15:04:48	6.89	9.62	0.00	66.92	4.26	140.16		0.00
15:05:18	5.80	9.57	0.00	75.23	3.89	127.32		1.92
15:05:48	7.87	7.57	0.00	72.27	3.95	96.64		0.00
15:06:17	11.34	6.35	0.00	71.56	3.81	87.46		0.00
15:06:47	11.44	6.57	0.00	68.96	3.34	92.83		0.00
15:07:17	10.51	6.68	0.00	69.80	3.26	90.59		11.48
15:07:47	10.31	6.70	0.00	69.89	3.01	87.58		4.58
15:08:17	10.28	6.66	0.00	71.90	2.91	83.88		0.00
15:08:47	10.32	6.85	0.00	76.79	2.83	86.12		0.00
15:09:17	9.49	7.53	0.00	80.28	2.44	91.31		0.00
15:09:47	8.24	8.05	0.00	82.16	2.51	93.62		0.00
15:10:17	7.74	8.23	0.00	83.39	2.60	88.61		5.63
15:10:47	7.69	8.23	0.00	74.99	2.59	83.18		0.00
15:11:17	8.69	6.66	0.00	49.96	2.50	77.62		0.00
15:11:47	12.93	6.27	0.00	76.63	1.17	91.43		0.00
15:12:17	10.41	7.26	0.00	83.08	2.43	88.48		0.00
15:12:47	8.66	7.69	0.00	84.37	2.33	83.04		0.00
15:13:17	8.20	7.86	0.00	79.23	2.30	75.80		1.42
15:13:47	8.64	6.55	0.00	46.20	2.07	66.94		10.53
15:14:17	13.17	5.79	0.00	75.07	0.30	84.21		0.00
15:14:47	11.15	6.86	0.00	85.65	1.68	79.48		0.00
15:15:17	9.08	7.35	0.00	88.27	1.70	76.33		9.96
15:15:47	8.85	7.20	105.68	99.88	1.61	76.37		0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:16:17	8.58	10.53	2335.31	139.57	7.98	88.28		140.61
15:16:46	5.15	11.68	363.57	107.37	65.16	101.35		61.69
15:17:16	7.09	10.61	4.75	71.52	93.88	115.13		0.00
15:17:46	9.39	9.03	0.00	55.08	73.41	113.61		7.77
15:18:16	10.84	8.82	0.00	59.77	49.71	104.74		0.00
15:18:46	8.57	9.29	0.00	63.21	34.01	96.86		14.70
15:19:16	7.08	10.09	0.00	69.43	24.73	101.46		9.35
15:19:46	5.43	10.75	0.00	71.43	18.88	102.71		0.00
15:20:16	4.99	9.89	0.00	61.37	14.83	103.91		14.19
15:20:46	8.96	8.41	0.00	61.66	12.19	116.44		12.22
15:21:16	9.72	9.18	0.00	72.81	10.13	112.78		0.00
15:21:46	6.56	9.86	0.00	74.76	8.86	109.36		0.00
15:22:16	5.62	9.38	0.00	61.25	7.64	97.00		0.00
15:22:46	8.93	7.54	0.00	58.82	6.63	102.22		3.57
15:23:16	10.92	8.13	0.00	75.52	6.04	100.83	3.24	19.02
15:23:46	7.69	8.88	0.00	79.50	5.55	93.50	21.97	0.00
15:24:16	6.56	8.71	0.00	65.50	5.05	78.18	25.34	0.00
15:24:46	9.01	6.79	0.00	56.99	4.82	83.91	5.87	5.98
15:25:16	12.23	7.10	0.00	81.22	3.69	85.44	0.99	0.00
15:25:46	8.95	7.28	0.00	85.08	4.03	71.10	0.49	0.00
15:26:16	10.35	7.25	0.00	96.26	4.11	110.07	0.31	0.00
15:26:46	8.98	9.89	0.00	109.87	3.72	259.19	0.22	12.51
15:27:16	4.99	10.49	0.00	97.52	4.93	296.69	0.10	0.00
15:27:46	7.67	8.91	0.00	73.65	7.94	270.29	0.08	0.00
15:28:15	10.62	7.86	0.00	67.38	9.17	218.88	0.10	0.00
15:28:45	9.98	8.41	0.00	72.43	8.93	189.69	0.06	2.54
15:29:15	8.02	9.04	0.00	77.07	7.75	187.37	0.00	0.00
15:29:45	6.46	9.88	0.00	75.60	7.12	181.48	0.00	0.00
15:30:15	5.36	9.20	0.00	66.59	6.34	183.46	0.00	0.00
15:30:45	9.38	7.54	0.00	66.39	5.96	187.81	0.00	4.83
15:31:15	10.80	8.31	0.00	81.55	5.66	171.01	0.00	0.00
15:31:45	7.47	8.98	0.00	83.57	5.23	150.35	0.00	0.00
15:32:15	6.54	8.25	0.00	64.33	4.82	133.88	0.00	0.00
15:32:45	10.48	6.56	0.00	64.47	4.49	144.93	0.00	0.00
15:33:15	12.00	7.30	0.00	83.17	3.52	136.13	0.00	8.88
15:33:45	8.91	7.96	0.00	85.76	3.88	123.21	0.00	0.00
15:34:15	7.97	8.24	0.00	86.57	3.56	118.22	0.00	0.00
15:34:45	7.63	7.81	0.00	63.96	3.18	102.53	0.00	0.00
15:35:15	10.37	6.05	0.00	60.37	2.64	112.55	0.00	0.00
15:35:45	12.72	6.53	0.00	80.66	1.23	104.32	0.00	0.00
15:36:15	10.48	6.09	0.00	75.62	2.52	88.50	0.00	18.24
15:36:45	11.71	6.88	0.00	100.75	2.30	99.18	0.00	2.52
15:37:15	9.10	9.33	0.00	136.66	2.35	120.91	0.00	0.00
15:37:45	5.50	10.58	0.00	128.41	2.44	117.63	0.00	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:38:15	5.37	9.45	0.00	86.30	3.36	102.72	0.00	0.00
15:38:45	9.31	7.84	0.00	82.22	4.60	101.03	0.00	3.20
15:39:14	10.86	8.50	0.00	97.98	4.59	94.54	0.00	0.00
15:39:44	8.68	9.82	0.00	72.20	4.48	97.26	0.00	0.00
15:40:14	5.64	10.31	0.00	74.10	5.42	87.04	0.00	0.00
15:40:44	6.43	9.19	0.00	59.01	7.41	90.21	0.00	3.44
15:41:14	9.49	8.42	0.00	62.83	7.14	90.22	0.00	0.00
15:41:44	8.53	9.53	0.00	68.95	6.31	87.11	0.00	17.77
15:42:14	5.64	9.57	0.00	50.36	6.29	74.31	0.00	26.31
15:42:44	9.70	7.89	0.00	42.45	6.31	64.37	0.00	0.00
15:43:14	10.45	8.01	0.00	62.39	5.60	62.12	0.00	29.54
15:43:44	9.27	8.00	0.00	50.94	4.10	60.32	0.00	36.05
15:44:14	7.63	8.27	2.59	51.68	5.17	52.41	0.00	17.17
15:44:44	12.45	6.48	0.00	39.40	4.35	54.20	0.00	0.00
15:45:14	8.47	7.82	0.00	50.20	4.70	78.11	0.00	5.88
15:45:44	6.48	8.90	0.00	53.88	4.17	80.11	0.00	37.72
15:46:14	9.73	7.16	0.00	65.33	4.21	68.33	0.00	5.62
15:46:44	12.28	5.68	0.00	48.24	3.69	65.97	0.00	11.72
15:47:14	11.36	6.01	0.00	42.69	3.43	60.64	0.00	0.00
15:47:44	10.11	6.63	0.00	43.89	3.68	53.10	0.00	0.00
15:48:14	10.33	6.52	0.00	49.76	4.12	50.56	0.00	0.00
15:48:44	10.47	6.42	0.00	52.47	4.19	46.46	0.00	0.00
15:49:14	10.45	6.42	0.00	54.55	4.18	44.10	0.00	0.40
15:49:43	9.28	7.06	0.00	59.66	4.39	45.00	0.00	0.36
15:50:13	8.08	7.78	0.00	59.49	4.48	47.64	0.00	0.93
15:50:43	7.90	7.85	0.00	58.92	4.68	44.95	0.00	22.92
15:51:13	12.94	5.75	0.00	54.78	3.54	40.12	0.00	0.00
15:51:43	12.03	5.92	0.00	55.26	2.65	43.01	0.00	0.00
15:52:13	8.16	7.61	0.00	59.83	4.10	46.23	0.00	10.96
15:52:43	7.57	8.09	0.00	61.96	4.20	43.98	0.00	21.16
15:53:13	11.12	6.47	0.00	57.32	3.81	37.08	0.00	5.56
15:53:43	13.39	5.38	0.00	51.98	2.09	36.59	0.00	0.00
15:54:13	8.84	7.19	0.00	59.87	4.03	41.44	0.00	0.00
15:54:43	7.92	7.82	0.00	60.82	4.02	43.09	0.00	0.00
15:55:13	8.61	7.48	0.00	58.34	4.44	39.60	0.00	0.00
15:55:43	14.15	5.23	0.00	46.89	1.51	36.05	0.00	0.00
15:56:13	10.00	6.50	0.00	59.27	3.94	40.98	0.00	8.75
15:56:43	11.25	5.99	0.00	65.96	3.17	40.01	0.00	0.00
15:57:13	8.91	8.26	0.00	80.99	3.48	47.99	0.00	0.00
15:57:43	5.88	10.67	0.00	94.89	6.85	67.70	0.00	0.00
15:58:13	9.52	9.10	0.00	109.98	12.75	75.96	0.00	4.11
15:58:43	12.38	7.29	0.00	85.50	11.72	82.74	0.00	0.00
15:59:13	10.21	7.59	0.00	66.61	9.20	74.58	0.00	0.00
15:59:43	8.44	8.27	0.00	60.99	8.05	71.96	0.00	28.08

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
16:00:13	7.06	9.05	0.00	52.98	8.53	74.10	0.00	24.87
16:00:43	6.48	9.34	0.00	49.56	10.20	82.51	0.00	0.00
16:01:12	11.65	7.21	0.00	43.34	10.85	89.74	0.00	0.00
16:01:42	11.16	7.03	0.00	45.91	8.22	103.41	0.00	3.81
16:02:12	7.17	8.61	0.00	52.14	7.44	102.06	0.00	5.04
16:02:42	6.84	8.75	0.00	54.38	7.28	96.89	0.00	0.00
16:03:12	12.21	6.51	0.00	47.50	6.54	98.98	0.00	3.81
16:03:42	11.80	6.36	0.00	51.59	5.01	114.15	0.00	12.08
16:04:12	7.87	7.91	0.00	58.10	5.41	113.90	0.00	13.11
16:04:42	7.53	8.23	0.00	61.49	5.19	106.01	0.00	0.00
16:05:12	11.40	6.40	0.00	52.09	4.31	95.27	0.00	6.55
16:05:42	13.77	5.18	0.00	50.68	2.01	109.57	0.00	0.00
16:06:12	9.02	7.04	0.00	61.59	4.21	107.83	0.00	0.00
16:06:42	8.69	7.28	0.00	68.87	4.06	92.84	0.00	0.00
16:07:12	8.33	8.31	1513.37	91.99	13.49	130.70	0.00	123.71
16:07:42	3.51	12.28	11004.77	155.35	464.10	182.47	0.00	2752.39
16:08:12	5.36	12.48	1801.27	159.57	466.61	181.57	44.63	1944.85
16:08:42	8.13	10.57	35.11	136.80	199.47	155.61	30.68	856.45
16:09:12	9.36	9.41	7.77	122.25	97.20	138.25	0.00	398.16
16:09:41	10.18	8.63	3.16	113.62	59.13	131.69	0.00	203.51
16:10:11	10.06	8.60	0.66	118.87	41.69	126.22	0.00	117.25
16:10:41	8.98	9.21	0.00	108.51	31.88	134.88	0.00	49.09
16:11:11	6.76	9.96	178.47	71.31	25.73	131.04	0.00	40.51
16:11:41	7.94	9.46	309.02	67.78	22.54	121.91	0.00	99.36
16:12:11	10.13	8.42	21.30	57.90	19.69	123.50	0.00	38.64
16:12:41	10.90	7.58	1.70	42.62	16.44	123.08	0.00	18.76
16:13:11	6.64	9.13	3.34	43.84	14.24	111.83	0.00	9.98
16:13:41	7.75	8.69	0.20	40.78	12.75	95.66	0.00	10.22
16:14:11	12.51	6.59	0.00	34.92	10.56	100.07	0.00	8.77
16:14:41	9.34	7.51	0.00	43.05	10.02	110.91	0.00	26.22
16:15:11	6.92	8.68	0.00	46.37	9.24	101.13	0.00	0.00
16:15:41	8.24	8.12	0.00	45.52	8.52	88.48	0.00	22.89
16:16:11	13.61	5.79	0.00	37.91	5.81	86.93	0.00	0.00
16:16:41	9.92	6.91	0.00	49.82	6.81	89.89	0.00	6.49
16:17:11	8.47	7.56	0.00	58.25	6.40	83.78	0.00	5.78
16:17:41	11.91	6.11	0.00	56.54	5.79	68.99	0.00	0.00
16:18:11	9.24	8.12	0.00	51.54	5.92	150.57	0.00	3.16
16:18:41	6.66	9.84	0.00	50.95	5.71	227.07	0.00	0.00
16:19:11	8.21	9.17	0.00	48.36	5.66	228.50	0.00	0.00
16:19:41	11.06	7.74	0.00	42.59	5.42	254.37	0.00	0.00
16:20:11	11.15	7.33	0.00	37.70	4.71	247.07	0.00	0.00
16:20:41	8.08	8.56	0.00	40.53	4.82	220.30	0.00	0.00
16:21:10	6.03	9.84	0.00	40.09	4.36	224.82	0.00	0.00
16:21:40	7.51	9.44	3.74	36.01	4.17	224.94	0.00	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTONUOUS EMISSIONS MONITORING DATA FOR AUGUST 18, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
16:22:10	10.17	8.33	0.00	32.05	4.33	232.46	0.00	0.00
16:22:40	10.01	8.04	0.00	31.37	4.00	208.30	0.00	5.01
16:23:10	6.76	9.22	0.00	36.33	4.02	176.00	0.00	31.87
16:23:40	7.03	9.05	0.00	38.45	3.98	150.44	0.00	0.00
16:24:10	11.84	6.96	0.00	33.06	3.15	147.37	0.00	4.63
16:24:40	10.40	7.21	0.00	39.49	3.21	153.42	0.00	0.00
16:25:10	7.63	8.33	0.00	43.24	3.79	134.28	0.00	0.00
16:25:40	7.38	8.48	0.00	44.85	3.53	120.71	0.00	0.00
16:26:10	12.10	6.44	0.00	34.24	2.88	100.14	0.00	0.00
16:26:40	12.59	5.92	0.00	38.94	1.01	112.95	0.00	16.79
16:27:10	8.72	7.45	0.00	46.91	3.04	104.99	0.00	0.00
16:27:40	8.73	7.46	0.00	55.84	2.95	88.46	0.00	0.00
16:28:10	12.48	5.71	0.00	53.99	1.91	73.60	0.00	0.00
16:28:40	10.14	7.19	0.00	56.67	3.10	152.29	0.00	1.86
16:29:10	7.60	8.87	0.00	63.92	2.79	253.27	0.00	0.00
16:29:40	9.36	8.06	0.00	60.54	2.97	248.51	0.00	0.00
16:30:10	13.83	5.76	0.00	46.34	0.00	227.61	0.00	0.00
16:30:39	11.29	6.44	0.00	47.67	2.24	209.49	0.00	0.00
16:31:09	9.08	7.54	0.00	49.32	2.98	206.71	0.00	12.67
16:31:39	7.49	8.54	0.00	45.77	2.86	223.71	0.00	23.38
AVERAGE	7.17	7.81	322.03	68.22	18.24	396.68	1.33	211.68

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
10:00:07	9.96	6.76	28.42	45.41	24.92	9.60	0.00	84.08
10:00:37	10.32	6.38	27.37	46.20	24.47	10.43	0.00	88.94
10:01:07	11.16	6.43	24.51	50.31	23.70	9.61	0.00	85.48
10:01:37	8.65	8.41	24.39	74.83	28.77	10.69	0.00	80.88
10:02:07	7.70	8.72	24.46	90.76	37.46	19.58	0.00	57.23
10:02:37	7.84	8.41	23.02	94.00	35.59	28.13	0.00	80.68
10:03:07	8.19	8.03	22.00	89.95	31.92	32.31	0.00	48.88
10:03:36	8.60	7.69	20.81	81.16	29.91	39.78	0.00	62.16
10:04:06	8.84	7.51	19.55	75.21	28.54	46.84	0.00	63.49
10:04:36	9.04	7.36	19.01	71.43	27.32	47.64	0.00	48.77
10:05:06	9.17	7.27	18.29	68.40	26.56	61.27	0.00	54.38
10:05:36	9.30	7.14	18.74	64.57	26.02	77.19	0.00	73.70
10:06:06	9.53	6.95	18.03	57.35	25.39	78.36	0.00	62.63
10:06:36	9.80	6.69	18.15	51.88	25.11	77.94	0.00	45.95
10:07:06	11.01	6.34	16.83	54.23	25.23	73.27	0.00	57.00
10:07:36	8.79	8.63	16.88	75.16	29.82	46.94	0.00	54.49
10:08:06	6.58	10.17	15.87	99.16	41.54	25.56	0.00	41.08
10:08:36	6.42	9.96	14.34	101.64	46.69	38.78	0.00	59.14
10:09:06	5.73	10.84	16.03	110.53	46.43	52.27	0.00	68.36
10:09:36	4.62	11.61	20.38	112.28	52.40	64.00	0.00	63.47
10:10:06	5.16	10.98	19.28	104.25	52.95	89.55	0.00	47.96
10:10:36	5.73	10.51	18.91	101.06	52.07	70.50	0.00	45.10
10:11:06	6.07	10.19	17.97	97.26	51.79	101.98	0.00	70.08
10:11:36	6.59	9.74	17.47	86.08	50.75	111.98	0.00	45.51
10:12:06	7.21	9.21	16.27	72.07	47.81	101.49	0.00	57.45
10:12:36	7.65	8.82	16.15	64.49	45.38	89.99	0.00	56.16
10:13:06	9.38	7.22	13.13	55.51	40.10	77.68	0.00	37.76
10:13:35	8.30	9.14	9.94	97.95	37.93	63.30	0.00	58.01
10:14:05	6.12	10.90	9.41	137.17	49.83	21.96	0.00	59.92
10:14:35	5.14	11.29	11.60	119.43	56.52	29.92	0.00	72.68
10:15:05	6.03	10.37	13.44	92.89	56.68	52.54	0.00	57.91
10:15:35	6.84	9.70	15.48	77.86	54.66	70.96	14.08	58.44
10:16:05	7.37	9.20	15.06	65.44	53.50	83.38	81.75	61.60
10:16:35	7.69	8.96	14.34	59.52	51.04	94.30	52.60	68.44
10:17:05	8.08	8.28	13.89	54.21	47.61	89.54	83.44	70.85
10:17:35	8.90	7.53	11.56	47.15	41.52	81.63	69.87	54.79
10:18:05	9.68	6.95	8.57	42.86	36.34	77.01	53.25	65.08
10:18:35	10.06	6.74	7.95	43.39	32.23	93.25	48.18	94.94
10:19:05	10.14	6.55	6.96	46.59	30.23	100.31	37.15	86.83
10:19:35	11.32	6.18	6.65	52.07	28.64	104.67	32.81	106.17
10:20:05	8.22	9.65	6.53	92.60	34.24	91.13	29.14	98.49
10:20:35	5.97	10.98	6.01	100.97	50.60	88.55	27.33	108.04
10:21:05	5.03	11.70	7.91	89.96	52.67	95.82	27.24	121.99
10:21:35	5.63	10.92	10.68	79.99	51.92	109.73	25.88	121.77

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
10:22:05	6.68	9.98	10.35	70.73	47.81	127.61	24.34	126.11
10:22:34	7.34	9.40	9.83	67.09	44.47	144.40	22.42	127.62
10:23:04	7.73	8.99	9.75	58.60	41.72	164.06	20.77	109.28
10:23:34	8.32	8.49	9.59	48.01	38.88	180.40	19.41	121.38
10:24:04	8.61	7.99	10.36	46.60	35.04	177.09	18.22	124.18
10:24:34	9.31	7.26	8.69	42.37	30.53	174.77	17.17	131.56
10:25:04	9.95	6.75	6.67	40.88	27.04	185.12	16.21	134.76
10:25:34	10.58	6.29	4.82	42.70	24.99	169.16	15.30	154.62
10:26:04								
10:26:34	6.36	11.21	6.55	126.85	37.29	249.16	57.71	199.94
10:27:04	4.82	11.78	53.77	124.61	66.95	584.73	58.32	180.57
10:27:34	5.03	11.60	19.66	109.70	62.17	639.35	61.59	196.64
10:28:24	5.04	12.46	46.95	122.14	58.57	586.74	62.66	194.98
10:29:06	4.46	11.49	13.40	119.60	51.97	532.45	147.43	216.03
10:29:36	5.52	10.51	7.29	106.74	43.24	511.47	140.92	179.22
10:30:05	6.25	9.88	6.12	95.83	39.79	486.21	135.92	178.89
10:30:35	6.89	9.35	5.75	87.97	37.26	456.83	130.24	193.65
10:31:05	7.42	8.93	5.93	78.20	35.44	447.97	125.22	186.01
10:31:35	7.82	8.56	6.58	69.90	33.79	417.66	120.58	204.22
10:32:05	8.22	8.21	6.97	61.36	32.25	395.04	116.24	228.20
10:32:35	8.58	7.92	6.34	54.48	30.84	369.00	112.36	217.60
10:33:05	9.33	7.20	6.07	53.30	29.37	352.96	108.63	240.54
10:33:35	7.93	10.47	130.77	177.43	33.88	372.72	105.25	259.18
10:34:05	2.49	13.67	3592.12	174.58	91.77	468.63	102.89	285.93
10:34:35	1.19	14.10	7467.75	132.90	137.85	499.64		695.24
10:35:05	3.25	12.75	1470.59	130.19	142.58	580.36	179.35	2416.63
10:35:35	4.82	11.35	52.15	123.37	107.37	597.19	112.23	3252.27
10:36:05	6.00	10.30	13.72	113.35	70.43	580.52	106.77	2852.67
10:36:35	6.66	9.68	10.12	105.45	48.27	566.98	101.81	2270.20
10:37:05	6.71	9.52	9.08	105.19	36.89	573.56	98.11	1835.95
10:37:35	6.93	9.32	8.49	94.40	31.17	564.20	95.31	1494.69
10:38:05	7.39	8.95	7.51	82.16	27.66	532.40	92.54	1261.06
10:38:34	7.80	8.61	6.98	72.45	25.32	490.96	89.85	1041.88
10:39:04	8.11	8.36	7.02	66.18	23.43	459.62	87.27	901.34
10:39:34	8.42	8.41	6.30	71.94	21.33	415.47	85.22	786.79
10:40:04	4.41	11.61	503.95	113.66	19.71	723.87	82.89	721.01
10:40:34	2.56	13.08	3323.99	103.49	28.41	1046.30	104.12	722.47
10:41:04	2.46	13.30	2276.08	108.19	53.02	1021.05	149.89	1184.75
10:41:34	4.03	12.16	168.64	105.04	65.33	897.03	92.72	1710.03
10:42:04	5.54	10.90	31.53	87.72	57.67	800.63	88.61	1617.68
10:42:34	6.46	10.03	19.53	79.99	45.72	723.17	84.35	1313.65
10:43:04	7.02	9.48	15.09	75.66	36.42	651.81	80.95	1111.90
10:43:34	7.49	9.02	12.51	70.18	30.21	594.18	77.75	971.77
10:44:04	7.90	8.66	10.61	63.18	26.28	542.50	74.52	877.79

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
10:44:34	8.08	8.47	9.17	57.82	23.81	531.79	71.68	803.68
10:45:04	8.30	8.27	8.64	52.73	22.06	511.51	69.08	751.30
10:45:34	8.46	8.09	8.42	50.40	20.54	549.65	66.85	702.62
10:46:04	10.67	6.90	5.52	46.09	19.75	463.93	64.87	668.45
10:46:34	9.81	7.68	5.15	50.99	19.20	668.09	60.78	675.78
10:47:04	7.05	9.55	11.59	68.79	19.13	973.39	64.12	649.89
10:47:34	5.91	10.48	15.11	70.41	22.16	1121.20	66.91	643.04
10:48:03	6.04	10.44	15.34	69.32	25.82	1049.88	66.80	625.98
10:48:33	6.35	10.14	12.68	70.12	27.73	911.42	65.15	600.03
10:49:03	6.82	9.73	10.86	68.11	27.59	800.42	63.60	532.03
10:49:33	7.30	9.30	8.77	66.30	26.80	745.74	61.73	523.29
10:50:03	7.87	8.83	7.56	62.72	25.59	721.17	59.43	529.53
10:50:33	8.36	8.43	6.53	59.90	24.18	679.91	57.67	520.10
10:51:03	8.88	8.01	5.69	53.13	23.06	630.72	55.57	547.39
10:51:33	9.36	7.63	4.78	46.21	21.62	575.30	53.54	590.86
10:52:03	9.68	7.33	4.87	42.26	20.27	544.83	51.71	631.38
10:52:33	11.54	6.07	2.46	35.35	18.69	447.63	50.01	648.14
10:53:03	10.77	7.20	2.49	43.71	18.11	631.82	46.94	706.57
10:53:33	8.62	8.60	4.45	51.83	18.12	727.79	50.55	719.86
10:54:03	8.73	8.50	5.66	46.97	19.85	674.77	51.92	745.06
10:54:33	9.33	7.99	4.98	40.51	21.54	610.23	50.67	756.11
10:55:03	9.68	7.68	5.02	37.68	21.75	637.21	49.45	771.48
10:55:33	10.18	7.22	4.26	31.24	21.31	556.74	48.66	795.02
10:56:03	10.70	6.81	4.45	27.70	20.24	490.14	47.12	805.14
10:56:33	10.96	6.57	3.51	24.98	18.86	463.24	45.99	834.06
10:57:02	11.14	6.38	10.55	22.80	17.74	455.33	44.91	849.11
10:57:32	11.57	6.10	22.46	20.57	16.70	435.67	44.24	868.28
10:58:02	11.76	5.94	19.57	19.10	15.73	438.87	42.99	904.06
10:58:32	11.88	5.78	17.98	21.54	14.65	428.64	42.05	922.43
10:59:02	12.96	5.78	17.42	20.56	13.12	273.78	40.95	950.18
10:59:32	9.20	8.65	951.78	23.93	14.99	261.68	55.28	1061.68
11:00:02	9.37	8.45	1602.02	22.73	17.21	274.57	93.63	1791.21
11:00:32	10.33	7.82	171.88	20.74	20.90	282.30	42.97	2517.84
11:01:02	9.12	8.53	23.02	27.61	21.80	359.56	42.03	2369.77
11:01:32	9.07	8.49	9.82	29.19	20.65	369.84	42.79	2038.17
11:02:02	9.69	7.93	7.28	27.44	20.02	340.57	41.63	1722.32
11:02:32	10.39	7.26	6.36	23.25	19.37	334.54	40.11	1470.07
11:03:02	11.00	6.73	6.19	19.94	18.58	313.11	38.68	1302.66
11:03:32	11.40	6.37	5.93	16.39	17.85	295.13	37.67	1222.54
11:04:02	11.82	6.02	6.10	14.75	16.65	284.03	36.93	1113.38
11:04:32	12.07	5.84	5.78	15.38	15.82	272.97	36.03	1058.69
11:05:02	12.05	5.77	5.56	18.20	15.38	263.34	35.43	1026.20
11:05:32	12.12	5.72	5.34	18.96	14.90	257.49	34.92	1019.04
11:06:02	12.18	5.62	5.33	22.39	14.12	224.06	34.46	992.47

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
11:06:32	13.76	5.04	3.25	31.66	11.10	299.55	33.40	962.03
11:07:02	11.25	6.36	112.17	33.43	13.35	571.88	36.26	964.99
11:07:31	9.19	7.71	391.24	22.89	13.54	873.95	40.00	1061.40
11:08:01	8.79	8.39	110.16	24.07	14.46	939.61	39.88	1111.89
11:08:31	9.14	8.15	19.58	25.19	17.60	965.87	38.83	1021.32
11:09:01	12.68	6.51	4.89	20.39	18.22	861.40	37.44	884.17
11:09:31	13.80	5.55	2.67	14.37	18.94	675.14	34.16	879.59
11:10:01	12.18	5.72	1.36	18.51	19.95	662.40	33.81	871.66
11:10:31	11.86	5.78	0.31	7.48	19.18	629.19	33.81	891.77
11:11:01	12.21	5.65	0.00	3.62	17.24	599.44	33.40	877.63
11:11:31	12.38	5.49	0.00	2.11	15.90	546.24	32.83	838.69
11:12:01	12.76	5.16	0.00	0.51	12.02	517.58	32.27	811.45
11:12:31	14.01	4.83	0.00	0.64	8.73	457.91	31.82	768.02
11:13:01	12.34	6.42	442.80	5.31	10.85	587.43	30.85	811.96
11:13:31	10.33	6.89	4718.36	5.29	13.04	901.85	222.43	1849.38
11:14:01	9.70	7.28	6217.67	0.47	18.59	1114.52	157.63	5619.01
11:14:31	11.01	6.91	3476.64	0.28	32.05	1096.76	41.75	8284.60
11:15:01	12.68	6.00	563.40	0.25	44.40	968.92	33.02	8293.67
11:15:31	13.83	5.13	90.39	0.25	45.50	830.30	31.01	7015.47
11:16:01	14.89	4.35	21.88	0.27	37.07	688.00	29.45	5746.98
11:16:31	14.53	4.10	7.21	18.32	29.11	644.74	28.80	4680.16
11:17:01	14.72	3.89	2.00	14.41	23.91	609.82	29.82	3812.51
11:17:31	15.20	3.60	0.00	18.00	20.18	580.05	29.59	3132.79
11:18:01	15.18	3.53	0.00	16.47	16.65	560.64	29.08	2558.28
11:18:31	15.66	3.22	0.00	17.24	13.68	563.25	28.76	2175.13
11:19:01	16.22	2.97	1.89	19.36	11.13	652.92	28.33	1844.88
11:19:31	14.83	3.68	1268.20	33.54	9.83	1125.23	40.43	2043.65
11:20:00	13.53	3.91	7656.73	22.16	11.70	1235.76	291.81	6294.42
11:20:30	17.01	2.39	7108.21	13.06	13.65	1235.75	143.88	11259.56
11:21:00	16.07	3.16	1861.49	23.60	28.88	1235.75	32.53	11926.79
11:21:30	15.80	3.49	346.21	27.27	39.89	1235.75	31.70	11897.24
11:22:00		3.24	74.47	25.88	39.52	1235.75	30.41	11573.41
11:22:30		2.87	21.09	24.06	34.28	1235.75	29.04	10049.15
11:23:00		0.96	4.40	4.28	26.80	1235.75	27.99	8203.58
11:23:30		0.17	0.00	0.89	14.70	1228.44	26.95	6674.68
11:24:00		0.02	0.00	0.42	5.16	1101.82	26.01	5500.42
11:24:30		0.00	0.00	0.38	1.03	1003.42	25.25	4617.40
11:25:00		0.00	0.00	0.30	0.00	854.25	25.22	3856.80
11:25:30		0.00	0.00	0.31	0.00	950.69	26.21	3272.97
11:26:00		0.49	0.00	0.59	0.00	1235.75	34.56	3950.74
11:26:30	13.11	4.25	1972.93	0.35	5.45	1235.75	268.98	7327.18
11:27:08	13.46	4.50	3079.28	0.31	4.96	1235.76	171.01	9768.59
11:27:51		1.21	291.74	0.29	4.22	1178.56	34.93	9917.14
11:28:21		0.13	14.45	0.26	6.25	1008.48	30.10	9073.82

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
11:28:51		0.02	0.00	0.29	6.57	866.13	25.25	7762.96
11:29:21		0.00	0.00	0.29	5.54	779.86	21.61	6399.02
11:29:51		0.00	0.00	0.30	5.38	674.25	19.97	5273.47
11:30:20						601.91	18.55	4576.04
11:30:50						524.35	16.94	3971.90
11:31:20						480.26	17.41	3477.01
11:31:50						447.97	17.76	3075.07
11:32:20						436.66	18.11	2698.33
11:32:50						417.48	18.61	2422.40
11:33:20						404.16	19.10	2249.40
11:33:50						442.41	19.57	2039.47
11:34:20						782.57	19.99	1898.12
11:34:50						970.28	20.35	1772.97
11:35:20						1127.89	21.09	1623.77
11:35:50						1170.36	21.29	1544.14
11:36:20						1053.95	21.53	1506.96
11:36:50						992.75	21.75	1548.60
11:37:20						944.58	21.93	1563.83
11:37:50						870.20	22.13	1566.16
11:38:20						821.05	22.30	1501.37
11:38:50						786.57	22.44	1455.54
11:39:19						725.28	22.33	1438.53
11:39:49						626.09	22.18	1400.48
11:40:19						676.94	22.25	1364.25
11:40:49						785.60	22.26	1364.18
11:41:19						747.67	22.01	1435.90
11:41:49						622.86	21.87	1469.83
11:42:19						474.88	21.75	1456.14
11:42:49						399.52	21.68	1476.03
11:43:19						355.23	21.50	1470.97
11:43:49						330.04	21.31	1436.92
11:44:19						300.81	21.15	1353.42
11:44:49						292.64	21.04	1297.60
11:45:19						280.73	21.03	1238.66
11:45:49						268.16	20.88	1177.10
11:46:19						266.44	20.87	1114.13
11:46:49						352.44	20.86	1111.62
11:47:19						433.10	20.62	1068.34
11:47:49						416.00	20.52	1118.08
11:48:18						389.66	20.61	1128.68
11:48:48						373.53	20.72	1094.04
11:49:18						362.52	20.57	1054.75
11:49:48						338.29	20.48	1058.90
11:50:18						322.34	20.19	1074.17

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
11:50:48						308.78	20.07	1072.41
11:51:18						299.02	19.86	1014.63
11:51:48						296.87	19.51	974.47
11:52:18						287.68	19.33	959.63
11:52:48						286.55	19.28	961.66
11:53:18						275.15	18.98	917.55
11:53:48						264.98	18.97	903.15
11:54:18						263.86	18.90	876.61
11:54:48						269.25	18.99	854.10
11:55:18						271.93	19.05	880.18
11:55:48						269.85	18.84	820.37
11:56:18						264.31	19.08	787.04
11:56:47						268.03	21.15	755.93
11:57:17						264.10	18.12	750.08
11:57:47						264.78	18.05	707.29
11:58:17						259.48	17.59	685.96
11:58:47						255.39	16.69	710.83
11:59:17						250.54	15.58	657.10
11:59:47						251.80	14.72	635.83
12:00:17						302.75	14.00	627.17
12:00:47						343.85	13.31	625.39
12:01:17						330.70	13.61	596.05
12:01:47						309.68	13.67	612.33
12:02:17						300.44	12.98	602.51
12:02:47						290.27	12.33	591.62
12:03:17						277.43	11.64	612.84
12:03:47						269.20	11.17	611.59
12:04:17						251.63	10.88	600.35
12:04:47						245.01	10.62	591.26
12:05:17						227.10	10.54	579.32
12:05:47						208.23	11.17	595.99
12:06:17						210.65	12.73	570.74
12:06:47						202.48	14.77	559.43
12:07:16						202.22	15.63	563.56
12:07:46						207.65	15.67	577.44
12:08:16						203.62	15.73	527.35
12:08:46						197.33	16.09	508.52
12:09:16						201.85	15.99	520.53
12:09:46						198.87	16.08	493.68
12:10:16						190.28	16.56	462.84
12:10:46						194.12	16.85	451.78
12:11:16						189.93	16.98	465.06
12:11:46						181.37	17.36	439.95
12:12:16						181.26	17.93	425.60

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
12:12:46						175.74	18.54	413.00
12:13:16		12.85	1389.37	115.23	68.01	198.09	17.73	416.39
12:13:46		13.77	12623.05	119.78	144.73	280.90	18.15	399.62
12:14:16		14.02	6027.39	128.70	95.94	349.20	18.43	542.41
12:14:46		10.37	5335.23	152.47	56.40	369.64	18.94	1184.77
12:15:16	9.39	8.57	676.35	124.60	24.49	340.58	19.03	1548.36
12:15:46	9.95	8.40	3.86	95.56	15.03	319.47	19.05	1576.87
12:16:16	6.60	9.95	0.00	96.62	14.61	320.56	19.66	1408.94
12:16:46	6.54	9.66	0.00	90.38	15.41	303.86	19.69	1262.33
12:17:16	7.04	9.20	0.00	80.72	15.26	272.75	19.73	1124.15
12:17:45	7.56	8.80	0.00	68.89	14.75	257.21	20.35	1001.81
12:18:15	7.85	8.59	0.00	63.59	14.16	245.21	20.44	855.21
12:18:45	8.68	7.87	0.00	66.96	14.05	228.70	23.25	790.76
12:19:15	6.45	11.15	443.26	102.83	30.05	226.10	21.75	715.05
12:19:45	1.00	14.38	6754.34	116.85	170.32	281.26	22.02	686.36
12:20:15	3.61	12.59	6104.06	138.38	129.95	322.93	22.52	651.38
12:20:45	7.62	10.26	1187.77	129.44	53.24	352.97	14.54	930.13
12:21:15	8.70	9.44	13.39	106.53	30.06	383.52	54.47	1200.45
12:21:45	9.99	8.40	0.00	89.77	26.35	408.68	19.42	1177.96
12:22:15	6.41	10.31	0.00	88.25	26.11	408.50	4.37	1058.12
12:22:45	5.83	10.26	0.00	87.50	27.49	384.54	17.62	934.12
12:23:15	6.23	9.80	0.00	82.17	26.67	357.57	16.71	855.19
12:23:45	6.96	9.22	0.00	72.35	25.03	328.83	16.15	716.54
12:24:15	7.36	8.96	0.00	67.19	23.67	296.77	15.76	676.67
12:24:45	7.63	8.73	0.00	64.20	22.11	269.98	15.44	614.20
12:25:15	8.30	8.11	0.00	65.02	20.87	258.46	15.18	567.38
12:25:45	9.24	8.53	24.18	97.56	19.76	249.81	14.95	548.64
12:26:15	3.03	12.65	3519.47	130.49	36.63	343.43	101.57	513.85
12:26:45	0.99	14.10	11236.09	170.83	102.51	463.92	52.57	509.84
12:27:14	4.02	13.06	4228.50	211.55	125.99	486.73	26.84	833.12
12:27:44	7.60	10.38	209.21	181.95	80.89	467.92	26.09	1250.62
12:28:14	9.29	9.06	14.13	162.57	51.37	467.76	26.78	1239.62
12:28:44	10.36	8.23	1.76	146.70	38.92	442.40	26.58	1134.77
12:29:14	8.54	9.13	0.70	118.12	31.97	405.07	26.86	1000.14
12:29:44	6.81	9.59	0.00	107.28	31.39	388.08	26.84	888.02
12:30:14	7.06	9.34	0.00	98.73	30.87	358.24	27.33	791.65
12:30:44	7.34	9.02	0.00	90.81	29.39	350.92	27.66	714.44
12:31:14	7.67	8.80	0.00	85.28	27.24	334.19	28.02	630.33
12:31:44	8.73	8.56	0.00	88.88	24.92	315.13	28.20	581.61
12:32:14	4.44	10.06	1232.27	128.42	24.37	430.87	29.57	535.37
12:32:44	0.55	12.53	13430.95	135.14	60.28	612.29	30.86	510.79
12:33:14	1.30	14.23	7662.40	186.35	137.78	786.00	32.17	764.15
12:33:44	3.69	14.05	2404.31	201.70	128.44	733.62	34.03	1396.76
12:34:14	5.10	13.34	95.36	190.37	76.40	601.74	35.34	1612.22

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
12:34:44	7.19	12.11	8.63	171.20	55.14	467.59	36.20	1493.80
12:35:14	8.37	11.02	3.01	151.10	43.94	417.90	37.86	1311.22
12:35:44	9.02	10.20	0.00	135.11	35.30	383.80	39.42	1179.66
12:36:14	8.94	9.72	0.00	130.69	29.95	359.56	41.85	1026.57
12:36:43	9.22	9.42	0.00	122.62	29.19	339.00	81.41	890.42
12:37:13	7.81	9.30	0.00	111.70	27.97	327.53	267.57	824.36
12:37:43	6.75	9.25	4.46	85.56	30.80	310.76	56.99	710.78
12:38:13	8.32	8.52	0.00	74.23	29.14	274.58	53.76	647.44
12:38:43	6.89	10.00	0.00	94.93	28.27	259.57	47.51	593.43
12:39:13	6.11	10.18	0.00	96.72	29.93	274.53	46.51	538.12
12:39:43	6.86	9.47	0.00	91.42	28.81	261.31	46.17	490.92
12:40:13	11.35	7.10	0.00	76.28	25.94	238.49	45.10	509.56
12:40:43	11.86	6.39	0.00	58.59	22.36	251.48	44.72	442.96
12:41:13	8.60	7.99	0.00	59.70	20.94	237.64	45.06	419.64
12:41:43	8.26	8.33	0.00	60.61	19.63	221.90	44.85	426.14
12:42:13	8.33	8.28	0.00	55.34	20.03	209.43	44.90	389.84
12:42:43	8.45	8.17	0.00	53.68	21.52	208.98	45.43	369.91
12:43:13	8.57	8.05	0.00	52.91	21.19	194.27	45.32	373.20
12:43:43	8.69	7.93	0.00	52.90	20.83	191.92	46.08	363.22
12:44:13	8.82	7.82	0.00	53.96	20.84	184.32	46.44	349.05
12:44:43	8.99	7.69	0.00	54.95	20.31	182.21	45.80	346.78
12:45:13	9.19	7.52	0.00	56.38	19.88	175.57	45.98	344.33
12:45:43	9.42	7.35	0.00	57.84	18.77	170.31	46.58	335.30
12:46:13	10.75	6.69	0.00	69.51	18.32	159.88	46.05	339.24
12:46:43	5.20	10.92	231.67	99.19	21.40	167.20	45.31	331.25
12:47:13	1.56	13.80	2283.36	118.19	58.27	209.51	45.33	328.40
12:47:42	2.89	13.43	2388.59	145.99	88.09	266.00	45.42	323.09
12:48:12	6.88	11.04	686.33	141.71	75.04	246.04	45.86	417.58
12:48:42	8.78	9.46	21.93	122.11	51.87	232.11	46.32	514.26
12:49:12	9.86	8.49	0.00	109.11	40.83	215.03	45.82	497.81
12:49:42	9.53	8.16	0.00	90.77	36.16	204.22	46.15	492.48
12:50:12	6.61	9.58	0.00	90.51	34.15	207.99	46.54	478.71
12:50:42	6.55	9.62	0.00	86.11	32.89	190.35	46.07	469.29
12:51:12	6.88	9.34	0.00	81.25	30.98	182.40	46.46	431.69
12:51:42	7.28	9.02	0.00	74.75	28.77	174.86	46.73	396.69
12:52:12	7.55	8.79	0.00	69.57	26.96	166.82	46.22	391.82
12:52:42	7.86	8.53	0.00	63.61	25.75	163.21	46.81	366.21
12:53:12	8.12	8.32	0.00	58.22	24.70	168.29	47.47	361.01
12:53:42	8.32	8.18	0.00	56.25	24.07	165.12	47.28	353.52
12:54:12	8.45	8.08	0.00	53.94	23.36	165.09	48.10	323.45
12:54:42	10.17	7.06	0.00	70.11	22.57	154.22	48.79	338.12
12:55:12	7.82	9.82	12.18	113.02	22.17	164.27	52.28	331.05
12:55:42	1.63	13.90	4759.81	115.00	47.37	220.49	52.27	323.26
12:56:12	3.09	13.25	12673.40	139.53	98.25	245.50	50.14	328.57

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
12:56:42	7.03	11.26	1834.55	139.03	72.23	232.99	49.12	728.82
12:57:12	8.74	9.90	45.70	137.99	45.89	239.57	49.53	1247.65
12:57:41	9.56	9.12	1.91	135.89	35.38	231.25	49.96	1308.30
12:58:11	9.97	8.57	0.00	117.77	30.19	215.97	49.57	1155.08
12:58:41	6.58	10.10	0.00	111.15	27.19	217.68	50.12	1009.91
12:59:11	6.43	10.01	0.00	100.78	25.44	201.07	50.49	859.02
12:59:41	6.75	9.68	0.00	93.04	24.04	185.10	49.72	752.00
13:00:11	7.16	9.33	0.00	86.09	23.18	177.84	50.09	669.06
13:00:41	7.51	9.04	0.00	78.37	22.20	172.48	49.95	602.85
13:15:10	3.42	12.13	16.39	89.55	131.85	352.78	17.13	266.73
13:15:40	8.99	9.12	3.29	80.60	96.88	360.85	16.72	236.66
13:16:09	9.78	8.48	0.00	63.53	78.50	353.21	15.83	221.85
13:16:39	4.90	11.01	0.00	69.37	73.07	337.57	15.52	225.01
13:17:09	4.36	11.16	0.00	67.11	58.89	305.02	16.22	228.69
13:17:39	8.56	8.52	0.00	52.93	44.32	276.14	16.25	221.05
13:18:09	10.56	7.68	0.00	49.55	36.97	245.65	15.75	246.65
13:18:39	5.82	9.98	0.00	64.55	39.48	255.77	15.24	255.96
13:19:09	9.19	8.26	0.00	83.41	32.66	210.09	15.95	227.11
13:19:39	1.86	13.74	3967.60	111.32	251.16	239.90	17.26	220.86
13:20:09	0.67	15.45	13042.43	145.67	306.47	340.91	22.73	232.23
13:20:39	1.93	15.39	3595.33	152.23	207.62	476.57	167.66	471.11
13:21:09	3.54	14.05	2553.87	131.45	163.54	537.22	25.99	986.64
13:21:39	4.13	13.49	1328.99	154.36	119.11	446.19	28.86	1183.82
13:22:09	4.91	12.88	94.97	183.45	67.85	403.09	25.40	1088.02
13:22:39	2.59	14.85	210.78	162.10	66.30	456.53	22.78	943.04
13:23:09	1.24	15.60	2660.59	139.86	149.47	503.19	23.31	819.51
13:23:39	1.49	15.47	2008.40	168.76	159.73	518.76	24.63	747.49
13:24:09	3.21	13.91	518.45	177.86	110.08	486.42	26.04	773.90
13:24:39	4.77	12.53	20.39	162.90	71.17	427.23	27.00	771.63
13:25:09	6.12	11.37	0.00	145.23	55.95	426.42	28.15	669.82
13:25:39	6.97	10.73	0.00	135.69	50.66	410.34	29.68	605.46
13:26:09	6.10	11.51	0.00	136.05	52.34	411.84	31.30	508.85
13:26:39	6.57	11.10	0.00	115.80	53.25	382.11	32.67	476.49
13:27:08	7.63	10.19	0.00	90.83	47.73	354.35	34.54	402.41
13:27:38	8.59	9.39	0.00	73.94	42.72	340.21	35.34	375.51
13:28:08	9.30	8.75	0.00	59.59	41.50	334.57	35.92	335.09
13:28:38	8.05	9.35	0.00	55.99	41.90	318.89	37.29	332.54
13:29:08	4.26	11.06	0.00	62.07	52.51	314.69	38.26	291.41
13:29:38	8.93	8.16	0.00	47.27	48.45	258.43	39.15	275.97
13:30:08	11.50	7.04	0.00	42.65	44.02	246.23	41.20	245.50
13:30:38	6.01	9.93	0.00	58.68	47.25	275.88	41.46	223.08
13:31:08	4.99	10.33	0.00	62.21	49.55	257.84	41.31	212.53
13:31:38	8.29	7.96	0.00	50.00	45.49	220.18	41.73	214.91
13:32:08	13.38	5.26	0.00	39.62	35.89	178.31	41.76	183.39

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
13:32:38	10.39	6.68	0.00	55.89	34.21	185.20	42.38	191.00
13:33:08	10.31	6.51	0.00	61.71	30.41	162.47	43.39	193.13
13:33:38	10.60	7.52	30.21	83.06	28.84	151.60	43.61	183.09
13:34:08	2.15	13.19	4679.11	115.84	314.64	325.70	43.79	150.27
13:34:38	0.56	13.80	13299.25	134.41	375.27	540.43	44.17	212.06
13:35:08	4.66	12.37	6863.30	159.47	221.41	576.11	44.27	443.23
13:35:38	7.37	10.55	410.49	145.61	105.02	506.85	45.03	1031.15
13:36:08	8.52	9.63	13.27	131.17	61.29	440.61	46.13	1166.93
13:36:37	9.38	8.94	0.00	117.57	46.22	393.56	46.21	1032.67
13:37:07	10.03	8.38	0.00	102.03	39.31	352.47	46.91	873.35
13:37:37	10.84	7.83	0.00	84.76	34.86	317.50	47.87	738.41
13:38:07	6.65	9.97	0.00	87.21	33.13	313.81	48.03	633.78
13:38:37	6.02	9.76	0.00	81.42	32.60	285.96	48.89	512.72
13:39:07	11.16	6.91	0.00	61.91	28.79	220.09	49.92	449.29
13:39:37	12.20	6.50	0.00	54.62	25.09	211.05	49.91	386.41
13:40:07	7.89	8.67	0.00	63.78	25.43	220.93	50.73	367.12
13:40:37	7.45	8.70	0.00	62.17	25.75	200.65	51.31	287.91
13:41:07	7.73	8.42	0.00	57.56	24.73	188.19	51.18	263.13
13:41:37	8.06	8.14	0.00	56.35	23.79	158.06	51.82	224.36
13:42:07	8.35	7.91	0.00	55.31	22.68	159.41	52.49	214.73
13:42:37	8.59	7.73	0.00	55.22	21.67	143.47	52.49	184.69
13:43:07	10.36	6.42	0.00	68.55	21.09	135.57	53.43	179.71
13:43:37	9.18	8.45	0.00	92.00	20.83	131.07	54.06	155.48
13:44:07	5.10	11.48	0.00	111.80	34.52	155.12	53.90	139.33
13:44:37	6.76	9.91	0.00	123.30	41.94	167.57	54.93	139.28
13:45:07	9.89	8.31	0.00	113.65	38.43	169.01	55.34	93.39
13:45:37	11.16	7.16	0.00	90.07	41.02	161.18	55.15	110.65
13:46:07	8.98	8.56	0.00	87.28	42.48	166.11	56.03	102.01
13:46:36	6.35	9.62	0.00	86.04	44.90	160.80	56.07	103.89
13:47:06	6.64	8.98	0.00	75.32	42.11	144.68	55.87	106.40
13:47:36	12.08	5.95	0.00	47.97	35.96	118.89	56.87	34.27
13:48:06	11.70	6.61	0.00	49.95	32.14	113.14	57.19	120.75
13:48:36	8.20	8.30	0.00	55.70	34.00	122.19	57.22	97.90
13:49:06	8.01	8.24	0.00	53.20	33.42	115.02	58.34	68.78
13:49:36	8.25	8.03	0.00	50.56	31.56	110.20	58.87	70.08
13:50:06	8.60	7.74	0.00	49.69	29.77	105.45	58.76	65.28
13:50:36	8.90	7.53	0.00	50.00	28.41	104.42	59.62	74.70
13:51:06	9.04	7.42	0.00	50.56	27.06	91.31	59.64	87.87
13:51:36	9.21	7.29	0.00	51.86	25.93	93.56	59.06	87.23
13:52:06	9.39	7.14	0.00	53.47	24.96	88.53	59.56	65.44
13:52:36	9.62	6.98	0.00	53.92	23.97	88.83	59.21	68.00
13:53:06	9.75	6.87	0.00	55.89	22.67	85.16	58.55	73.97
13:53:36	11.26	6.12	0.00	70.50	21.57	81.25	59.28	48.28
13:54:06	7.26	10.77	16.73	98.68	27.43	95.41	58.91	73.85

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
13:54:36	2.12	14.06	2088.01	103.62	157.54	174.46	58.16	75.53
13:55:06	3.75	12.62	2197.51	116.00	195.43	260.67	58.59	56.54
13:55:35	7.86	10.42	537.97	114.55	104.66	282.90	58.94	140.61
13:56:05	9.77	9.33	13.23	101.67	69.63	270.18	63.93	209.93
13:56:35	11.63	7.93	0.00	70.66	46.56	241.03	75.13	204.14
13:57:05	8.77	8.27	0.00	65.40	34.33	234.00	75.12	217.16
13:57:35	7.45	9.01	0.00	62.05	28.93	211.37	65.98	165.18
13:58:05	7.68	8.91	0.00	57.77	26.24	215.96	61.36	141.75
13:58:35	8.32	8.45	0.00	52.68	24.28	211.30	59.65	129.07
13:59:05	9.40	7.68	0.00	48.24	22.57	211.22	26.71	117.75
13:59:35	13.07	5.68	0.00	32.42	17.60	197.37		83.25
14:00:05	14.78	4.12	0.00	30.06	12.00	190.00		101.46
14:00:35	15.08	3.71	0.00	30.47	8.86	180.53		78.49
14:01:05	14.62	3.79	0.00	36.86	7.72	179.66		62.46
14:01:35	13.52	4.41	0.00	43.93	8.20	168.17		62.63
14:02:05	13.48	4.52	0.00	44.96	8.79	156.96		40.63
14:02:35	12.78	4.78	0.00	53.14	9.20	152.45		56.75
14:03:05	10.75	5.87	0.00	65.51	12.00	145.95		58.88
14:03:35	12.55	5.34	0.00	66.25	10.96	133.62		59.73
14:04:05	10.52	6.38	0.00	74.09	14.06	148.56		46.18
14:04:35	6.42	9.04	0.00	130.57	15.36	158.13		43.03
14:05:05	5.57	10.17	0.00	125.60	20.51	154.92		42.68
14:05:35	6.18	9.88	0.00	119.54	26.00	138.89		69.70
14:06:05	9.53	8.42	0.00	128.29	26.91	122.08		55.45
14:06:34	11.98	6.68	0.00	88.14	24.14	122.79		23.44
14:07:04	8.41	7.78	0.00	73.05	23.66	127.90		43.86
14:07:34	8.17	8.10	0.00	60.56	22.85	118.76		34.66
14:08:04	8.34	7.99	0.00	55.73	21.58	112.06		23.11
14:08:34	8.71	7.77	0.00	45.55	20.27	108.64		34.07
14:09:04	9.09	7.49	0.00	38.20	19.26	112.60		28.64
14:09:34	9.52	7.20	0.00	32.61	18.02	111.01		62.95
14:10:04	9.95	6.88	0.00	31.03	16.66	108.57		26.44
14:10:34	10.23	6.68	0.00	30.10	15.97	107.30		8.44
14:11:04	10.43	6.55	0.00	36.41	15.25	106.01		40.73
14:11:34	10.07	6.62	0.00	45.45	14.48	103.93		38.17
14:12:04	10.06	6.66	0.00	48.32	14.19	108.19		42.69
14:12:34	10.10	6.63	0.00	49.76	13.73	101.40		33.57
14:13:04	10.23	6.58	0.00	51.91	12.99	100.36		5.26
14:13:34	10.37	6.47	0.00	57.91	12.15	95.72		34.47
14:14:04	11.22	6.27	99.39	62.18	11.39	145.73		30.54
14:14:34	5.46	6.67	8335.76	56.15	11.51	203.84		38.87
14:15:04	2.70	6.72	19020.00	51.20	11.76	270.86		366.08
14:15:33	3.02	6.79	9921.91	81.53	15.88	276.70		1539.28
14:16:03	4.31	6.86	6795.38	114.08	30.60	260.57		2291.19

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
14:16:33	6.60	6.91	708.65	125.39	56.01	231.68		2371.46
14:17:03	8.19	6.98	54.76	114.83	82.21	226.79		2080.69
14:17:33	9.55	7.02	10.93	93.18	98.18	213.01		1743.64
14:18:03						189.71		1445.05
14:18:33						197.34		1146.04
14:19:03						193.69		931.34
14:19:33						180.54		741.00
14:20:03						158.46		606.71
14:20:33						142.60		477.21
14:21:03						148.52		414.88
14:21:33						158.30		336.08
14:22:03						137.21		258.64
14:22:33						119.22		215.34
14:23:03						126.11		186.56
14:23:33						219.56		136.13
14:24:03						263.95		128.44
14:24:33						212.87		84.74
14:25:03	10.26	7.91	0.00	76.47	34.23	200.02		95.18
14:25:33	11.13	7.91	0.00	68.71	37.78	209.60		66.50
14:26:03	7.80	7.90	0.00	67.89	40.65	208.44		53.10
14:26:33	7.40	7.88	0.00	59.51	41.44	193.87		31.63
14:27:03	7.71	7.86	0.00	55.52	40.58	178.59		25.73
14:27:32	7.98	7.83	0.00	54.28	38.93	170.32		47.12
14:28:02	8.24	7.82	0.00	54.23	36.94	159.73		20.60
14:28:32	8.44	7.78	0.00	55.19	35.10	141.46		8.76
14:29:02	8.59	7.78	0.00	56.37	32.98	164.20		52.98
14:29:32	8.85	7.47	0.00	58.38	28.96	160.18		5.34
14:30:02	9.13	7.26	0.00	61.34	27.46	127.38		17.32
14:30:32	9.34	7.09	0.00	64.62	25.98	142.57		16.97
14:31:02	9.54	6.91	0.00	67.93	24.12	148.36		19.47
14:31:32	10.95	5.47	0.00	79.48	21.64	134.33		42.09
14:32:02	9.49	10.64	294.40	103.64	29.70	189.09		1.47
14:32:32	2.44	13.53	6548.52	113.51	112.65	344.33		33.83
14:33:02	3.25	12.40	6629.54	147.34	124.17	475.30		56.78
14:33:32	6.79	9.76	355.19	108.18	75.25	496.35		483.35
14:34:02	9.73	8.06	1.42	76.40	49.25	432.09		819.25
14:34:32	10.80	7.43	0.40	67.02	37.08	405.71		779.69
14:35:02	10.77	8.11	3.99	67.43	31.52	404.11		658.99
14:35:32	9.14	7.50	4.42	51.18	28.27	395.95		517.21
14:36:02	10.08	6.79	0.00	46.20	24.55	365.94		385.14
14:36:32	10.57	6.47	0.00	45.80	22.64	338.75		324.44
14:37:02	11.02	6.21	0.00	47.39	21.02	306.26		299.46
14:37:32	11.31	5.99	0.00	50.12	19.57	267.14		223.10
14:38:02	11.60	5.75	0.00	53.59	17.91	252.23		148.35

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
14:38:31	11.83	5.55	0.00	56.71	16.67	240.71		130.74
14:39:01	12.05	5.38	0.00	58.58	15.29	215.92		121.12
14:39:31	12.24	5.24	0.00	58.46	13.87	198.26		107.97
14:40:01	12.36	5.12	0.00	58.71	12.75	185.40		91.36
14:40:31	13.58	4.42	0.00	61.65	10.34	168.83		40.58
14:41:01	10.16	7.80	735.38	75.19	13.22	186.77		57.32
14:41:31	5.26	10.93	7400.01	99.92	39.91	239.16		52.91
14:42:01	6.21	11.13	6915.47	121.84	66.29	272.67		258.24
14:42:31	8.94	9.15	845.81	107.57	56.55	323.20		1184.52
14:43:01	11.07	8.04	28.74	83.28	43.94	330.45		1721.60
14:43:31	12.69	7.10	1.35	73.38	39.29	311.53		1596.93
14:44:01	13.61	6.25	0.00	61.75	32.88	300.54		1346.58
14:44:31	14.03	5.49	0.00	51.08	26.88	283.05		1082.80
14:45:01	10.66	5.83	0.00	56.92	26.35	263.71		882.04
14:45:31	10.31	6.39	0.00	52.24	23.44	237.89		645.12
14:46:01	10.54	6.48	0.00	47.47	21.03	213.86		588.58
14:46:31	10.69	6.41	0.00	45.41	19.34	219.51		461.96
14:47:01	10.85	6.33	0.00	45.42	17.97	230.70		372.91
14:47:31	11.13	6.16	0.00	46.48	16.93	194.94		292.83
14:48:00	11.36	5.99	0.00	47.29	16.28	181.27		245.56
14:48:30	11.52	5.84	0.00	48.76	15.32	172.12		198.38
14:49:00	11.67	5.69	0.00	50.81	14.21	162.01		174.26
14:49:30	12.78	5.43	0.00	54.85	12.05	145.88		99.06
14:50:00	11.22	5.37	0.00	64.23	12.25	201.33		102.97
14:50:30	7.75	7.56	0.00	71.81	12.71	415.87		73.26
14:51:00	10.62	8.24	2.00	63.98	16.33	510.54		67.71
14:51:30	13.15	7.05	0.00	53.12	20.80	498.43		41.20
14:52:00	14.25	6.05	0.00	47.41	22.61	462.42		50.99
14:52:30	11.05	6.02	0.00	58.55	26.41	408.85		20.32
14:53:00	9.77	5.80	0.37	39.56	25.07	355.03		41.73
14:53:30	9.22	4.80	16.06	34.82	23.48	334.00		9.30
14:54:00	13.41	4.22	6.28	32.46	18.05	312.72		43.36
14:54:30	14.81	3.86	0.00	31.02	13.42	291.71		17.42
14:55:00	15.05	3.67	0.00	29.83	9.83	281.96		0.00
14:55:30	15.18	3.54	0.00	29.66	8.80	263.33		0.00
14:56:00	15.25	3.47	0.00	29.46	8.14	253.90		0.00
14:56:30	15.30	3.41	0.00	29.33	6.82	245.29		0.00
14:57:00	15.30	3.34	0.00	29.39	6.93	228.06		0.00
14:57:29	15.49	3.32	0.00	29.12	6.03	228.11		4.82
14:57:59	15.63	3.31	0.00	23.92	5.44	223.53		12.19
14:58:29	16.42	3.28	0.00	25.07	4.85	208.67		0.00
14:58:59	15.18	3.25	0.00	38.37	2.97	392.84		0.00
14:59:29	12.32	3.12	1229.14	45.41	7.33	886.89		0.00
14:59:59	14.21	3.32	2737.88	35.22	2.79	903.01		19.40

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
15:00:29	15.57	3.59	462.14	19.00	2.42	731.69		300.33
15:00:59	16.44	3.67	34.18	13.58	4.33	571.72		576.02
15:01:29	16.89	3.60	3.77	10.43	2.45	488.08		580.97
15:01:59	17.06	3.49	0.00	11.28	3.50	440.45		490.68
15:02:29	15.42	3.35	0.00	15.11	4.04	402.55		384.39
15:02:59	15.04	3.26	0.00	17.33	5.00	365.81		294.59
15:03:29	15.04	3.29	0.00	17.75	5.30	356.17		238.43
15:03:59	16.32	3.32	0.00	13.37	3.50	311.38		189.31
15:04:29	17.31	3.31	0.00	8.15	3.30	315.18		141.60
15:04:59	15.85	3.17	0.00	9.94	5.58	303.65		125.88
15:05:29	15.68	3.07	0.00	10.91	5.21	275.02		88.63
15:05:59	15.67	3.05	0.00	11.79	4.51	262.12		76.16
15:06:29	15.67	3.04	0.00	12.52	5.76	237.27		71.81
15:06:59	15.74	3.04	0.00	13.24	4.84	226.18		58.04
15:07:29	16.18	3.03	0.00	16.27	4.06	203.79		49.62
15:07:59	15.82	3.05	0.00	38.57	4.57	201.95		49.54
15:08:28	12.61	2.98	369.53	61.10	8.91	233.32		41.75
15:08:58	13.18	3.22	819.95	75.45	7.76	243.50		33.57
15:09:28	14.82	3.62	91.33	73.92	5.80	230.73		93.48
15:09:58	15.75	3.86	0.00	63.75	5.34	226.94		174.29
15:10:28	17.06	3.90	0.00	47.52	3.79	214.14		160.48
15:10:58	16.42	3.82	0.00	41.11	4.22	208.51		124.46
15:11:28	15.71	3.65	0.00	41.71	4.59	174.02		131.18
15:11:58	15.79	3.58	0.00	44.46	5.35	183.88		75.35
15:12:28	17.05	3.55	0.00	44.69	3.82	185.76		53.12
15:12:58	17.61	3.47	0.00	36.76	3.54	189.47		38.36
15:13:28	16.39	3.31	0.00	35.86	4.25	199.09		69.20
15:13:58	15.96	3.22	0.00	32.16	4.57	219.11		24.24
15:14:28	15.98	3.22	0.00	30.75	4.94	183.97		28.47
15:14:58	16.40	3.22	0.00	23.26	4.25	171.43		11.78
15:15:28	18.01	3.18	0.00	16.33	3.87	158.18		15.98
15:15:58	16.87	3.01	0.00	19.81	4.19	170.76		21.77
15:16:28	16.78	2.91	0.00	25.25	4.76	160.24		10.73
15:16:57	16.48	2.87	143.27	39.43	4.79	181.71		0.00
15:17:27	14.67	2.82	1936.33	44.22	5.82	381.68		3.14
15:17:57	14.61	3.02	1909.44	59.30	6.07	638.55		0.00
15:18:27	15.42	3.26	139.84	59.07	4.47	735.45		406.84
15:18:57	16.03	3.42	0.00	54.40	4.20	653.51		750.12
15:19:27	16.45	3.46	0.00	47.48	4.41	658.85		724.89
15:19:57	16.86	3.43	0.00	39.94	3.93	606.33		599.91
15:20:27	17.05	2.97	0.00	36.53	4.53	594.85		493.18
15:20:57	17.37	2.48	0.00	32.27	4.21	642.58		390.09
15:21:27	17.58	2.36	0.00	29.04	4.34	506.39		339.24
15:21:57	16.48	2.86	0.00	31.10	4.61	453.60		199.88

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 19, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,dry)	CO WET (ppmV,wet)
AVG	9.38	7.72	616.37	68.14	35.29	354.41	41.19	887.62

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:10:24	10.11	5.80	13.58	36.21	3.99	0.00	21.60	96.50
12:10:54	14.00	3.58	149.00	25.05	0.74	0.00	21.39	76.04
12:11:24	14.31	3.89	220.87	29.85	1.21	0.00	31.23	90.49
12:11:54	10.46	6.65	117.55	55.63	5.09	0.00	31.36	51.86
12:12:24	8.83	7.40	9.47	61.48	8.29	0.00	23.19	74.31
12:12:54	9.25	6.87	3.25	50.33	9.21	0.00	24.28	80.07
12:13:24	11.01	5.82	4.29	32.60	8.09	0.00	23.50	120.97
12:13:54	11.77	5.37	5.80	32.66	6.26	0.20	21.51	68.98
12:14:24	12.09	5.14	6.43	32.44	5.17	0.76	20.57	79.09
12:14:54	12.29	5.02	6.52	32.67	5.23	0.00	19.91	70.48
12:15:24	12.37	4.96	6.17	32.43	4.37	0.12	19.05	75.44
12:15:54	12.42	4.91	5.10	32.60	3.72	0.06	18.15	69.75
12:16:23	12.49	4.84	4.57	32.42	3.64	0.00	17.35	112.66
12:16:53	11.87	5.42	8.64	35.34	4.90	0.00	16.66	99.47
12:17:23	11.24	5.39	5.38	32.97	5.57	0.00	16.19	91.01
12:17:59	13.31	4.49	40.06	34.43	3.31	0.05	17.07	75.41
12:18:29	12.91	5.03	39.66	36.55	5.62	0.57	13.08	123.17
12:18:58	10.68	6.72	10.43	44.07	13.45	0.52	15.74	58.44
12:19:42	10.38	6.70	0.00	41.89	17.23	0.00	17.53	73.11
12:20:12	11.12	5.92	0.38	32.90	15.15	0.00	18.18	72.80
12:20:51	11.64	5.53	0.16	32.75	11.34	0.00	16.85	49.64
12:21:21	11.89	5.34	0.64	33.65	10.06	0.00	15.64	34.26
12:21:51	12.02	5.22	0.16	34.19	8.62	1.67	15.03	66.49
12:22:21	12.12	5.14	0.66	34.83	8.04	0.00	14.46	81.33
12:22:50	12.19	5.08	0.25	35.51	7.55	0.79	13.93	79.44
12:23:20	12.22	5.06	0.75	35.86	7.23	0.00	13.51	52.19
12:23:50	12.24	5.04	0.76	35.69	6.61	2.02	13.05	89.79
12:24:20	12.20	5.11	3.77	38.76	7.16	0.00	12.68	76.54
12:24:50	12.53	5.00	42.33	41.28	8.80	1.35	12.37	88.13
12:25:20	12.99	4.68	36.88	35.53	8.31	38.73	12.89	78.79
12:25:50	11.77	5.63	10.92	34.90	8.79	130.75	12.24	91.42
12:26:20	11.71	5.52	1.06	33.30	10.14	157.88	12.79	85.58
12:26:50	11.83	5.40	0.00	33.55	9.07	163.64	13.53	75.03
12:27:20	11.83	5.36	0.71	34.24	8.81	167.59	12.76	82.85
12:27:50	11.91	5.31	0.72	35.21	8.80	167.83	12.77	77.45
12:28:20	11.90	5.26	0.84	35.05	9.21	169.86	12.47	57.18
12:28:50	11.98	5.19	0.17	35.13	7.96	169.16	12.06	83.27
12:29:20	12.08	5.11	0.39	35.43	7.02	177.80	11.44	69.77
12:29:50	12.13	5.06	0.00	35.72	6.19	180.88	10.88	83.45
12:30:20	12.18	5.03	0.00	37.52	6.00	183.99	10.34	85.06
12:30:50	12.87	4.73	28.07	40.81	5.98	181.10	9.75	78.10
12:31:20	13.06	4.95	44.47	41.93	6.01	183.84	9.71	65.83
12:31:49	9.07	7.58	9.49	75.26	13.66	182.19	9.32	66.56
12:32:19	10.15	6.63	0.00	49.72	18.13	184.50	10.00	59.68

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:32:49	10.82	6.17	0.00	39.81	16.79	180.83	14.86	61.61
12:33:19	11.14	5.88	0.00	36.64	14.44	181.86	13.02	79.07
12:33:49	11.30	5.77	0.00	35.23	12.39	181.97	10.48	81.58
12:34:19	11.47	5.63	0.00	35.58	11.20	182.91	9.29	85.57
12:34:49	11.49	5.57	0.00	36.90	9.21	179.94	8.74	76.12
12:35:19	11.63	5.48	0.00	37.95	7.04	182.76	8.14	49.43
12:35:49	11.51	5.50	0.00	39.39	6.35	180.42	7.54	50.05
12:36:19	11.67	5.38	0.00	39.97	5.54	181.54	7.17	54.08
12:36:49	11.76	5.42	0.00	45.16	5.77	181.92	6.80	29.15
12:37:19	10.98	6.52	0.00	65.73	8.25	206.33	6.42	66.83
12:37:49	8.53	8.57	0.00	257.82	18.33	226.86	6.76	43.25
12:38:19	7.77	8.73	0.00	194.13	28.00	228.09	9.99	78.96
12:38:49	8.52	8.04	0.00	125.26	25.55	227.89	11.38	73.93
12:39:19	8.68	7.81	0.00	102.19	21.52	229.67	11.26	68.46
12:39:49	8.97	7.57	0.00	94.36	18.50	228.26	10.32	66.66
12:40:19	9.04	7.50	0.00	89.66	16.56	227.34	9.43	74.54
12:40:48	9.17	7.39	0.00	86.86	15.45	228.63	8.62	86.16
12:41:18	9.45	7.14	0.00	80.70	14.32	222.01	8.18	60.47
12:41:48	9.69	6.94	0.00	74.37	13.09	218.18	7.60	63.49
12:42:18	9.91	6.78	0.00	68.48	12.00	211.95	7.02	60.60
12:42:48	9.80	7.01	0.00	66.38	11.54	212.65	6.46	64.94
12:43:18	9.04	7.88	6.25	66.84	14.66	212.96	5.91	56.10
12:43:48	8.76	8.17	10.23	68.28	18.26	218.81	6.25	67.77
12:44:18	8.45	8.48	0.00	67.45	20.84	214.18	6.21	91.05
12:44:48	7.66	8.89	9.74	76.35	22.34	214.21	7.00	43.55
12:45:18	8.35	8.23	20.79	55.85	23.71	212.93	8.70	47.97
12:45:48	8.52	8.08	8.30	74.64	20.42	212.56	9.12	78.92
12:46:18	7.78	8.49	0.00	102.23	22.50	214.33	8.07	53.66
12:46:48	8.10	8.14	0.00	90.42	22.93	214.92	6.77	59.01
12:47:18	8.78	7.56	0.00	71.85	18.94	212.23	6.61	59.29
12:47:48	9.23	7.20	0.00	62.79	15.64	210.88	6.23	65.59
12:48:18	9.39	7.12	0.00	55.88	13.08	213.80	5.71	59.48
12:48:48	9.46	7.06	0.00	53.04	11.65	210.91	4.93	61.78
12:49:18	9.52	7.00	0.00	51.07	10.61	201.62	4.36	25.90
12:49:48	9.61	6.91	0.00	49.06	9.52	183.48	3.92	57.75
12:50:18	9.70	6.80	0.00	45.98	8.73	186.86	3.44	71.66
12:50:48	9.86	6.70	0.00	42.30	8.17	144.56	3.06	128.03
12:51:18	10.28	6.53	0.00	43.88	8.19	41.08	2.71	272.96
12:51:48	10.88	6.29	0.00	46.09	8.62	20.30	2.37	268.50
12:52:18	9.97	7.03	0.00	52.49	11.30	17.01	2.42	224.59
12:52:47	8.88	7.60	0.00	65.59	17.02	16.57	2.35	210.31
12:53:17	8.81	7.49	0.00	66.41	20.91	19.86	4.22	226.21
12:53:47	8.82	7.47	0.00	68.10	20.34	27.27	5.30	218.10
12:54:17	8.60	7.63	0.00	72.13	18.32	38.00	4.91	184.39

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:54:47	8.47	7.67	0.00	72.80	16.90	47.51	4.15	182.00
12:55:17	8.75	7.54	0.00	69.83	15.08	48.04	3.63	167.39
12:55:47	8.49	7.67	0.00	71.06	14.28	49.43	3.27	187.53
12:56:17	8.64	7.55	0.00	66.21	14.10	40.95	2.74	180.34
12:56:47	8.79	7.42	0.00	61.78	13.17	35.80	2.30	170.05
12:57:17	8.88	7.40	0.00	58.33	11.79	28.58	2.05	177.93
12:57:47	8.82	7.57	0.00	46.91	11.92	24.98	1.66	165.34
12:58:17	8.57	8.35	2.46	52.72	12.14	17.06	1.52	164.51
12:58:47	8.13	8.57	0.00	62.00	13.71	19.52	1.51	175.36
12:59:17	8.30	8.20	0.00	62.13	15.06	16.70	0.21	215.13
12:59:47	8.87	7.54	0.00	57.63	14.72	15.05	0.00	264.36
13:00:17	9.25	7.19	0.00	53.33	11.95	21.35	0.25	389.30
13:00:47	9.55	6.90	0.00	49.46	9.85	19.86	0.27	513.18
13:01:17	9.69	6.88	0.00	48.63	8.41	15.39	0.22	451.45
13:01:47	9.46	6.98	0.00	49.09	7.85	17.68	0.09	364.57
13:02:17	9.38	7.03	0.00	49.77	7.36	23.52	0.00	299.25
13:02:47	9.39	7.01	0.00	50.13	7.23	21.96	0.00	291.27
13:03:16	9.32	7.04	0.00	49.85	7.31	26.51	0.00	253.46
13:03:46	9.28	7.15	0.00	49.65	7.21	17.48	0.00	193.44
13:04:16	9.82	6.90	0.00	43.83	7.59	25.07	0.00	126.27
13:04:46	8.77	8.40	0.00	72.10	9.65	40.75	0.00	71.88
13:05:16	6.05	10.17	0.00	120.50	22.90	51.25	0.00	70.86
13:05:46	6.64	9.33	0.00	116.98	27.40	56.69	0.00	88.66
13:06:16	7.46	8.66	0.00	118.70	22.62	61.80	0.27	66.36
13:06:46	7.74	8.45	0.00	113.50	19.22	64.83	0.34	49.39
13:07:16	7.62	8.57	0.00	109.64	16.97	64.31	0.18	53.83
13:07:46	7.29	8.84	0.00	111.90	15.82	74.12	0.00	66.54
13:08:16	6.78	9.27	0.00	111.70	15.74	83.99	0.00	33.31
13:08:46	7.07	8.90	0.00	95.95	15.94	75.39	0.00	43.78
13:09:16	8.26	7.80	0.00	70.97	13.87	91.06	0.00	52.65
13:09:57	9.28	7.07	0.00	58.12	10.84	96.23	0.00	52.46
13:10:27	9.93	6.91	0.00	52.70	8.66	97.11	0.00	82.59
13:10:57	7.99	9.13	0.00	81.93	9.64	98.88	0.00	43.73
13:11:27	5.34	10.93	0.00	117.25	19.45	98.44	0.00	54.58
13:11:57	4.37	11.85	0.00	111.75	25.22	101.91	0.00	63.02
13:12:27	2.83	13.02	0.63	112.56	32.99	100.67	0.00	34.15
13:12:57	3.13	12.64	0.00	118.26	37.49	102.32	0.00	67.18
13:13:26	3.40	12.29	0.00	116.59	38.08	102.88	0.00	46.69
13:13:56	3.75	11.96	0.00	114.45	36.40	101.47	0.00	76.81
13:14:26	4.15	11.57	0.00	111.62	33.61	81.36	0.00	67.89
13:14:56	4.74	11.05	0.00	107.82	30.25	30.02	0.00	80.37
13:15:26	5.37	10.48	0.00	103.59	26.76	19.05	0.00	82.58
13:15:56	6.08	9.93	0.00	97.58	23.66	15.60	0.00	57.05
13:16:26	7.63	8.74	0.00	66.44	22.05	13.65	0.00	51.84

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:16:56	8.61	8.67	0.00	58.26	19.35	14.71	0.00	58.79
13:17:26	5.63	10.80	0.00	94.34	22.00	20.78	0.00	51.99
13:17:56	5.71	10.34	0.00	94.05	24.68	13.81	0.00	81.37
13:18:26	6.24	9.85	0.00	93.92	21.93	24.56	0.00	65.07
13:18:56	6.57	9.50	0.00	88.62	19.87	24.88	0.00	65.03
13:19:26	6.86	9.22	0.00	81.96	18.57	16.64	0.00	51.80
13:19:56	7.07	9.04	0.00	79.13	17.00	12.68	0.00	51.45
13:20:26	7.33	8.82	0.00	75.78	15.91	12.76	0.00	55.41
13:20:56	7.53	8.63	0.00	74.20	15.01	13.29	0.00	68.21
13:21:26	7.64	8.59	0.00	71.55	14.46	15.74	0.00	89.59
13:21:56	7.28	8.71	0.00	73.73	13.97	17.99	0.00	69.56
13:22:26	7.39	8.70	0.00	71.39	13.81	22.92	0.00	137.87
13:22:55	8.36	7.98	0.00	60.50	14.70	23.56	0.00	132.58
13:23:25	9.43	7.21	0.00	53.23	13.99	28.76	0.00	156.72
13:23:55	8.85	7.59	0.00	71.92	13.08	25.68	0.00	231.21
13:24:25	8.46	7.73	0.00	75.89	13.56	26.94	0.00	288.85
13:24:55	8.39	7.76	0.00	74.42	12.60	29.17	0.00	383.00
13:25:25	7.59	8.47	0.00	87.26	11.75	42.08	0.00	553.81
13:25:55	6.52	9.36	0.00	92.16	12.52	61.76	0.00	711.17
13:26:25	6.30	9.50	0.00	93.96	14.69	101.12	0.00	1051.02
13:26:55	6.46	9.33	0.00	96.09	15.62	201.12	0.00	3881.01
13:27:25	6.54	9.28	0.00	99.09	16.20	220.28	0.00	6384.17
13:27:55	6.58	9.21	0.00	98.80	16.54	236.26	0.00	7171.97
13:28:25	6.84	9.01	0.00	95.30	16.78	182.78	0.00	7704.67
13:28:55	7.02	8.87	0.00	90.85	16.07	229.57	0.00	8148.89
13:29:25	9.90	6.82	0.00	60.15	15.97	188.51	0.00	8620.59
13:29:55	10.67	6.13	0.00	47.50	12.82	215.28	0.00	8629.27
13:30:25	10.27	6.42	0.00	39.52	8.96	92.52	0.00	8640.84
13:30:55	10.04	6.47	0.00	37.26	7.24	78.74	0.00	7763.78
13:31:25	9.93	6.53	0.00	37.85	6.40	66.66	0.00	5934.56
13:31:55	9.94	6.51	0.00	36.92	5.34	72.91	0.00	4538.52
13:32:25	10.01	6.46	0.00	36.74	4.64	85.15	0.00	3487.68
13:32:54	10.07	6.41	0.00	36.30	4.07	103.29	0.00	2707.23
13:33:24	10.09	6.36	0.00	36.70	3.76	109.79	0.00	2078.73
13:33:54	10.14	6.34	0.00	36.84	3.56	97.04	0.00	1609.12
13:34:24	10.18	6.30	0.00	36.60	3.32	96.88	0.00	1241.61
13:34:54	10.22	6.24	0.00	36.90	2.04	783.81	0.00	1019.68
13:35:24	10.91	5.77	0.00	43.74	0.45	1046.92	0.00	889.84
13:35:54	9.84	7.77	0.00	66.94	2.29	889.12	0.00	899.52
13:36:24	5.87	10.65	0.00	100.75	11.44	901.80	0.00	938.26
13:36:54	5.09	11.22	0.00	103.28	17.37	909.60	0.00	882.08
13:37:24	3.63	12.29	0.00	104.66	21.79	478.68	0.00	949.95
13:37:54	4.22	11.56	0.00	103.06	22.16	182.39	0.00	879.91
13:38:24	4.96	10.83	0.00	104.46	19.29	133.53	0.00	881.61

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:38:54	5.43	10.35	0.00	105.66	16.98	111.43	0.00	891.78
13:39:24	5.98	9.88	0.00	105.22	15.99	103.64	0.00	894.44
13:39:54	6.35	9.59	0.00	106.09	14.55	110.08	0.00	934.09
13:40:24	6.55	9.35	0.00	105.26	13.31	135.15	0.00	909.47
13:40:54	6.95	9.02	0.00	101.68	12.79	147.37	0.00	888.43
13:41:24	7.18	8.99	0.00	81.18	12.59	216.92	0.00	903.15
13:41:53	5.15	11.42	668.08	90.94	14.81	164.99	0.00	865.44
13:42:23	0.12	13.69	15655.91	88.59	66.43	155.55	0.00	910.15
13:42:53	0.00	13.30	19153.03	76.87	133.65	145.16	120.48	861.65
13:43:23	0.29	13.41	17044.22	83.30	111.20	146.92	64.64	947.58
13:43:53	1.11	13.63	7863.02	92.51	80.18	151.40	699.44	968.05
13:44:23	1.17	13.43	6490.34	99.20	61.41	240.27	0.00	848.03
13:44:53	2.56	12.15	6797.09	104.85	46.57	1146.12	0.00	874.39
13:45:23	4.51	10.79	1840.80	102.53	34.25	1228.41	0.00	878.10
13:45:53	5.40	10.18	103.00	101.20	25.47	1038.45	0.00	896.02
13:46:23	6.00	9.76	22.68	98.42	20.80	179.15	0.00	897.06
13:46:53	6.53	9.31	19.67	96.29	16.85	373.28	0.00	863.34
13:47:23	7.11	8.86	4.63	77.12	14.84	958.89	0.00	896.67
13:47:53	8.39	8.13	2.55	52.87	13.34	940.27	0.00	870.76
13:48:23	9.65	7.54	0.00	49.19	12.66	729.55	0.00	858.96
13:48:53	6.55	9.76	0.00	67.05	12.29	294.59	0.00	796.11
13:49:23						1096.77	0.00	928.04
13:49:53						1228.41	0.00	891.56
13:50:23						816.96	0.00	880.55
13:50:52						687.30	0.00	873.43
13:51:22						406.03	0.00	908.94
13:51:52						301.98	0.00	876.12
13:52:22						265.02	0.00	851.07
13:52:52						242.35	0.00	843.94
13:53:24						215.91	0.00	852.56
13:53:54						176.81	0.00	848.01
13:54:24						152.27	0.00	861.35
13:54:54						146.83	0.00	840.49
13:55:24						159.16	0.00	867.66
13:55:54						178.03	0.00	894.28
13:56:24						172.05	0.00	838.86
13:57:06	6.84	10.97	3.18	126.80	28.89	153.47	0.00	808.44
13:57:36	6.75	9.98	0.00	114.53	23.85	134.46	0.00	794.11
13:58:06	5.18	10.81	0.00	113.81	21.90	132.62	0.00	829.68
13:58:36	5.48	10.60	0.00	106.02	20.53	125.26	0.00	849.67
13:59:06	5.99	10.20	0.00	98.62	19.92	111.16	0.00	835.67
13:59:36	6.45	9.83	0.00	91.38	18.91	47.85	0.00	861.22
14:00:06	6.75	9.57	0.00	85.38	17.74	60.46	0.00	852.24
14:00:36	8.63	8.59	0.00	63.10	17.24	63.26	0.00	823.26

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:01:06	5.13	10.81	354.45	103.86	19.07	36.61	0.00	841.45
14:01:35	0.09	12.85	12637.25	96.35	57.63	45.27	0.00	830.96
14:02:05	0.57	13.33	14964.89	95.89	114.29	55.81	0.00	834.71
14:02:35	3.22	12.75	12320.08	134.95	103.01	141.29	4169.19	848.92
14:03:05	6.52	11.18	1869.60	127.24	77.04	112.09	900.13	844.46
14:03:35	9.35	9.21	17.49	102.29	54.96	50.79	0.00	866.63
14:04:05	5.75	10.12	2.38	93.66	40.57	109.61	0.00	842.25
14:04:35	5.17	10.61	1.29	91.73	33.43	129.94	0.00	822.99
14:05:05	5.34	10.49	0.00	91.69	29.97	112.02	0.00	825.47
14:05:35	5.48	10.36	0.00	91.53	27.86	109.58	0.00	847.11
14:06:05	5.78	10.12	0.00	87.34	26.22	109.77	0.00	908.09
14:06:35	5.90	10.08	0.08	76.75	23.98	92.62	0.00	855.65
14:07:05	6.90	9.70	6.09	74.47	23.29	101.97	0.00	830.76
14:07:35	2.37	12.73	1457.68	116.36	29.57	130.47	0.00	849.77
14:08:05	0.21	13.80	15351.59	122.08	68.20	71.99	0.00	849.44
14:08:35	4.29	13.02	7911.11	165.33	89.67	80.33	56.86	840.43
14:09:05	7.50	10.77	245.57	143.03	65.40	49.31	19556.20	876.81
14:09:35	10.12	8.82	1.35	110.93	45.06	24.00	0.00	826.12
14:10:05	6.42	9.78	0.00	102.71	33.84	22.08	0.00	834.71
14:10:35	6.18	9.98	0.00	93.38	27.88	21.34	10.00	938.65
14:11:05	6.53	9.71	0.00	85.77	24.27	52.55	2.85	818.87
14:11:34	6.83	9.41	0.00	79.49	21.29	141.01	2.88	864.84
14:12:04	7.15	9.13	0.00	72.70	19.72	136.89	2.93	843.52
14:12:34	7.42	8.91	0.00	68.61	18.06	118.69	2.95	847.16
14:13:04	9.07	7.95	0.00	60.99	17.24	105.63	3.93	865.36
14:13:34	4.28	11.34	1127.64	114.95	17.41	101.62	2.37	834.38
14:14:04	0.98	13.95	7329.82	116.97	34.85	94.08	2.48	849.35
14:14:34	3.35	12.99	3836.44	108.49	47.99	76.38	86.73	858.14
14:15:12	7.17	10.98	128.31	125.01	42.68	81.47	148.89	843.33
14:15:42	5.80	11.38	3.48	126.35	37.63	102.08	3.10	844.92
14:16:22	3.47	12.41	10.98	124.09	34.32	93.10	2.29	846.02
14:16:52	8.80	9.57	0.00	122.27	29.94	83.94	2.26	811.82
14:17:22	8.98	9.15	0.00	103.11	25.29	84.84	1.80	860.44
14:17:52	6.22	10.18	0.00	102.09	22.55	86.21	1.65	866.24
14:18:22	6.25	9.92	0.00	93.64	21.17	82.51	2.13	870.55
14:18:52	6.61	9.62	0.00	85.54	20.11	79.36	2.06	828.07
14:19:22	6.86	9.39	0.00	79.77	19.41	76.84	1.78	834.83
14:19:52	7.13	9.14	0.00	74.22	18.38	73.68	1.58	864.08
14:20:22	8.40	8.08	0.00	67.25	18.01	71.04	1.65	860.72
14:20:52	8.74	8.73	0.00	77.10	18.44	69.03	1.43	871.41
14:21:22	4.27	12.69	91.54	108.17	39.49	76.16	1.36	847.00
14:21:52	1.50	14.14	1342.53	113.95	65.21	99.00	1.39	861.22
14:22:22	3.18	12.65	1664.58	144.82	62.93	106.81	1.95	833.88
14:22:52	7.02	10.36	380.00	146.55	50.92	125.45	4.98	826.53

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:23:22	9.04	8.82	2.16	113.02	44.34	117.05	1.99	816.20
14:23:51	6.90	10.18	0.00	101.92	38.06	128.89	1.87	778.05
14:24:21	5.48	10.53	0.00	98.25	35.23	115.00	2.70	390.53
14:24:51	5.73	10.26	0.00	94.64	32.78	99.08	3.01	268.47
14:25:21	6.02	10.00	0.00	89.79	30.64	93.49	2.43	207.09
14:25:51	6.25	9.85	0.00	88.24	29.40	87.09	1.94	190.44
14:26:21	6.36	9.70	0.00	85.49	28.55	83.73	1.69	198.29
14:26:51	7.33	8.92	0.00	71.78	27.66	78.32	1.67	196.70
14:27:21	5.29	12.09	425.55	119.67	29.50	75.56	1.37	166.04
14:27:51	1.98	13.95	2455.52	126.06	49.21	70.56	1.47	246.30
14:28:21	7.30	10.19	1929.26	86.39	49.42	69.96	22.47	351.00
14:28:51	9.40	9.09	53.69	87.70	36.87	71.79	32.45	231.68
14:29:21	4.16	12.16	30.99	117.66	35.13	67.26	1.03	232.42
14:29:51	4.23	11.73	7.23	110.52	33.77	61.32	1.16	239.30
14:30:21	5.14	10.65	0.00	106.16	31.74	60.20	1.23	256.76
14:30:51	9.67	8.06	0.00	97.39	30.74	61.60	0.82	182.87
14:31:21	8.10	9.38	0.00	94.23	28.46	60.27	0.64	176.06
14:31:51	5.90	10.16	0.00	90.56	26.34	59.93	0.77	177.52
14:32:21	5.87	10.06	0.00	87.63	24.96	58.30	0.98	203.39
14:32:51	6.27	9.74	0.00	81.51	24.10	56.76	0.79	171.94
14:33:21	6.46	9.58	0.00	77.63	23.21	54.98	0.61	174.75
14:33:51	6.44	9.59	0.00	78.68	22.48	51.03	0.45	171.07
14:34:21	7.78	8.40	0.00	67.11	21.82	47.16	0.59	156.81
14:34:51	8.00	9.27	0.00	84.25	19.72	47.11	0.47	161.63
14:35:20	4.81	12.19	26.91	114.92	27.64	45.35	0.39	169.35
14:35:50	2.22	13.63	181.44	132.16	42.03	45.25	0.50	207.82
14:36:20	5.81	11.58	157.35	161.28	45.29	44.33	0.49	228.93
14:36:50	7.45	10.37	4.77	149.40	43.24	47.77	0.12	205.47
14:37:20	9.18	9.01	0.00	123.88	39.75	49.01	0.00	207.00
14:37:50	5.97	10.65	0.00	110.90	33.89	50.79	0.02	158.76
14:38:20	5.08	10.93	0.00	108.86	31.51	45.30	0.14	198.09
14:38:50	5.05	10.86	0.00	107.43	31.16	40.70	0.35	179.44
14:39:20	5.60	10.10	0.00	105.52	31.01	41.29	0.00	181.77
14:39:50	10.19	7.63	0.00	91.31	31.28	38.89	0.00	179.49
14:40:20	8.18	9.38	0.00	93.36	29.24	42.52	0.00	179.51
14:40:50	7.24	9.25	0.00	68.86	27.25	42.87	0.00	158.01
14:41:20	3.09	13.29	1725.79	125.73	33.45	44.30	0.12	155.19
14:41:50	1.21	14.03	5644.45	143.50	51.74	45.46	0.00	256.78
14:42:20	2.49	14.40	3771.53	166.46	64.87	47.57	55.79	446.38
14:42:50	3.31	13.72	127.09	163.17	64.66	50.50	34.54	386.65
14:43:20	4.27	12.86	0.00	162.75	58.94	56.36	0.00	335.32
14:43:50	5.31	11.98	0.00	161.66	54.12	57.15	0.00	285.66
14:44:20	6.45	11.04	0.00	156.95	50.80	56.78	0.00	275.34
14:44:50	7.11	10.55	0.00	158.62	48.24	53.83	0.09	231.50

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:45:20	7.51	10.22	0.00	149.62	46.22	53.66	0.18	232.92
14:45:50	7.68	10.15	0.00	149.32	45.63	52.38	0.31	188.65
14:46:20	8.28	9.36	0.00	135.36	46.05	55.45	0.37	170.68
14:46:50	7.88	9.49	2.79	97.10	39.15	50.71	0.40	182.76
14:47:20	7.33	9.91	10.19	85.56	31.30	44.35	0.51	170.28
14:47:50	3.68	12.74	281.12	108.15	42.76	42.93	0.54	180.65
14:48:20	2.39	13.52	3969.13	140.64	63.19	44.78	0.30	307.26
14:48:50	4.66	12.42	1372.33	156.26	64.83	46.71	1.93	365.12
14:49:20	6.09	11.22	13.73	150.11	55.67	43.27	13.82	327.01
14:49:50	7.27	10.31	0.00	137.67	46.97	45.23	0.00	322.02
14:50:20	8.08	9.58	0.00	125.84	41.69	47.08	0.14	265.14
14:50:50	8.87	8.76	0.00	118.30	37.75	44.82	0.25	224.36
14:51:20	8.12	9.52	0.00	108.50	32.32	45.53	0.30	157.18
14:51:50	5.03	10.86	0.00	109.69	28.49	44.75	0.41	144.94
14:52:20	6.03	9.80	0.00	114.53	26.58	40.88	0.43	191.97
14:52:49	9.68	7.90	0.00	113.09	25.68	47.61	0.14	214.02
14:53:19	10.03	7.74	0.00	80.46	24.37	47.55	0.00	238.70
14:53:49	7.44	10.06	0.00	89.08	20.44	40.97	0.09	208.30
14:54:24	4.07	12.52	47.41	105.39	28.46	38.41	0.19	164.88
14:54:54	3.97	12.10	508.29	127.37	39.25	40.31	0.11	333.83
14:55:24	6.20	11.11	99.63	141.25	38.43	37.45	0.09	429.71
14:55:54	6.94	10.51	0.71	138.99	33.85	37.27	0.00	346.73
14:56:24	8.09	9.47	2.41	134.81	29.48	38.00	0.00	313.31
14:56:53	9.52	8.16	3.27	120.84	25.67	38.63	0.02	285.66
14:57:23	10.01	8.76	4.23	113.00	22.03	40.06	0.17	217.74
15:00:58	2.94	13.46	6119.52	99.07	33.24	37.56	0.34	217.18
15:01:28	4.24	12.77	7620.99	143.68	47.41	36.64	0.31	394.10
15:01:58	5.63	11.95	496.28	139.76	45.21	34.02	0.52	402.88
15:02:28	6.40	11.26	0.75	133.76	41.65	35.22	12.61	381.47
15:02:58	7.56	10.31	0.00	126.98	38.94	36.39	0.51	388.84
15:03:28	7.50	10.67	0.00	158.48	36.79	35.08	0.27	339.21
15:03:58	7.82	10.04	0.00	152.70	36.24	35.42	0.32	340.25
15:04:28	8.62	9.23	0.00	139.89	34.21	33.44	0.28	327.56
15:04:58	8.48	9.55	0.00	117.97	29.86	33.51	0.33	304.70
15:05:28	5.49	10.81	0.00	116.05	27.82	34.73	0.33	252.10
15:05:58	7.71	8.46	0.00	82.22	26.00	35.92	0.37	294.46
15:06:28	11.74	6.94	4.91	60.29	20.82	31.99	0.39	291.53
15:06:58	6.82	10.39	5.73	121.25	30.10	32.93	0.36	244.05
15:07:28	5.29	11.23	3.09	150.22	35.52	34.34	0.31	244.28
15:07:58	5.17	10.94	0.00	153.88	33.21	34.61	0.25	277.44
15:08:28	6.48	9.43	0.00	135.93	29.51	32.31	0.34	294.79
15:08:57	10.77	7.13	0.00	108.39	27.17	30.56	0.34	286.73
15:09:27	9.14	8.78	0.00	107.26	25.44	28.98	0.27	220.91
15:09:57	7.17	9.27	0.00	103.45	23.94	37.62	0.22	215.62

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:10:27	7.36	8.98	0.00	94.01	22.81	42.85	0.14	210.22
15:10:57	7.63	8.73	0.00	83.77	21.39	38.77	0.22	240.08
15:11:27	7.92	8.48	0.00	71.24	20.44	36.31	0.26	234.33
15:11:57	8.16	8.30	0.00	65.36	19.73	25.50	0.18	257.85
15:12:27	9.70	6.91	0.00	63.76	18.71	33.33	0.11	210.56
15:12:57	6.09	12.01	1784.68	122.63	23.15	35.93	0.14	228.40
15:13:27	1.42	14.09	9096.26	124.66	54.15	37.14	0.13	315.18
15:13:57	4.96	11.61	6510.56	163.98	57.72	33.79	0.09	619.83
15:14:27	8.27	9.63	451.67	157.33	46.42	31.05	30.11	596.81
15:14:57	9.62	8.56	3.35	142.57	39.57	28.90	57.17	517.12
15:15:27	10.54	7.99	0.00	111.24	33.98	30.15	3.33	441.23
15:15:57	7.35	9.46	1.13	105.13	29.37	29.80	0.40	324.14
15:16:27	7.26	9.16	0.02	92.60	26.17	31.51	0.38	343.90
15:17:03	7.47	8.96	0.00	86.36	24.34	30.33	0.30	372.89
15:17:33	7.83	8.64	0.00	77.06	23.23	30.18	0.89	363.52
15:18:03	8.10	8.42	0.00	71.43	22.23	29.40	0.85	338.03
15:18:33	8.55	7.80	0.00	64.16	20.95	29.25	0.96	349.52
15:19:03	10.27	8.00	0.00	78.76	19.34	29.84	0.76	298.59
15:19:33	5.47	12.34	18.30	132.31	29.25	29.76	0.79	243.20
15:20:03	4.05	11.97	207.67	155.43	40.21	31.67	0.52	341.62
15:20:33	8.65	9.27	41.66	153.35	35.20	30.41	0.48	402.50
15:21:03	9.54	8.78	0.00	138.61	31.20	30.08	0.55	418.07
15:21:33	9.49	9.01	0.00	117.60	27.95	27.24	0.77	321.19
15:22:03	6.23	10.47	0.00	110.83	25.15	28.57	0.66	299.83
15:22:33	5.91	10.20	0.00	103.80	22.85	29.32	0.53	332.02
15:23:03	9.45	7.56	0.00	93.84	21.11	30.07	0.48	351.75
15:23:33	11.53	7.16	0.00	82.48	19.47	28.18	0.62	336.23
15:24:03	8.10	8.88	0.00	87.06	19.17	28.05	0.66	294.18
15:24:33	7.64	8.87	0.00	84.51	18.63	28.71	0.74	283.11
15:25:03	8.01	8.42	0.00	73.88	18.30	28.35	0.77	317.39
15:25:32	6.71	11.17	277.89	108.97	21.54	27.71	0.68	318.99
15:26:02	0.97	13.55	8350.95	106.72	63.67	28.70	0.96	359.99
15:26:32	0.80	14.45	9576.57	101.03	122.68	30.11	0.84	715.25
15:27:02	1.33	14.59	9574.54	153.36	135.68	29.43	0.81	963.02
15:27:32	3.68	12.50	8318.97	170.88	96.90	29.74	216.86	1064.14
15:28:02	6.72	10.61	1440.21	158.35	63.29	27.54	16.93	1002.45
15:28:32	8.44	9.44	28.32	139.99	49.30	27.51	6.22	861.45
15:29:02	9.53	8.67	0.89	124.81	42.70	26.76	0.00	697.92
15:29:32	10.19	8.18	0.00	113.15	38.99	27.43	0.00	678.73
15:30:02	11.21	7.50	0.00	95.39	36.16	27.21	0.00	615.53
15:30:32	7.79	9.68	0.00	98.12	31.91	28.41	0.17	532.49
15:31:02	6.46	9.95	0.00	96.04	30.27	30.09	0.37	556.64
15:31:32	7.81	8.92	0.00	78.24	29.46	32.85	0.64	573.71
15:32:02	4.29	13.19	1418.33	135.99	36.36	34.05	0.46	609.04

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:32:32	3.64	14.43	1572.97	162.69	63.72	35.51	0.10	738.12
15:33:02	3.48	14.15	69.81	163.62	80.54	34.95	7.16	912.01
15:33:32	4.51	12.93	2.57	171.88	69.90	34.32	9.57	993.77
15:34:02	6.04	11.61	0.00	162.55	57.98	32.54	0.00	1028.75
15:34:32	6.84	11.02	0.00	155.28	49.89	32.69	0.00	942.43
15:35:02	7.39	10.52	0.00	150.46	46.07	32.74	0.00	911.73
15:35:31	7.97	9.90	0.00	143.31	43.55	32.32	0.00	885.04
15:36:01	8.69	9.24	0.00	133.75	41.73	32.84	0.04	827.59
15:36:31	9.31	8.80	0.00	125.35	38.72	32.65	0.00	797.07
15:37:01	9.72	8.41	0.00	112.83	35.70	33.02	0.10	737.92
15:37:31	10.20	7.71	0.00	73.82	34.33	31.99	0.05	737.43
15:38:01	8.59	10.53	672.25	97.54	33.66	31.36	0.10	658.37
15:38:31	3.53	12.63	2381.46	102.63	46.82	34.12	0.01	652.83
15:39:01	7.17	9.75	1654.46	75.53	47.41	34.41	56.19	766.52
15:39:31	8.89	9.29	47.42	84.68	40.51	32.04	36.57	800.51
15:40:01	9.63	8.09	2.20	64.69	34.32	30.13	0.00	814.74
15:40:31	8.11	9.10	0.00	69.72	28.55	28.77	0.00	723.05
15:41:01	5.97	10.60	0.00	99.87	28.96	29.30	0.00	726.62
15:41:31	5.98	10.12	0.00	99.50	29.74	30.31	0.00	775.28
15:42:01	9.01	7.67	0.00	86.56	26.92	29.30	0.00	780.37
15:42:31	11.59	7.12	0.00	76.16	25.01	27.11	0.00	730.49
15:43:01	8.05	9.09	0.00	80.67	24.35	25.22	0.00	636.81
15:43:31	7.24	9.13	0.00	77.09	23.43	26.74	0.00	668.13
15:44:01	7.28	8.98	0.00	75.66	22.65	26.23	0.00	713.99
15:44:31	7.44	8.82	0.00	71.69	21.97	26.22	0.00	743.20
15:45:01	7.62	8.72	0.00	68.81	21.07	24.69	0.00	760.95
15:45:31	7.77	8.53	0.00	65.02	20.46	23.71	0.00	737.15
15:46:00	7.97	8.28	0.00	61.29	19.20	23.45	0.00	728.44
15:46:30	9.19	8.09	0.00	66.33	17.66	22.88	0.00	768.83
15:47:00						22.40	0.00	759.49
15:47:30						22.53	11.89	887.51
15:48:00						21.77	0.60	954.32
15:48:30						20.86	0.00	952.47
15:49:00						21.54	0.00	922.56
15:49:30						21.30	0.00	829.06
15:50:00						22.23	0.00	848.36
15:50:30						21.40	0.00	832.99
15:51:00						20.83	0.00	736.29
15:51:30						19.85	0.04	702.45
15:52:00						21.14	0.16	713.00
15:52:30						22.11	1.44	761.33
15:53:00						22.02	2.13	815.83
15:53:30						21.02	0.00	759.07
15:54:00						21.69	18.10	690.81

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:54:30						21.25	0.00	665.38
15:55:00						22.94	0.00	734.69
15:56:04						22.09	0.00	963.97
15:56:34	6.79	10.29	0.00	128.61	23.49	22.70	1.06	1074.60
15:57:04	7.83	9.92	0.00	122.93	29.88	22.74	0.90	1073.03
15:57:34	8.52	9.39	0.00	113.62	32.01	23.21	6.28	1110.24
15:58:04	9.18	8.87	0.00	103.45	31.30	23.18	8.61	1050.33
15:58:34	9.72	8.47	0.00	96.92	30.18	23.58	6.92	1019.95
15:59:04	10.26	7.88	0.00	89.15	29.67	23.45	6.33	938.63
15:59:33	8.00	9.68	0.00	88.93	26.71	23.95	5.82	899.83
16:00:03	7.27	9.22	1.98	71.97	26.45	23.98	5.11	888.20
16:00:33	4.91	12.33	991.33	115.22	32.65	21.11	4.33	764.62
16:01:03	2.48	14.14	4743.55	110.05	55.58	9.70	3.95	383.09
16:01:33	1.66	14.73	7808.71	122.99	71.34	6.78	3.06	224.63
16:02:03	2.91	13.44	4735.87	161.72	64.06	5.58	9.69	151.64
16:02:33	5.81	11.37	1286.52	159.97	49.76	3.93	8.77	119.63
16:03:03	7.35	10.23	25.70	149.55	41.49	5.14	3.35	108.98
16:03:33	8.14	9.70	0.00	140.84	37.21	10.81	1.07	185.70
16:04:03	8.33	9.77	0.00	140.35	36.85	12.22	0.86	342.49
16:04:33	7.77	10.28	0.00	143.27	39.70	10.27	0.98	449.54
16:05:03	7.86	10.10	0.00	138.05	40.61	11.55	1.14	606.05
16:05:33	8.57	9.43	0.00	125.48	39.25	10.01	1.46	741.69
16:06:03	9.18	8.95	0.00	113.57	37.26	11.32	1.71	768.48
16:06:33	9.41	8.82	0.00	107.10	35.77	11.28	2.09	809.81
16:07:03	9.73	8.35	0.00	100.71	35.22	12.92	2.89	830.01
16:07:33	7.69	10.05	0.00	98.41	33.04	13.36	3.84	768.80
16:08:03	5.65	10.34	0.00	98.91	34.30	15.20	3.42	722.66
16:08:33	9.24	8.60	0.00	100.70	34.82	16.47	2.84	729.55
16:09:03	10.16	7.72	0.00	78.07	35.88	11.11	2.41	622.42
16:09:33	9.96	8.97	2.37	86.51	31.51	7.43	1.75	345.72
16:10:03	2.51	13.59	2285.69	117.99	55.55	6.46	1.61	231.55
16:10:33	1.05	14.87	9474.18	145.23	100.34	9.39	1.41	201.99
16:11:02	2.99	13.83	4630.86	166.32	92.90	14.60	1.40	357.44
16:11:32	5.13	12.03	478.73	164.82	75.89	18.71	22.71	552.68
16:12:02	7.28	10.35	4.93	156.41	61.43	13.77	2.14	550.83
16:12:32	8.29	9.56	0.00	148.87	53.70	5.93	0.12	286.50
16:13:02	8.95	9.08	0.00	136.44	48.11	3.05	0.00	173.18
16:13:32	9.07	9.23	0.00	140.67	43.48	2.14	0.00	111.18
16:14:02	8.83	9.16	0.00	137.57	45.42	1.80	0.00	84.54
16:14:32	9.54	8.55	0.00	125.62	43.83	1.68	0.00	86.15
16:15:02	9.98	8.19	0.00	118.95	41.52	1.00	0.00	65.50
16:15:32	10.44	7.84	0.00	111.85	39.69	1.05	0.00	40.44
16:16:02	10.90	7.65	0.00	99.82	36.56	0.57	0.00	74.26
16:16:32	6.72	9.82	0.00	100.94	33.28	0.93	0.00	44.47

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
16:17:02	6.88	9.14	0.00	101.32	32.10	0.10	0.00	57.86
16:17:32	10.82	7.18	0.00	100.65	31.29	0.00	0.00	46.17
16:18:02	11.59	6.87	0.00	69.79	30.82	0.00	0.00	51.35
16:18:32	7.68	10.20	21.19	94.21	31.62	0.00	0.00	44.69
16:19:02	3.60	12.53	1281.84	101.12	58.54	0.40	0.00	43.06
16:19:32	6.50	10.41	1358.02	91.08	64.89	0.00	0.00	78.01
16:20:02	7.84	10.27	43.26	110.47	54.56	0.38	0.00	65.19
16:20:32	7.87	9.82	0.00	124.59	50.42	0.00	0.00	97.29
16:21:02	9.00	9.11	0.00	122.91	43.07	0.00	0.00	52.86
16:21:31	9.53	8.49	0.00	114.18	40.69	0.00	0.00	38.67
16:22:01	8.77	9.24	0.00	102.04	36.43	0.00	0.00	57.56
16:22:31	5.89	10.01	0.00	101.50	33.98	0.00	0.00	67.77
16:23:01	10.05	7.71	0.00	101.31	34.66	0.00	0.00	84.05
16:23:31	11.33	6.96	0.00	92.22	34.51	0.00	0.00	73.08
16:24:01	9.02	8.81	0.00	91.16	31.85	0.00	0.00	62.90
16:24:31	6.77	9.50	0.00	91.07	31.00	0.00	0.00	57.82
16:25:01	6.94	8.93	0.00	88.21	29.90	0.00	0.00	70.28
16:25:31	12.16	5.56	0.00	53.22	28.31	0.00	0.00	77.38
16:26:01	12.52	6.06	0.00	56.17	22.74	0.00	0.00	50.36
16:26:31	8.92	8.52	0.00	75.07	27.95	0.00	0.00	57.72
16:27:01	7.28	9.21	0.00	85.83	39.63	0.00	0.00	51.71
16:27:31	7.14	9.13	0.00	89.11	38.60	0.00	0.00	103.52
16:28:01	7.13	9.06	0.00	88.84	33.61	0.00	0.00	98.94
16:28:31	7.25	8.94	0.00	86.30	28.99	0.00	0.00	64.81
16:29:01	7.39	8.82	0.00	84.07	26.70	0.00	0.00	62.43
16:29:31	10.27	6.55	0.00	67.40	24.37	0.00	0.00	51.15
16:30:01	12.52	6.15	0.00	64.42	22.12	0.00	0.00	40.20
16:30:31	8.53	8.32	0.00	74.85	24.29	0.00	0.00	43.12
16:31:01	7.85	8.50	0.00	73.47	23.07	0.00	0.00	25.75
16:31:31	7.83	8.40	0.00	70.36	22.53	0.00	0.00	48.48
16:32:01	9.97	7.27	0.00	67.61	21.01	0.00	0.00	46.10
16:32:31	5.24	12.31	128.73	104.20	31.58	0.00	0.00	53.07
16:33:01	2.75	13.29	5036.99	148.99	56.26	0.00	0.00	51.87
16:33:31	6.37	11.13	1659.64	156.26	54.10	0.00	0.00	54.00
16:34:00	8.40	9.70	16.45	141.08	44.75	0.00	0.00	41.93
16:34:30	9.39	8.95	0.00	126.56	41.46	0.00	0.00	68.68
16:35:00	9.97	8.45	0.00	117.36	40.34	0.00	0.00	67.27
16:35:30	10.94	7.79	0.00	95.71	38.13	0.00	0.00	60.48
16:36:00	7.33	9.65	0.00	90.43	35.47	0.00	0.00	86.60
16:36:30	6.76	9.66	0.00	83.75	34.67	0.00	0.00	53.94
16:37:00	7.68	8.63	0.00	76.75	33.42	0.00	0.00	65.81
16:37:30	11.57	6.58	0.00	65.02	33.61	0.00	0.00	151.87
16:38:00	10.55	7.46	0.00	65.73	33.10	0.00	0.00	103.52
16:38:30	7.61	10.39	411.64	96.39	37.50	0.00	0.00	95.24

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 20, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCL (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
16:39:00	2.36	13.49	5273.22	116.56	70.83	0.00	0.00	64.48
16:39:30	2.32	14.37	5280.21	134.33	75.80	0.00	0.00	81.72
16:40:00	4.32	12.73	761.28	126.87	67.66	0.00	0.00	74.76
16:40:30	5.97	11.31	12.80	117.63	59.22	0.00	0.00	79.16
16:41:00	7.12	10.46	0.00	108.76	54.29	0.00	0.00	71.60
16:41:30	7.79	9.87	0.00	103.59	50.53	0.00	0.00	63.74
16:42:00	7.49	10.33	0.00	107.80	51.10	0.00	0.00	56.57
16:42:30	7.90	9.85	0.00	101.99	52.03	0.00	0.00	42.08
AVG	7.67	9.17	632.20	92.83	29.17	89.17	51.77	547.74

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:30:18	11.70	4.95	74.08	26.88	0.00	0.00	19.81	1.12
10:30:48	14.27	3.59	222.45	24.47	0.00	0.00	20.12	18.86
10:31:18	10.37	6.31	207.74	47.41	1.87	0.00	25.37	8.05
10:31:48	9.04	7.20	53.18	53.12	2.61	0.00	25.90	18.32
10:32:18	9.22	7.02	17.81	44.46	4.01	0.00	20.06	5.35
10:32:48	10.69	6.24	19.54	29.84	4.17	0.00	20.48	18.21
10:33:18	11.08	6.00	19.91	29.46	4.20	0.00	21.06	23.79
10:33:48	11.30	5.82	19.07	29.21	3.96	0.00	20.63	14.57
10:34:18	11.36	5.72	18.03	30.11	2.32	0.00	19.64	0.00
10:34:48	11.51	5.61	16.33	30.86	2.96	0.00	18.91	15.82
10:35:18	11.68	5.50	14.45	31.08	2.10	0.00	18.17	19.43
10:35:48	11.88	5.35	14.21	31.16	2.31	0.00	17.26	19.37
10:36:18	12.68	4.88	32.78	32.20	0.67	0.00	16.66	2.79
10:36:48	13.04	4.66	61.96	31.03	0.35	0.00	15.94	14.80
10:37:18	11.82	5.54	32.43	30.86	1.56	0.00	15.45	21.48
10:37:48	11.31	5.91	12.24	28.76	1.57	0.00	15.09	3.28
10:38:18	11.51	5.75	7.73	29.66	1.29	0.00	15.13	9.80
10:38:47						0.00	14.23	6.55
10:39:17						0.00	13.01	0.00
10:39:47	12.56	4.85	3.13	28.33	0.00	0.00	20.07	2.32
10:40:17	12.38	4.88	4.25	27.88	0.00	0.00	14.51	13.67
10:40:47	12.47	4.82	5.38	27.67	0.00	0.00	12.46	13.07
10:41:17	12.56	4.76	4.89	27.62	0.00	0.00	12.25	12.85
10:41:47	11.66	5.42	11.51	28.20	0.00	0.00	11.47	0.65
10:42:17	11.76	4.98	4.76	24.93	0.00	0.00	10.96	12.89
10:42:47	13.88	3.93	28.24	24.76	0.00	0.00	10.95	18.79
10:43:17	14.02	4.14	59.85	27.83	0.00	0.00	10.33	22.57
10:43:47	11.12	5.38	26.11	28.75	0.00	0.00	9.95	5.13
10:44:17						0.00	9.68	0.00
10:44:47						0.00	9.82	0.00
10:45:17						0.00	9.38	0.00
10:45:47	14.69	3.65	0.00	26.59	0.00	0.00	9.30	0.00
10:46:17	12.78	4.63	3.50	28.19	0.00	0.00	8.83	17.92
10:46:47	12.00	5.12	7.73	27.38	0.00	0.00	8.58	0.00
10:47:17	11.80	5.13	3.00	27.57	0.00	0.00	8.55	13.30
10:47:47	12.41	4.82	3.03	28.81	0.00	0.00	8.33	17.46
10:48:16	12.56	4.73	2.52	28.88	0.00	0.00	8.35	17.37
10:48:46	12.69	4.60	3.65	28.07	0.00	0.00	7.96	0.00
10:49:16	13.89	3.91	39.91	24.33	0.00	0.00	7.95	0.00
10:49:46	13.81	4.13	64.43	28.33	0.00	0.00	7.86	14.53
10:50:16	10.15	6.61	34.81	58.85	0.00	0.00	7.48	15.66
10:50:46	8.51	7.41	2.73	71.91	1.89	0.00	7.70	21.50
10:51:16	9.83	6.46	1.08	43.73	4.46	0.00	8.42	10.68
10:51:46	11.21	5.74	2.67	33.31	3.31	0.00	9.80	12.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:52:16	11.47	5.58	2.20	32.33	2.20	0.00	10.21	1.68
10:52:46	11.53	5.50	2.67	31.85	0.85	0.00	9.42	17.27
10:53:16	11.69	5.17	1.84	28.82	0.05	0.00	8.73	14.52
10:53:46	4.83	1.37	7.65	2.25	0.52	0.00	27.89	31.67
10:54:16	0.54	0.15	0.00	0.00	0.00	0.00	3.93	25.16
10:54:46	0.12	0.04	0.00	0.00	0.21	0.00	1.51	37.28
10:55:16	0.05	0.04	0.00	0.00	0.52	0.00	1.66	28.39
10:58:18	0.04	0.00	0.00	0.00	1.01		2.23	38.00
10:58:48	10.74	6.21	0.00	31.89	9.37		7.75	18.87
10:59:18	10.81	6.15	0.00	32.25	9.08		7.26	23.66
10:59:48	10.89	6.04	0.00	31.89	8.61		6.98	10.40
11:00:18	11.04	5.91	0.00	31.84	8.17		6.61	7.52
11:00:47	11.22	5.76	0.00	32.37	7.28		6.36	9.43
11:01:17	11.25	5.72	0.00	33.85	6.96		6.37	12.37
11:01:47	12.33	5.02	19.26	35.82	5.22		6.12	7.17
11:02:17	12.25	5.37	24.65	35.38	2.88		7.45	0.00
11:02:47	11.00	6.26	3.12	31.42	7.50		5.83	0.00
11:03:17	10.53	6.48	0.00	32.16	7.92		5.05	0.00
11:03:47	10.40	6.47	0.00	32.66	7.83		4.93	0.00
11:04:17	10.41	6.42	0.00	32.89	8.63		4.98	0.00
11:04:47	10.49	6.34	0.00	32.46	8.39		4.95	14.74
11:05:17	10.64	6.24	0.00	31.90	8.91		4.88	4.13
11:05:47	10.75	6.14	0.00	31.70	8.81		4.85	9.44
11:06:17	10.94	5.97	0.00	32.27	8.05	5.27	4.75	14.19
11:06:47	11.11	5.86	0.00	33.50	7.63	1.48	4.59	13.42
11:07:17	11.31	5.70	0.00	34.04	6.84	1.21	4.50	0.00
11:07:47	11.83	5.23	2.14	34.09	6.21	1.03	4.44	18.66
11:08:17	12.72	5.22	10.25	36.16	3.20	0.15	4.32	8.96
11:08:47	10.76	6.85	1.72	38.34	11.92	0.00	4.12	16.15
11:09:16	11.21	5.96	2.74	36.94	12.62	0.02	4.07	9.45
11:09:46	11.65	5.83	0.31	34.70	9.76	0.00	3.93	11.59
11:10:16	10.90	6.29	0.00	31.78	9.57	0.00	3.95	5.48
11:10:46	10.87	6.15	0.00	31.94	9.46	0.00	3.90	40.89
11:11:16	11.09	5.99	0.00	33.09	8.90	0.00	3.81	28.33
11:11:46	11.28	5.79	0.00	33.73	7.77	0.00	3.85	15.23
11:12:16	11.40	5.74	0.00	33.98	7.48	0.00	3.75	13.06
11:12:46	11.52	5.61	0.00	34.24	7.33	0.00	3.75	30.84
11:13:16	11.63	5.56	0.00	34.21	7.03	0.00	3.64	22.26
11:13:46	11.67	5.55	0.00	34.08	7.24	0.00	3.56	24.64
11:14:16	11.70	5.44	0.00	34.52	6.17	0.00	3.57	32.56
11:14:46	11.88	5.39	0.00	35.53	6.57	0.00	3.42	16.98
11:15:16	12.19	5.03	0.00	36.14	6.70	0.00	3.49	19.82
11:15:46	12.89	5.22	0.00	35.15	6.78	0.00	3.30	8.56
11:16:16	10.36	7.50	0.00	51.31	9.18	0.00	3.38	16.93

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:16:46	8.38	8.45	0.00	69.80	13.84	0.00	3.46	20.18
11:17:16	8.13	8.38	0.00	67.37	16.50	0.00	3.38	42.46
11:17:46	8.29	8.05	0.00	62.36	18.25	0.00	3.35	34.28
11:18:16	8.84	7.60	0.00	53.25	17.29	0.00	3.27	15.39
11:18:45	9.30	7.20	0.00	47.28	14.11	0.00	3.26	24.66
11:19:15	9.66	6.99	0.00	45.49	11.52	0.00	3.18	0.00
11:19:45	9.88	6.80	0.00	44.79	9.75	0.00	3.21	26.81
11:20:15	10.02	6.73	0.00	45.92	8.98	0.00	3.13	31.91
11:20:45	10.10	6.66	0.00	45.13	8.62	0.00	3.19	26.93
11:21:15	10.22	6.62	0.00	43.72	8.28	0.00	3.16	18.02
11:21:45	10.67	6.24	0.00	45.44	8.00	0.00	3.02	9.39
11:22:15	10.21	7.52	0.11	49.00	8.55	0.00	3.15	26.43
11:22:45	9.39	7.90	0.00	56.43	13.35	0.00	3.03	16.19
11:23:15	9.58	7.39	0.00	52.17	16.75	0.00	3.13	25.01
11:23:45	10.05	6.94	0.00	45.38	15.70	0.00	3.03	31.45
11:24:15	9.35	7.92	0.00	71.48	16.03	0.00	3.05	28.76
11:24:45	9.00	7.79	0.00	61.07	23.13	0.00	2.98	30.60
11:25:15	9.71	7.18	0.00	48.59	21.68	0.00	2.91	19.54
11:25:45	10.19	6.77	0.00	38.89	17.67	0.00	2.83	16.63
11:26:15	10.60	6.48	0.00	35.94	14.55	0.00	2.81	10.95
11:26:45	10.75	6.37	0.00	35.10	12.63	0.00	2.90	38.53
11:27:14	10.96	6.16	0.00	36.45	11.56	0.00	2.79	33.35
11:27:44	11.25	5.88	0.00	40.17	10.26	0.17	2.76	14.46
11:28:14	12.32	5.50	0.00	42.37	7.87	0.00	2.78	25.87
11:28:44	10.32	7.63	0.00	49.02	11.11	0.00	2.67	19.11
11:29:14	9.39	7.73	0.00	51.84	16.03	0.00	2.64	42.28
11:29:44	9.77	7.24	0.00	41.58	16.79	0.00	2.80	16.10
11:30:14	10.06	7.01	0.00	38.03	14.44	0.08	2.66	11.78
11:30:44	10.25	6.84	0.00	35.27	13.28	1.08	2.61	11.44
11:31:14	10.38	6.73	0.00	34.08	12.85	0.00	2.55	19.96
11:31:44	10.59	6.51	0.00	33.30	11.86	0.71	2.60	11.65
11:32:14	10.77	6.34	0.00	33.64	10.98	0.52	2.61	1.08
11:32:44	11.01	6.13	0.00	34.19	10.03	1.18	2.59	13.55
11:33:14	11.22	5.96	0.00	34.75	9.48	0.00	2.68	24.11
11:33:44	11.35	5.88	0.00	35.59	9.05	2.60	2.61	22.78
11:34:14	11.97	5.44	0.00	38.35	8.86	0.43	2.67	27.89
11:34:44	11.20	7.08	0.00	48.47	9.37	0.83	2.62	19.47
11:35:14	8.72	8.70	0.00	66.37	18.56	54.59	2.66	23.43
11:35:44	8.74	8.17	0.00	55.86	25.98		2.59	18.70
11:36:14	9.10	7.79	0.00	50.34	22.79		2.69	0.67
11:36:43	9.37	7.54	0.00	48.91	19.92		2.56	8.03
11:37:13	9.42	7.53	0.00	51.00	18.67		2.56	5.28
11:37:43	9.27	7.56	0.00	52.81	18.20		2.62	0.00
11:38:13	9.23	7.52	0.00	51.36	18.09		2.65	23.40

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:38:43	9.38	7.32	0.00	46.68	17.61		2.66	0.00
11:39:13	9.77	7.00	0.00	40.20	16.19		2.67	2.62
11:39:51	10.03	6.79	0.00	37.03	14.86		2.65	3.84
11:40:21	10.78	6.04	0.00	37.35	12.52		2.56	0.00
11:40:51	11.59	6.56	0.00	43.58	6.58		2.61	0.00
11:41:21	8.99	8.83	0.00	66.01	15.02		2.62	4.76
11:41:51	7.23	9.66	0.00	77.52	27.50		2.65	0.00
11:42:21	8.06	8.52	0.00	63.18	30.74		2.64	0.00
11:42:51	9.32	7.43	0.00	47.60	25.16		2.53	9.71
11:43:21	9.96	6.98	0.00	41.11	18.78		2.71	15.31
11:43:51	10.24	6.69	0.00	39.42	15.84		2.66	1.12
11:44:21	10.44	6.51	0.00	36.63	13.29		2.71	0.00
11:44:51	10.59	6.47	0.00	35.86	12.41		2.67	17.15
11:45:21	10.54	6.44	0.00	36.30	11.98		2.63	0.00
11:45:51	10.73	6.23	0.00	35.68	10.51		2.57	7.50
11:46:20	10.88	6.14	0.00	36.28	9.71		2.48	1.35
11:46:50	11.44	5.60	0.00	39.03	6.90		2.54	0.00
11:47:20	10.95	7.36	0.00	74.95	7.30		2.45	0.00
11:47:50	6.80	10.11	0.00	131.23	21.53		2.45	2.67
11:48:20	6.11	10.12	0.00	160.97	32.14		2.49	9.92
11:48:50	5.36	11.13	0.00	139.34	37.03		2.51	0.95
11:49:20	4.63	11.52	0.00	91.29	43.00		2.93	10.73
11:49:50	5.24	10.75	0.00	75.29	38.53		3.08	0.48
11:50:20	6.34	9.71	0.00	69.12	31.05		3.25	10.07
11:50:50	7.28	8.98	0.00	61.93	24.87		3.33	0.00
11:51:20	7.91	8.44	0.00	55.09	21.13		3.15	2.32
11:51:50	8.43	7.96	0.00	48.91	18.17		3.02	8.77
11:52:20	9.49	7.01	0.00	40.80	14.67		2.97	0.00
11:52:50	10.30	6.47	0.00	38.14	11.33		2.93	7.95
11:53:20	11.44	5.83	0.00	43.21	8.20		2.91	0.00
11:53:50	10.16	7.85	0.00	51.75	8.76		2.72	7.60
11:54:20	8.52	8.62	0.00	61.97	15.25		2.62	0.00
11:54:50	8.96	7.86	0.00	57.30	18.15		2.49	0.00
11:55:20	9.27	7.57	0.00	56.29	16.74		2.43	0.00
11:55:50	9.54	7.22	0.00	47.82	15.46		2.52	0.00
11:56:20	9.95	6.84	0.00	42.41	13.83		2.51	2.85
11:56:50	10.43	6.43	0.00	38.46	11.82		2.54	0.00
11:57:20	10.74	6.29	0.00	36.55	10.00		2.48	0.00
11:57:50	10.70	6.29	0.00	35.87	9.11		2.49	0.00
11:58:19	10.77	6.19	0.00	34.92	8.44		2.48	0.00
11:58:49	10.98	5.96	0.00	34.58	6.86		2.35	3.97
11:59:19	11.55	5.52	0.00	37.95	6.01		2.39	7.93
11:59:49	11.41	7.09	0.00	61.54	4.69		2.28	0.00
12:00:19	7.19	10.07	0.00	100.38	15.97		2.19	1.01

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:00:49	6.67	10.32	0.00	95.72	25.39		2.15	0.00
12:01:19	4.92	11.73	0.00	88.59	31.34		2.10	2.40
12:01:49	5.03	11.33	0.00	82.04	33.18		2.32	1.59
12:02:19	5.61	10.68	0.00	79.27	29.41		2.90	4.04
12:02:49	6.29	9.96	0.00	75.39	26.10		3.25	0.00
12:03:19	7.05	9.42	0.00	73.12	22.48		3.45	0.00
12:03:49	7.45	9.06	0.00	71.92	19.76		3.43	0.00
12:04:19	7.96	8.61	0.00	60.36	17.40		3.28	0.00
12:04:49	8.39	8.27	0.00	50.37	15.26		3.19	3.80
12:05:19	8.70	8.02	0.00	48.35	13.33		3.16	23.46
12:05:49	10.58	6.25	0.00	51.44	11.71		2.80	0.00
12:06:19	11.36	6.08	0.00	44.39	10.04		2.78	13.70
12:06:49	10.53	6.76	0.00	43.91	9.86		2.70	26.56
12:07:18	10.15	6.85	0.00	43.33	10.38		2.44	6.42
12:07:48	10.25	6.67	0.00	41.17	10.04		2.48	13.44
12:08:18	10.54	6.39	0.00	41.65	9.13		2.51	0.85
12:08:48	10.88	6.12	0.00	41.50	7.90		2.45	4.65
12:09:18	11.12	5.94	0.00	41.08	7.33		2.39	0.00
12:09:48	11.31	5.82	0.00	41.93	6.87		2.29	0.00
12:10:18	11.41	5.70	0.00	42.99	6.62		2.20	0.00
12:10:48	11.59	5.57	0.00	42.22	6.24		2.16	0.00
12:11:18	11.77	5.42	0.00	41.68	6.01		2.15	3.50
12:11:48	11.97	5.20	0.00	41.49	5.73		2.14	22.45
12:12:18	12.96	4.76	0.00	41.39	5.46		2.07	4.75
12:12:48	11.33	6.74	0.00	48.26	6.11		2.05	23.52
12:13:18	9.42	7.79	0.00	55.70	9.37	67.25	1.98	177.89
12:13:48	9.05	7.71	0.00	52.72	11.13	38.41	1.96	229.32
12:14:18	9.46	7.24	0.00	45.69	10.78	31.65	1.97	192.28
12:14:48	9.93	6.83	0.00	42.23	10.04	30.59	2.03	103.32
12:15:18	10.34	6.52	0.68	39.42	8.79	56.60	2.18	48.93
12:15:48	10.62	6.29	0.00	39.27	8.62	101.45	2.13	33.89
12:16:18	10.85	6.08	0.00	38.37	6.38	123.98	2.04	0.77
12:16:48	11.10	5.90	0.00	39.36	6.07	135.45	2.00	13.66
12:17:17	11.33	5.74	0.00	40.35	4.89	140.55	1.98	7.47
12:17:47	11.46	5.66	0.00	41.56	5.16	145.97	1.93	5.11
12:18:17	11.70	5.41	0.00	43.97	4.29	145.78	1.89	9.23
12:18:47	12.29	6.16	0.00	60.54	2.63	150.20	1.89	0.00
12:19:17	7.04	10.69	4.02	112.09	16.24	151.94	1.84	13.89
12:19:47	6.25	10.53	9.53	111.54	32.82	154.49	1.88	12.66
12:20:17	5.54	10.89	0.00	98.96	34.96	153.76	1.96	10.10
12:20:47	6.38	9.88	0.00	74.41	34.66	156.25	2.32	3.25
12:21:17	7.32	9.09	0.00	58.90	31.20	157.77	2.66	0.00
12:21:47	8.13	8.44	0.84	49.80	27.49	155.32	2.84	13.67
12:22:17	8.61	8.03	1.75	49.83	23.83	158.44	2.80	9.06

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:22:47	9.07	7.45	1.99	50.61	21.31	157.81	2.67	17.54
12:23:17	9.91	6.74	0.00	46.86	18.33	158.66	2.59	9.24
12:23:47	10.41	6.40	0.00	46.02	15.61	158.62	2.41	0.00
12:24:17	10.79	6.12	0.00	45.78	13.61	161.48	2.32	8.16
12:24:47	11.71	5.64	0.00	47.75	11.69	115.48	2.19	39.86
12:25:17	9.51	8.69	0.00	69.26	14.35	56.92	2.05	65.96
12:25:47	6.81	10.32	6.63	86.25	25.43	36.07	1.96	60.42
12:26:17	4.49	11.83	21.28	91.42	34.27	29.24	1.94	91.11
12:26:47	4.95	10.94	6.16	81.24	33.80	58.31	2.22	25.18
12:27:17	5.56	10.49	0.00	81.30	29.16	95.72	2.44	16.93
12:27:47	5.64	10.25	0.00	82.93	27.56	32.68	2.58	21.92
12:28:17	6.31	9.63	0.00	74.31	25.54	17.91	2.45	16.54
12:28:46	7.03	9.05	0.00	61.66	22.22	19.03	2.44	26.25
12:29:16	7.66	8.60	0.00	53.46	19.73	21.02	2.36	79.11
12:29:46	8.14	8.23	0.00	48.13	17.66	18.73	2.34	129.18
12:30:16	8.55	8.00	0.00	43.74	16.37	15.16	2.28	137.36
12:30:46	9.61	6.76	0.00	48.43	14.77	25.67	2.31	94.24
12:31:16	12.29	5.52	0.00	57.26	5.71		2.02	29.77
12:31:46	10.70	7.20	0.00	56.75	9.95		1.96	22.27
12:32:16	8.60	8.52	0.00	55.70	14.48		1.85	15.71
12:32:46	8.99	7.84	0.00	50.83	15.92		1.88	0.00
12:33:16	9.88	7.17	0.00	51.30	14.20		2.23	15.73
12:33:46	10.21	6.79	0.00	50.65	13.05		2.48	6.27
12:34:16	10.63	6.32	0.00	48.54	11.70		2.29	0.00
12:34:46	10.89	6.12	0.00	48.12	10.54		2.24	10.05
12:35:16	10.97	6.04	0.00	49.60	9.70		2.15	9.96
12:35:46	11.11	5.93	0.00	50.22	9.13		2.10	26.24
12:36:16	11.26	5.83	0.00	49.21	8.66		2.08	0.00
12:36:46	11.35	5.77	0.00	48.48	8.26		1.96	0.00
12:37:16	12.17	5.03	0.00	49.58	8.02		1.98	0.00
12:37:46	11.65	6.83	0.00	60.29	7.80		1.86	3.15
12:38:16	8.38	9.36	0.00	104.82	14.90		1.72	24.10
12:38:46	6.05	11.09	0.00	121.67	24.98		1.66	0.00
12:39:16	5.79	10.73	0.00	105.15	29.01		1.92	12.89
12:39:45	6.66	9.77	0.00	81.33	26.62		2.43	12.85
12:40:15	7.52	9.01	0.00	62.90	22.97		2.55	10.24
12:40:45	8.22	8.42	0.00	48.27	19.99		2.29	22.58
12:41:15	8.89	7.87	0.00	43.23	17.57		2.00	0.91
12:41:45	9.38	7.50	0.00	44.12	15.16		1.89	10.09
12:42:15	9.64	7.31	0.00	46.71	13.12		1.83	6.05
12:42:45	9.76	7.00	0.00	47.58	12.17		1.63	0.00
12:43:15	10.32	6.51	0.00	46.62	10.72		1.50	14.38
12:43:45	11.41	5.63	0.00	53.40	9.62		1.57	0.00
12:44:15	10.16	8.46	0.00	84.78	10.50		1.44	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:44:45	3.69	12.77	3716.77	129.36	97.98		1.34	19.00
12:45:15	1.32	13.74	7862.42	135.69	247.06		29.36	0.00
12:45:45	2.55	12.75	1793.74	144.50	124.44		74.56	28.34
12:46:15	4.01	11.56	57.42	144.93	45.40		3.57	8.34
12:46:45	5.08	10.70	0.16	132.38	23.85		2.52	21.23
12:47:15	6.04	10.06	0.00	109.98	17.24		2.51	0.00
12:47:45	6.36	9.74	0.00	94.08	14.51		2.45	0.00
12:48:15	7.27	8.99	0.00	69.53	12.34		2.31	9.69
12:48:45	7.95	8.49	0.00	57.00	11.02		2.24	16.27
12:49:14	8.49	8.04	0.00	49.29	10.19		2.08	9.77
12:49:44	8.97	7.53	0.00	47.17	9.69		2.01	27.42
12:50:14	11.54	5.69	0.00	59.15	4.05		1.84	0.00
12:50:44	10.11	8.55	0.00	70.99	7.77		1.66	0.00
12:51:14	6.83	10.48	0.00	82.97	11.37		1.81	5.62
12:51:44	7.15	9.44	0.00	67.65	13.22		1.90	5.37
12:52:14	8.24	8.32	0.00	52.02	12.00		2.26	0.00
12:52:44	9.18	7.59	0.00	50.19	10.32		2.40	5.14
12:53:14	9.52	7.40	0.00	51.39	9.23		2.31	0.00
12:53:44	9.60	7.33	0.00	51.74	8.40		2.20	4.63
12:54:14	9.62	7.28	0.00	51.15	7.96		2.14	9.05
12:54:44	9.73	7.19	0.00	51.05	7.62		2.14	9.04
12:55:14	9.88	7.04	0.00	51.88	7.32		2.00	7.39
12:55:44	10.09	6.86	0.00	51.13	6.43		2.26	0.00
12:56:14	10.57	6.21	0.00	53.70	5.35		2.40	0.00
12:56:44	12.05	6.69	0.00	71.45	2.26		1.93	9.34
12:57:14	6.27	11.95	39.60	109.49	12.46		1.75	18.30
12:57:44	4.00	12.62	91.02	116.16	27.18		1.76	0.00
12:58:14	4.73	11.43	6.25	98.87	26.38		1.63	8.53
12:58:43	6.19	9.95	0.00	71.68	23.32		1.82	0.00
12:59:13	7.43	9.01	0.00	61.72	21.45		2.01	0.00
12:59:43	7.99	8.59	0.00	55.24	19.32		2.06	0.00
13:00:13	8.33	8.29	0.00	49.41	16.93		2.00	11.31
13:00:43	8.78	7.89	0.00	49.70	15.25		1.95	5.31
13:01:13	9.18	7.54	0.00	52.35	13.56		1.87	0.00
13:01:43	9.54	7.26	0.00	54.46	12.40		1.88	5.02
13:02:13	10.00	6.84	0.00	57.78	11.30		1.80	0.00
13:02:43	11.84	5.14	0.00	56.62	6.05		1.73	0.00
13:03:13	12.94	5.34	0.00	63.52	3.51		1.61	0.38
13:03:43	9.76	8.01	0.00	74.63	9.18		1.57	5.34
13:04:13	7.79	8.94	0.00	74.62	12.15		1.48	2.24
13:04:43	7.98	8.56	0.00	63.22	12.92		1.55	0.00
13:05:13	8.55	7.99	1.26	55.92	12.40		1.60	13.26
13:05:43	9.27	7.39	0.00	60.52	10.91		1.69	11.30
13:06:13	9.99	6.88	0.00	65.61	8.96		1.63	1.42

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:06:43	10.62	6.38	0.00	68.03	7.44		1.54	15.24
13:07:13	11.04	6.12	0.00	69.95	5.47		1.44	0.00
13:07:43	11.25	6.02	0.00	69.97	3.94		1.32	7.31
13:08:12	11.10	5.92	0.00	63.47	4.62		1.36	16.46
13:08:42	11.38	5.62	0.00	62.93	2.34		1.26	42.93
13:09:12	12.60	5.27	0.00	72.37	0.00		1.33	0.00
13:09:42	7.74	11.26	524.73	136.55	16.62		1.40	5.29
13:10:12	0.86	12.95	8655.42	119.24	228.66		1.33	16.41
13:10:42	0.44	13.55	9659.28	132.84	317.12		70.42	21.08
13:11:12	1.27	13.66	6978.64	145.36	212.25		114.82	24.96
13:11:42	4.77	10.45	2765.76	154.14	89.58		9.76	3.36
13:12:12	9.79	8.01	231.04	121.40	37.06		3.25	0.00
13:12:42	8.20	9.05	4.55	95.63	22.42		2.13	6.90
13:13:54	8.96	7.74	0.00	51.27	11.77		1.69	1.51
13:14:24	9.63	7.22	0.00	48.15	10.46		1.56	10.27
13:14:54	10.10	6.83	0.00	51.23	8.03		1.58	9.98
13:15:24	11.31	5.78	0.00	60.49	5.20		1.55	14.03
13:15:54	9.46	10.00	91.27	92.62	8.13		1.40	1.40
13:16:24	4.93	12.50	222.17	113.24	23.16		1.35	19.31
13:17:02	4.83	11.49	71.47	101.29	21.06		3.08	0.00
13:17:32	6.71	9.63	0.00	65.46	14.90		1.44	0.00
13:18:02	7.76	8.76	0.00	51.13	12.45		1.60	4.51
13:18:32	8.55	8.13	0.00	47.12	11.16		1.52	2.57
13:19:02	9.23	7.53	0.00	50.06	9.57		1.64	0.00
13:19:32	9.95	6.97	0.00	54.56	8.67		1.52	9.57
13:20:02	10.47	6.64	0.00	56.58	7.75		1.59	0.00
13:20:32	10.71	6.44	0.00	58.42	6.34		1.45	11.51
13:21:02	10.91	6.29	0.00	59.82	6.06		1.53	17.57
13:21:32	11.53	5.58	0.00	62.44	3.74		1.45	10.32
13:22:02	11.16	8.53	1137.67	94.62	7.40		1.40	6.30
13:22:32	2.52	13.34	15358.23	113.47	132.83		1.40	23.03
13:23:01	0.70	13.60	19325.01	98.79	266.98		53.56	19.87
13:23:31	1.25	13.34	14923.60	95.58	191.40		108.95	0.00
13:24:01	7.09	8.86	5589.15	76.11	88.12		7.06	0.00
13:24:31	11.37	6.94	270.80	49.70	37.81		2.72	3.21
13:25:01	9.39	7.84	9.70	47.13	24.35		1.92	29.18
13:25:31	9.46	7.42	0.00	49.16	17.53		1.66	4.42
13:26:01	9.87	7.06	0.00	50.86	13.68		1.46	22.52
13:26:31	10.20	6.82	0.00	53.07	10.65		1.41	14.38
13:27:01	10.46	6.61	0.00	54.06	9.78		1.39	18.81
13:27:31	10.75	6.16	0.00	54.85	7.42		1.45	6.15
13:28:01	12.83	5.18	0.00	54.37	0.72		1.42	0.00
13:28:31	9.76	9.37	8.11	64.72	6.90		1.37	6.17
13:29:01	4.69	12.42	129.30	85.02	10.17		1.30	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:29:31	4.54	11.74	50.15	84.86	12.14		1.20	18.87
13:30:01	5.49	10.85	0.00	74.20	11.03		1.19	6.63
13:30:31	6.26	10.12	0.00	66.57	10.31		1.16	7.63
13:31:01	6.99	9.52	0.00	59.77	9.37		1.25	20.54
13:31:31	7.69	8.83	0.00	51.96	8.82		1.25	3.95
13:32:01	8.39	8.25	0.00	48.24	8.07		1.26	13.80
13:32:30	8.92	7.87	0.00	47.52	8.00		1.22	4.34
13:33:00	9.26	7.58	0.00	48.68	7.38		1.23	8.01
13:33:30	9.55	7.36	0.00	51.61	6.90		1.15	9.17
13:34:00	10.39	6.30	0.00	55.38	4.87		1.20	0.00
13:34:30	12.56	5.48	0.00	64.30	5.98		1.12	7.71
13:35:00	9.95	8.65	0.00	74.74	4.44		1.12	9.48
13:35:30	6.68	10.17	0.00	74.27	8.72		1.07	0.00
13:36:00	6.63	10.21	0.00	73.29	10.28		1.12	3.03
13:36:30	6.17	10.04	0.00	74.36	11.60		1.17	1.49
13:37:00	7.39	8.85	0.00	65.22	11.00		1.25	8.20
13:37:30	8.48	8.06	0.00	55.65	9.56		1.39	35.90
13:38:00	9.07	7.64	0.00	54.34	8.86		1.43	19.51
13:38:30	9.46	7.35	0.00	54.95	7.80		1.41	14.44
13:39:00	9.82	7.06	0.00	57.49	7.20		1.38	0.00
13:39:30	10.08	6.89	0.00	59.86	6.19		1.26	10.16
13:40:00	10.11	6.89	0.00	61.37	6.09		1.32	3.40
13:40:32	11.01	5.63	0.00	64.53	2.30		1.34	0.00
13:41:02	11.53	7.54	0.00	82.12	1.67		1.18	35.85
13:41:32	6.00	11.93	10.14	131.40	7.98	73.12	1.25	48.45
13:42:02	4.97	11.26	5.78	115.63	11.77	45.18	1.19	35.80
13:42:32	6.87	9.34	0.00	75.32	12.20	35.27	1.08	49.33
13:43:02	8.34	8.17	0.00	54.63	10.28	27.57	1.22	65.80
13:43:32	9.34	7.43	0.00	52.87	9.28	25.75	0.97	81.37
13:44:02	9.97	6.96	0.00	56.29	8.33	22.69	1.14	73.68
13:44:31	10.35	6.71	0.00	59.83	7.47	21.21	1.00	55.92
13:45:01	10.62	6.50	0.00	62.05	6.77	17.45	1.15	46.54
13:45:31	10.85	6.31	0.00	63.84	6.04	15.69	1.13	66.56
13:46:01	11.08	6.12	0.00	64.37	5.68	17.00	1.09	58.03
13:46:31	11.29	5.80	0.00	65.36	4.84	23.91	1.19	82.67
13:47:01	12.63	6.22	0.00	69.56	3.19	21.04	1.07	66.64
13:47:31	6.61	12.12	650.54	94.91	7.96	18.20	1.17	94.91
13:48:01	4.82	10.86	4662.07	79.04	35.53	16.96	1.15	212.46
13:48:31	7.91	8.64	636.72	67.68	26.80	15.17	23.24	151.02
13:49:01	8.27	8.13	1.74	73.51	15.39	15.53	1.17	101.56
13:49:31	11.31	5.93	0.00	65.73	10.82	13.10	0.99	74.20
13:50:01	11.44	6.28	0.00	57.27	8.45	15.58	1.00	64.79
13:50:31	10.14	7.05	0.00	55.52	8.33	12.18	1.00	50.08
13:51:01	10.03	6.92	0.00	57.46	7.75	13.79	1.07	39.98

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:51:31	10.27	6.68	0.00	60.80	7.41	10.12	0.84	55.78
13:52:01	10.71	6.32	0.00	62.18	6.88	11.44	0.96	58.34
13:52:31	11.01	6.14	0.00	63.90	6.73	8.68	0.90	19.85
13:53:01	11.19	6.06	0.00	63.42	6.22	10.38	0.91	29.06
13:53:31	11.34	5.91	0.00	63.57	5.51	7.30	0.90	66.42
13:54:01	11.50	5.83	0.00	64.25	5.57	9.38	0.86	57.67
13:54:31	11.65	5.69	0.00	64.04	4.08	8.73	0.97	57.11
13:55:00	11.76	5.53	0.00	64.16	4.08	10.36	1.07	66.69
13:55:30	13.24	4.63	0.00	61.90	0.23	10.96	0.94	70.85
13:56:00	10.25	9.65	12.06	100.10	4.02	11.18	0.93	71.92
13:56:30	4.48	13.19	518.66	116.46	15.11	13.00	0.97	95.35
13:57:00	4.14	11.88	207.84	105.04	23.19	9.50	1.43	66.97
13:57:30	5.88	10.16	0.16	86.77	16.71	12.22	0.87	58.85
13:58:00	7.32	8.96	0.00	69.58	12.20	12.67	0.84	73.61
13:58:30	8.47	8.04	0.00	52.62	10.05	20.35	0.84	74.12
13:59:00	9.42	7.29	0.00	48.47	8.83	23.44	0.94	90.78
13:59:30	10.13	6.79	0.00	53.08	7.70	28.81	1.16	101.85
14:00:00	10.51	6.53	0.00	55.55	6.95	38.10	1.22	96.25
14:00:30	10.88	6.26	0.00	58.10	6.17	33.38	1.14	71.54
14:01:00	11.12	6.00	0.00	60.19	5.58	8.60	1.13	32.80
14:01:30	12.97	4.72	0.00	57.57	0.54	6.79	1.10	50.42
14:02:00	11.18	8.28	0.00	81.41	3.08	4.77	1.11	12.42
14:02:30	6.70	10.83	0.00	112.49	7.18	3.70	1.01	7.35
14:03:00	6.71	9.90	0.00	85.47	10.07	3.08	0.99	25.90
14:03:30	7.67	8.95	0.00	67.21	10.53	3.82	0.89	16.21
14:04:00	8.49	8.21	0.00	56.37	9.80	1.18	0.87	28.66
14:04:30	9.11	7.77	0.00	55.35	8.79	1.67	0.91	26.33
14:05:00	9.59	7.32	0.00	52.35	8.40	2.98	0.86	21.81
14:05:30	10.13	6.92	0.00	51.79	8.00	2.07	0.88	33.94
14:06:00	10.46	6.67	0.00	53.66	7.16	2.60	1.06	44.11
14:06:29	10.66	6.49	0.00	55.81	6.46	0.49	1.10	45.46
14:06:59	10.86	6.36	0.00	57.65	6.04	3.42	1.02	12.19
14:07:29	11.35	5.63	0.00	58.79	4.29	0.82	0.98	22.21
14:07:59	12.95	5.91	0.00	68.60	1.82	3.48	1.07	8.77
14:08:29	7.07	10.55	406.34	98.29	7.52	1.41	1.15	0.00
14:08:59	3.53	12.57	1137.23	100.95	34.78	3.01	2.00	9.17
14:09:29	3.53	12.33	259.59	100.98	41.88	1.72	3.65	9.34
14:09:59	4.34	11.39	42.03	98.40	29.37	2.15	1.01	3.65
14:10:29	8.54	8.86	0.00	96.26	20.71	2.48	0.83	3.47
14:10:59	10.79	7.74	0.00	79.51	15.08	1.72	0.92	0.00
14:11:29	7.84	8.96	0.00	78.23	13.43	1.21	1.32	4.30
14:11:59	7.57	8.91	0.00	69.89	13.44	0.93	1.36	6.01
14:12:29	7.95	8.57	0.00	61.55	13.26	1.37	1.17	21.53
14:12:59	8.29	8.29	0.00	55.79	12.98	0.11	1.02	21.34

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:13:29	8.58	8.07	0.00	53.80	11.96	3.09	1.05	11.06
14:13:59	9.49	7.29	0.00	61.32	11.75	0.82	1.03	4.07
14:14:29	9.90	8.16	0.00	74.75	10.95	1.75	1.01	12.05
14:14:59	6.30	10.63	208.23	87.23	12.71	0.42	1.16	16.10
14:15:29	7.93	9.29	357.98	64.99	20.69	1.07	1.23	0.00
14:15:58	8.71	8.70	7.57	65.65	18.30	1.31	1.21	0.35
14:16:28	8.12	8.91	0.00	50.20	14.37	0.90	0.89	0.00
14:16:58	8.70	8.34	0.00	45.37	12.78	1.62	0.95	2.73
14:17:28	9.22	7.89	0.00	46.68	11.50	1.87	0.85	0.00
14:17:58	9.51	7.58	0.00	48.70	10.24	1.24	0.95	0.00
14:18:28	9.79	7.32	0.00	52.09	9.23	0.15	0.91	9.95
14:18:58	9.95	7.16	0.00	53.19	8.45	1.21	0.97	1.92
14:19:28	10.14	6.98	0.00	54.76	7.88	0.77	0.89	31.66
14:19:58	10.33	6.86	0.00	55.86	7.52	2.60	0.92	0.00
14:20:28	10.43	6.73	0.00	57.03	7.51	0.00	0.95	34.11
14:20:58	10.65	6.42	0.00	56.75	6.67	1.41	0.98	2.64
14:21:28	12.80	5.53	0.00	60.15	1.46	0.00	0.90	14.50
14:21:58	8.79	9.43	33.23	105.62	6.23	1.47	0.88	0.00
14:22:42	3.99	12.62	1523.00	126.08	13.64	1.50	0.89	28.40
14:23:12	3.49	12.21	294.08	131.08	51.27	7.15	2.40	52.63
14:23:53	8.54	9.66	0.00	133.70	28.83	8.02	1.04	52.01
14:24:23	10.40	8.51	0.00	103.75	17.37	7.57	0.96	18.16
14:24:52	7.41	9.64	0.00	98.15	12.14	6.82	0.88	16.47
14:25:22	6.55	9.89	0.00	95.02	10.52	7.39	1.07	20.75
14:25:52	6.77	9.64	0.00	88.96	10.33	6.40	0.85	31.48
14:26:22	7.19	9.34	0.00	82.01	10.21	6.81	0.80	24.74
14:26:52	7.48	9.07	0.00	75.47	10.10	4.68	0.79	24.94
14:27:22	8.38	8.16	0.00	67.62	9.92	4.75	0.76	32.00
14:27:52	9.52	8.86	0.00	85.27	9.30	3.43	0.81	21.44
14:28:22	4.73	12.58	723.26	114.10	15.98	5.62	0.83	18.70
14:28:52	4.02	12.68	1612.31	149.67	67.82	4.16	1.73	56.00
14:29:22	7.05	11.02	104.44	141.07	64.33	4.98	1.58	28.45
14:29:52	8.42	9.99	0.00	118.87	36.87	4.97	0.75	23.20
14:30:22	9.87	8.74	0.00	86.68	23.53	8.67	0.77	18.28
14:30:52	7.78	9.50	0.00	79.17	17.43	8.40	0.92	8.01
14:31:22	7.04	9.58	0.00	71.45	14.98	6.37	0.81	5.82
14:31:52	7.21	9.40	0.00	65.62	13.89	8.59	0.78	5.04
14:32:22	7.50	9.02	0.00	59.47	13.13	6.33	0.85	15.92
14:32:52	7.96	8.76	0.00	54.25	13.11	6.93	0.70	14.80
14:33:22	8.33	8.43	0.00	49.95	11.68	6.35	0.74	32.73
14:33:51	9.50	7.52	0.00	60.34	11.33	6.61	0.67	19.06
14:34:21	7.35	10.66	378.04	95.00	12.79	4.44	0.67	34.01
14:34:51	4.84	12.23	241.47	109.18	22.72	5.81	2.11	35.18
14:35:21	6.90	10.67	5.95	109.72	23.37	5.76	0.63	15.12

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 21, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:35:51	9.07	9.45	0.00	92.41	19.19	6.69	0.73	32.15
14:36:21	9.95	8.70	0.00	74.80	15.76	4.31	0.75	29.94
14:36:51	7.67	9.35	0.00	68.21	14.05	5.89	0.76	24.00
14:37:21	7.59	9.11	0.00	58.39	13.85	5.18	0.67	33.15
14:37:51	7.88	8.84	0.00	52.99	13.26	5.65	0.68	21.68
14:38:21	7.99	8.65	0.00	52.30	12.58	3.42	0.64	17.32
14:38:51	8.24	8.43	0.00	51.02	11.97	5.99	0.54	32.36
14:39:21	8.73	8.04	0.00	50.35	10.88	3.53	0.77	32.26
14:39:51	9.23	7.57	0.00	52.91	9.97	3.61	0.78	33.82
14:40:21	11.29	6.12	0.00	58.81	7.27	6.47	0.74	33.29
14:40:51	9.43	8.92	105.51	72.87	8.33	5.46	0.59	71.30
14:41:21	3.45	12.80	2925.29	79.53	43.39	5.77	0.53	161.10
14:41:51	4.03	11.84	1412.16	70.85	102.23	4.64	8.60	92.35
14:42:21	7.91	9.60	82.78	60.41	69.75	9.16	0.96	84.43
14:42:51	9.76	8.27	0.00	50.55	39.22	21.09	0.60	99.62
14:43:21	10.84	7.53	0.00	47.50	24.57	29.30	0.62	99.53
14:43:51	8.25	8.49	0.00	50.95	17.92	23.78	0.61	99.34
14:44:21	7.95	8.38	0.00	48.07	13.81	27.02	0.58	112.97
14:44:51	8.33	8.08	0.00	43.87	11.37	29.20	0.57	120.24
14:45:20	8.79	7.74	0.00	43.20	10.00	34.24	0.38	124.50
14:45:50	9.19	7.47	0.00	45.58	8.69	38.02	0.37	136.23
AVG	9.24	7.61	238.87	59.43	16.18	17.41	4.13	21.40

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:30:15	12.00	5.25	0.16	38.49	3.43	30.97	5.97	606.40
10:30:51	12.24	5.10	0.12	37.42	3.20	41.11	5.84	246.64
10:31:21	12.49	4.88	0.00	35.92	2.79	51.32	5.59	64.64
10:31:51	12.63	4.76	0.00	34.48	2.62	65.16	5.56	32.36
10:32:20	12.00	5.27	1.09	36.04	2.52	76.50	5.31	2.32
10:32:50	13.33	4.17	22.30	28.98	2.57	71.90	5.04	0.00
10:33:20	13.87	4.34	40.60	33.16	2.20	97.68	4.77	0.00
10:33:50	10.69	6.55	4.31	52.88	2.64	106.87	4.18	0.00
10:34:20	9.76	6.57	0.00	47.78	4.39	114.82	4.20	0.00
10:34:50	11.59	5.44	0.00	35.48	2.01	119.56	4.67	0.00
10:35:20	12.06	5.26	0.00	35.83	1.19		4.98	0.00
10:35:50	12.12	5.18	0.00	35.78	3.26		4.64	0.00
10:36:20	12.31	5.00	0.00	35.04	2.96		4.57	0.00
10:36:50	12.47	4.86	0.00	35.17	2.62		4.58	0.20
10:37:20	12.60	4.78	0.00	34.78	2.55		4.43	6.76
10:37:53	12.60	4.75	0.00	33.94	2.30		4.49	0.00
10:38:29	10.88	5.90	0.87	43.36	2.07		4.47	0.00
10:38:59	12.46	4.69	0.42	33.69	0.00		4.46	0.00
10:39:29	13.78	4.14	7.60	31.55	0.00		4.65	0.00
10:39:59	11.63	6.36	4.12	44.30	1.67		4.29	0.00
10:40:29	9.49	7.08	0.00	42.29	9.00		4.18	0.86
10:40:59	10.89	6.14	0.00	32.84	8.46		4.46	0.00
10:41:29	11.16	5.98	0.00	34.19	6.01		4.58	0.00
10:41:59	11.38	5.74	0.00	34.03	5.95		4.46	0.00
10:42:29	11.73	5.44	0.00	33.99	0.83		4.49	0.00
10:42:59	11.93	5.25	0.00	33.76	0.99		4.51	0.00
10:43:29	12.05	5.18	0.00	33.93	5.65		4.38	0.00
10:43:59	12.10	5.10	0.00	33.65	5.18		4.49	0.00
10:44:29	12.18	5.04	0.00	33.32	4.73		4.55	0.00
10:45:08	12.26	4.99	0.00	33.77	4.27		4.36	0.00
10:45:38	13.24	4.57	6.14	35.25	4.66		4.36	0.00
10:46:08	11.24	6.75	3.53	52.48	7.14		4.27	0.00
10:46:38	9.20	7.79	0.00	62.04	15.55		4.20	0.00
10:47:08	9.26	7.52	0.00	58.14	20.42		4.56	0.00
10:47:38	9.79	7.00	0.00	47.14	20.23		4.93	0.00
10:48:08	10.30	6.66	0.05	41.51	17.58		4.96	3.29
10:48:37	10.36	6.60	0.22	40.81	15.95	61.03	4.83	26.85
10:49:07	10.67	6.29	0.31	35.72	14.12	39.06	4.66	48.28
10:49:37	11.09	5.96	0.36	32.61	11.33	31.05	4.54	82.44
10:50:07	11.43	5.68	0.00	31.54	9.17	26.12	4.28	79.08
10:50:51	11.69	5.49	0.00	31.56	6.95	23.02	4.18	89.72
10:51:21	11.87	5.42	0.03	34.77	5.91	21.26	4.12	106.01
10:51:51	12.45	5.25	2.26	38.70	2.80	19.55	3.86	92.12
10:52:21	11.75	6.14	0.61	41.28	6.22	16.30	3.77	105.87

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:52:51	10.25	7.03	0.00	48.02	9.07	18.82	3.69	101.78
10:53:21	10.03	6.97	0.00	49.69	10.17	15.03	3.82	100.50
10:53:51	10.40	6.63	0.05	42.42	9.81	17.60	4.02	88.20
10:54:21	10.75	6.29	0.00	38.33	8.72	15.41	4.19	85.38
10:54:51	11.08	6.00	0.00	33.53	7.45	13.95	4.03	61.50
10:55:21	11.40	5.69	0.00	33.19	5.57	15.06	4.05	80.19
10:55:50	11.71	5.46	0.00	33.57	4.01	14.22	4.09	50.99
10:56:20	11.94	5.20	0.00	33.48	4.52	15.52	3.89	58.38
10:56:50	12.18	5.10	0.00	33.56	3.91	13.30	3.81	49.96
10:57:20	12.28	5.03	0.11	34.23	3.69	12.54	4.13	43.73
10:57:50	12.95	4.60	0.62	36.54	3.38	12.15	3.81	42.29
10:58:20	13.06	5.00	2.21	40.58	3.72	11.98	4.10	30.02
10:58:50	11.22	6.46	1.87	43.18	7.57	11.65	4.89	25.11
10:59:20	10.55	6.72	3.69	42.27	13.03	12.27	6.08	27.11
10:59:50	10.72	6.48	5.39	38.62	13.47	12.12	9.32	32.67
11:00:20	10.88	6.25	5.82	35.82	12.64	12.65	13.52	25.49
11:00:50	11.23	5.94	5.34	33.14	9.85	9.74	15.26	24.98
11:01:20	11.53	5.66	4.71	33.07	6.47	10.89	13.86	20.41
11:01:50	11.74	5.49	3.71	33.17	4.79	9.67	13.15	27.74
11:02:20	11.89	5.34	3.53	33.38	2.44	8.54	11.15	29.46
11:02:50	12.08	5.22	4.06	33.32	3.46	9.61	9.49	18.10
11:03:20	12.14	5.20	5.45	33.89	1.10	8.46	10.46	12.73
11:03:50	11.67	5.53	3.85	35.72	3.87	8.98	13.94	17.28
11:04:20	12.49	5.00	2.77	35.52	1.17	6.99	12.94	16.21
11:04:50	11.78	6.21	2.97	43.22	2.92	8.40	4.45	16.04
11:05:20	9.74	7.54	1.86	53.67	7.79	6.87	3.18	15.94
11:05:50	9.50	7.41	2.46	53.86	10.17	9.11	3.00	24.51
11:06:19	9.87	7.02	3.38	46.71	10.66	4.28	2.76	31.22
11:06:49	10.28	6.65	3.79	38.51	9.54	10.95	2.70	21.76
11:07:19	10.51	6.44	3.22	35.44	8.64	10.75	2.51	23.91
11:07:49	10.73	6.23	3.33	34.34	7.34	13.34	2.47	7.83
11:08:19	10.91	6.09	2.94	34.51	6.22	10.79	2.44	17.09
11:08:55	10.96	6.00	2.50	35.04	6.58	14.36	2.31	0.00
11:09:25	11.04	5.99	2.69	35.26	5.36	11.43	2.34	23.18
11:09:55	11.13	5.93	2.69	35.25	5.48	10.06	2.27	14.64
11:10:25	11.48	5.68	2.87	40.07	4.41	9.39	2.26	24.94
11:10:55	12.54	5.01	3.81	40.44	2.56	10.46	2.17	21.80
11:11:25	12.44	5.11	2.69	38.93	1.31	12.06	2.22	16.79
11:11:55	11.60	5.61	2.70	40.48	3.93	12.02	2.05	21.39
11:12:25	11.44	5.67	2.44	40.84	3.83	12.65	2.11	15.80
11:12:55	11.49	5.59	2.82	41.02	3.44	10.78	2.07	18.10
11:13:25	11.61	5.50	2.83	41.41	3.35	11.02	2.08	19.38
11:13:55	11.67	5.43	2.88	41.76	2.71	8.74	2.02	2.76
11:14:25	11.74	5.37	3.15	42.74	3.10	9.79	1.98	13.94

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:14:55	11.83	5.30	3.49	42.58	2.34	11.25	2.00	16.24
11:15:25	11.82	5.29	3.98	42.63	2.76	12.56	1.96	11.52
11:15:55	11.90	5.26	4.16	42.87	1.12	7.00	1.82	7.39
11:16:25	11.91	5.23	4.53	45.40	2.19	10.77	1.77	3.12
11:16:55	12.90	4.73	5.26	44.67	4.24	10.80	1.76	10.94
11:17:25	11.20	6.76	5.34	47.81	4.04	9.91	1.45	20.92
11:17:54	9.43	7.65	5.89	61.71	9.23	6.81	1.48	7.88
11:18:40	9.80	7.06	5.88	46.32	11.18	11.25	1.25	20.15
11:19:09	10.58	6.33	6.92	34.84	9.13	11.27	1.40	8.73
11:20:01	10.77	6.17	6.96	35.23	8.29	16.00	1.04	4.47
11:20:41	11.18	5.86	8.38	34.89	5.98	10.94	1.25	11.10
11:21:11	11.25	5.79	9.83	34.09	5.35	10.46	1.26	9.23
11:21:41	11.19	5.82	10.37	38.08	5.24	7.78	1.10	10.73
11:22:11	11.21	5.80	11.70	39.95	5.43	9.78	1.16	16.27
11:22:41	11.30	5.73	28.41	45.28	5.44	9.92	1.22	16.47
11:23:11	11.95	5.45	29.24	52.63	4.61	12.28	1.07	13.88
11:23:41	11.66	5.94	37.76	42.93	6.43	9.78	1.22	11.48
11:24:11	10.35	6.80	37.39	42.12	9.60	11.24	1.14	13.51
11:24:41	10.10	6.80	26.56	44.22	11.65	12.43	1.15	23.33
11:25:11	10.22	6.58	52.75	43.19	11.73	12.42	1.14	28.59
11:25:40	10.41	6.44	14.32	41.39	11.27	14.36	1.14	12.01
11:26:10	10.51	6.30	46.04	42.46	10.65	14.44	1.17	35.16
11:26:40	10.62	6.18	95.07	40.21	10.36	12.04	1.13	40.67
11:27:10	10.78	6.05	79.24	36.19	9.56	16.85	1.15	38.23
11:27:40	11.00	5.90	93.27	35.24	8.60	16.61	1.18	21.51
11:28:18	11.08	5.87	84.39	35.60	8.33	18.85	1.22	19.99
11:28:48	11.22	5.72	63.64	37.13	8.65	20.53	1.00	7.12
11:29:18	11.42	5.56	92.27	45.22	8.12	21.63	1.12	32.90
11:29:48	11.68	5.92	59.92	46.22	7.90	21.71	1.10	27.33
11:30:18	10.51	6.74	67.60	44.32	11.51	24.20	1.10	21.75
11:30:48	9.91	7.00	79.28	54.28	14.46	19.73	1.03	35.98
11:31:18	9.59	7.19	91.26	70.35	15.51	19.10	1.06	32.51
11:31:48	9.46	7.23	73.07	88.03	16.42	16.71	1.09	26.63
11:32:18	9.48	7.12		91.44	16.87	18.84	1.09	26.25
11:32:48	9.64	6.97	101.25	80.82	16.97	18.95	1.07	32.54
11:33:18	9.91	6.75	124.01	65.93	16.00	20.94	1.11	28.28
11:33:48	10.18	6.54	116.68	51.42	14.98	20.11	3.02	34.91
11:34:18	10.44	6.32	108.08	40.59	13.69	20.05	3.03	36.49
11:34:48	10.61	6.17	113.66	36.58	12.94	21.67	2.95	38.13
11:35:18	10.70	6.21	104.61	36.54	12.21	18.73	3.03	40.02
11:35:47	11.25	5.93	156.72	45.36	11.52	20.91	3.05	41.81
11:36:17	10.10	7.47	107.67	53.94	13.94	22.60	3.00	37.49
11:36:47	8.30	8.56	124.21	84.13	22.27	40.89	2.98	41.56
11:37:17	8.22	8.28	131.65	82.72	29.25	63.41	2.98	50.82

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:37:47	8.83	7.58	125.23	71.75	28.50	78.25	2.92	40.84
11:38:17	9.46	7.07	147.66	62.97	25.21	80.44	2.89	51.42
11:38:47	9.72	6.88	142.81	59.70	23.05	81.20	2.87	42.64
11:39:17	10.03	6.57	160.42	51.37	21.21	81.10	2.93	45.00
11:39:47	10.33	6.37	120.53	45.54	19.32	80.77	2.88	50.20
11:40:17	10.53	6.20	133.65	41.61	17.34	79.05	2.92	42.62
11:40:47	10.62	6.14	116.63	39.45	15.95	78.53	2.83	41.39
11:41:17	10.72	6.05	119.33	37.91	14.42	76.68	3.00	42.59
11:41:47	11.18	5.85	99.94	44.62	13.03	80.59	3.01	49.88
11:42:17	10.38	7.53	84.49	60.79	13.05	80.71	2.89	47.46
11:42:47	7.81	9.35	47.80	77.93	20.26	67.35	2.85	62.64
11:43:17	8.64	8.10	71.30	59.16	24.15	67.30	2.89	62.32
11:43:47	9.80	7.02	79.97	42.47	19.87	62.65	2.80	74.38
11:44:17	10.32	6.61	60.45	36.76	15.65	64.25	2.79	61.02
11:44:47	10.60	6.34	71.40	34.26	12.94	61.65	2.92	71.98
11:45:16	10.80	6.17	35.85	33.77	11.45	66.45	2.82	64.22
11:45:46	10.96	6.01	37.73	33.96	10.48	62.60	2.84	70.71
11:46:16	11.14	5.87	41.88	35.42	9.01	67.58	2.80	68.70
11:46:46	11.20	5.81	33.51	36.36	8.22	62.01	2.82	67.81
11:47:16	11.25	5.74	21.68	37.63	7.45	66.09	2.81	64.71
11:47:46	11.53	5.54	17.45	39.06	7.05	64.49	2.75	76.50
11:48:16	12.56	5.22	31.43	39.68	4.08	64.44	2.79	82.89
11:48:46	10.26	7.41	8.98	57.19	9.22	76.01	2.73	72.15
11:49:16	9.09	7.81	9.08	71.75	14.22	93.15	2.83	86.46
11:49:46	9.48	7.27	8.99	65.85	14.77	104.65	2.98	105.78
11:50:16	9.81	6.94	8.50	56.26	13.81	110.10	2.82	84.24
11:50:46	10.05	6.71	7.96	51.55	12.62	109.09	2.83	99.30
11:51:16	10.26	6.50	7.74	45.80	12.04	110.87	2.77	82.16
11:51:46	10.61	6.24	7.28	39.63	10.46	113.72	2.77	91.31
11:52:16	10.79	6.06	6.84	37.47	9.10	104.26	2.58	102.57
11:52:46	11.02	5.88	6.45	37.92	7.75	103.79	2.76	98.54
11:53:16	11.28	5.71	6.55	39.28	5.52	96.86	2.67	106.19
11:53:46	11.49	5.55	6.17	40.11	6.33	97.36	2.66	91.87
11:54:16	11.88	5.39	5.77	44.64	2.56	89.54	2.71	96.34
11:54:46	12.23	5.58	4.84	48.90	3.05	89.80	2.65	108.16
11:55:16	10.68	6.67	4.76	55.33	8.30	101.67	2.63	114.02
11:55:45	9.95	7.02	4.77	58.13	11.03	130.66	2.64	117.87
11:56:15	9.81	7.02	4.85	60.37	11.45	145.15	2.70	116.20
11:56:45	9.99	6.85	4.54	60.94	11.41	163.48	2.64	96.86
11:57:15	10.07	6.73	4.43	61.37	11.31	174.82	2.63	126.58
11:57:45	10.24	6.54	3.92	57.31	10.63	179.67	2.57	111.77
11:58:15	10.42	6.40	3.74	52.61	10.12	175.89	2.57	106.91
11:58:45	10.54	6.31	3.45	49.15	9.26	171.76	2.57	125.47
11:59:15	10.70	6.15	3.29	43.41	8.32	167.80	2.65	121.06

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:59:45	10.83	6.05	3.03	39.87	7.23	157.61	2.64	113.05
12:00:15	10.95	5.97	2.72	39.13	5.94	151.56	2.54	122.33
12:00:45	11.90	5.30	2.49	47.80	3.47	144.66	2.59	115.42
12:01:15	12.11	5.64	2.25	52.64	2.43	141.09	2.52	125.85
12:01:45	10.54	6.77	2.09	55.46	7.77	174.67	2.43	127.54
12:02:15	9.93	6.90	1.88	56.73	9.65	222.03	2.56	124.04
12:02:45	10.15	6.60	1.74	52.52	9.44	203.64	2.49	127.92
12:03:15	10.28	6.50	1.67	53.73	9.99	183.86	2.43	105.84
12:03:45	10.43	6.35	1.47	44.34	7.81	167.92	2.62	132.74
12:04:15	10.63	6.17	1.75	38.79	7.64	162.11	2.69	142.31
12:04:45	10.82	6.02	1.52	36.81	5.96	145.42	2.65	135.29
12:05:15	11.04	5.85	1.22	36.84	6.09	142.32	2.57	107.62
12:05:45	11.22	5.73	0.99	37.58	4.26	133.92	2.44	104.33
12:06:14	11.33	5.64	0.96	38.11	4.32	127.30	2.47	132.56
12:06:44	11.40	5.61	0.88	40.86	2.82	120.86	2.44	127.81
12:07:14	12.24	5.34	0.71	47.46	1.53	121.53	2.41	142.68
12:07:44	9.34	8.73	0.67	95.05	8.48	121.55	2.46	148.79
12:08:14	7.65	9.24	0.38	103.87	21.29	129.82	2.42	161.92
12:08:44	8.74	8.09	0.27	83.04	23.67	126.91	2.36	175.14
12:09:14	9.18	7.65	0.29	68.36	21.49	124.59	2.42	175.96
12:09:44	8.97	7.79	0.27	68.19	19.97	129.58	2.41	159.51
12:10:14	9.04	7.48	0.30	53.77	19.77	134.15	2.38	161.18
12:10:44	9.89	6.74	0.68	43.05	17.79	136.89	2.34	160.76
12:11:14	10.73	6.09	0.27	37.72	14.73	130.46	2.39	126.48
12:11:44	11.07	5.92	0.18	37.21	11.62	128.18	2.29	128.96
12:12:14	11.13	5.85	0.12	38.09	9.96	125.88	2.37	133.06
12:12:44	11.23	5.78	0.17	39.47	8.60	126.76	2.26	129.43
12:13:14	11.65	5.48	0.37	42.33	6.68	123.01	2.38	142.31
12:13:44	12.43	5.57	0.10	45.33	2.06	120.67	2.38	153.98
12:14:14	9.57	7.97	0.00	57.66	10.77	120.39	2.39	161.16
12:14:44	9.23	7.62	0.00	56.44	17.25	165.70	2.37	159.90
12:15:14	9.84	6.97	0.00	45.61	15.19	150.64	2.40	154.42
12:15:43	10.37	6.52	0.00	39.20	11.96	130.29	2.36	160.20
12:16:13	10.64	6.26	0.00	37.05	9.39	120.88	2.30	152.43
12:16:43	10.87	6.10	0.12	36.50	8.13	112.44	2.31	143.30
12:17:13	11.06	5.92	0.00	36.89	5.66	112.03	2.36	149.18
12:17:43	11.20	5.81	0.00	37.92	5.34	112.92	2.28	146.44
12:18:13	11.27	5.74	0.00	38.54	4.57	109.10	2.29	157.83
12:18:43	11.36	5.66	0.00	38.81	3.70	104.79	2.46	171.60
12:19:13	11.44	5.61	0.00	38.91	3.96	101.33	2.42	180.45
12:19:43	12.20	5.07	0.00	39.42	0.64	97.14	2.27	167.18
12:20:13	10.78	7.26	0.00	186.84	3.06	132.46	2.16	157.19
12:20:43	6.47	10.17	0.00	288.93	14.40	273.41	2.22	220.73
12:21:13	5.69	10.54	0.00	156.77	25.33	319.66	2.14	265.40

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:21:43	5.47	10.46	0.00	108.62	29.26	359.97	2.22	249.74
12:22:13	6.70	9.37	0.00	82.70	24.77	316.81	2.24	214.31
12:22:43	7.74	8.53	0.00	61.55	19.19	260.33	2.27	189.60
12:23:13	8.57	7.89	0.00	48.10	14.66	229.41	2.26	174.74
12:23:43	8.98	7.50	0.00	44.40	11.77	204.74	2.22	155.02
12:24:13	9.65	6.83	0.00	42.90	9.28	180.98	2.26	150.96
12:24:42	10.12	6.49	0.00	41.77	7.62	157.28	2.16	155.71
12:25:12	10.62	6.08	0.00	41.16	6.10	144.13	2.25	154.72
12:25:42	11.13	5.80	0.00	41.07	4.46	130.59	2.21	157.63
12:26:12	11.89	5.46	0.00	47.13	2.81	127.79	2.26	170.71
12:26:42	10.38	7.34	0.00	52.56	5.54	126.67	2.23	178.79
12:27:12	8.87	8.13	0.00	69.08	10.67	155.71	2.20	180.92
12:27:42	9.23	7.61	0.00	59.97	11.48	151.60	2.22	186.11
12:28:12	9.24	7.52	0.00	54.74	10.60	137.55	2.22	182.72
12:28:42	8.87	7.89	0.00	51.15	9.86	143.68	2.28	179.71
12:29:12	8.63	8.09	0.00	46.10	9.85	145.80	2.27	168.98
12:29:42	8.82	7.68	0.00	44.18	9.39	146.49	2.26	160.00
12:30:12	9.44	7.15	0.00	41.55	8.10	139.50	2.30	157.39
12:30:42	9.73	6.90	0.00	40.79	7.08	137.64	2.23	163.73
12:31:12	9.99	6.66	0.00	40.65	6.34	131.26	2.35	156.25
12:31:42	10.26	6.46	0.00	39.92	5.91	130.54	2.29	161.17
12:32:12	10.50	6.27	0.00	39.75	5.19	122.82	2.31	159.99
12:32:42	11.60	5.77	0.00	44.67	2.45	128.08	2.36	172.15
12:33:12	8.67	8.87	0.00	81.77	7.43	163.02	2.23	165.53
12:33:42	7.04	9.78	0.00	90.76	14.85	299.01	2.37	191.02
12:34:12	6.50	9.99	0.00	80.90	19.27	357.62	2.33	183.69
12:34:41	7.17	9.32	0.00	72.09	19.43	374.12	2.29	189.06
12:35:11	7.65	8.89	0.00	64.95	17.84	399.68	2.38	180.38
12:35:41	8.00	8.53	0.00	60.23	16.90	404.21	2.34	175.08
12:36:11	8.23	8.31	0.00	53.49	15.90	403.20	2.35	174.58
12:36:41	8.71	7.90	0.00	46.03	14.62	381.55	2.32	168.41
12:37:11	9.17	7.53	0.00	41.95	12.36	350.81	2.35	170.33
12:37:41	9.22	7.23	0.00	43.13	10.22	295.68	2.32	159.81
12:38:11	9.70	6.85	0.00	42.82	7.73	251.74	2.42	168.40
12:38:41	10.00	6.56	0.00	47.09	6.58	221.96	2.33	162.91
12:39:11	11.48	6.32	0.00	55.97	2.41	206.56	2.49	167.26
12:39:48	6.59	11.09	112.39	91.16	12.12	205.22	2.05	179.53
12:40:42	2.77	13.36	4040.75	96.47	66.98	271.83	1.47	253.15
12:41:12	5.15	10.77	0.00	84.73	26.10	282.58	1.56	202.83
12:41:42	6.24	9.82	0.00	88.85	19.09	264.87	1.53	199.59
12:42:12	7.06	9.14	0.00	84.53	15.50	249.67	1.51	201.35
12:42:42	7.57	8.79	0.00	74.88	12.97	242.50	1.42	191.01
12:43:12	8.05	8.34	0.00	64.87	11.24	226.82	1.59	201.42
12:43:42	8.53	7.98	0.00	55.64	9.78	216.05	1.35	200.05

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:44:12	8.94	7.70	0.00	49.25	8.41	203.54	1.28	190.06
12:44:42	9.26	7.40	0.00	44.07	7.60	198.99	1.48	189.48
12:45:12	10.75	6.22	0.00	52.81	4.04	187.98	1.53	189.32
12:45:42	9.60	8.95	0.00	71.47	4.41	179.99	1.64	204.53
12:46:12	5.67	11.82	0.00	95.54	16.26	342.68	1.51	210.69
12:46:42	5.15	11.33	0.00	103.29	25.14	411.29	1.33	221.59
12:47:12	5.72	10.54	0.00	97.95	23.07	329.82	1.82	223.95
12:47:42	6.26	10.01	0.00	90.16	20.48	286.15	1.42	233.23
12:48:12	6.70	9.55	0.00	80.64	17.97	258.93	1.17	232.24
12:48:41	7.36	9.00	0.00	72.03	15.26	230.91	1.33	209.20
12:49:11	7.88	8.53	0.00	64.46	12.93	213.04	1.43	217.18
12:49:41	8.47	8.09	0.00	55.22	10.95	194.61	1.44	211.26
12:50:11	8.87	7.72	0.00	49.04	9.36	193.30	1.59	206.72
12:50:41	9.29	7.40	0.00	43.93	8.04	181.12	1.70	197.21
12:51:11	9.62	7.18	0.00	43.13	6.95	176.09	1.49	192.33
12:51:41	11.85	5.54	0.00	54.83	3.84	155.21	1.72	208.74
12:52:11	9.71	8.81	0.00	69.54	5.95	236.27	1.37	236.49
12:52:41	5.83	11.27	0.00	87.96	15.96	469.10	1.28	235.90
12:53:11	6.42	10.26	0.00	78.58	18.80	438.94	1.36	232.67
12:53:41	7.13	9.47	0.00	70.96	16.48	394.90	1.41	247.57
12:54:11	8.08	8.61	0.00	57.01	14.84	376.00	1.39	223.67
12:54:41	8.76	7.98	0.00	46.72	13.05	342.58	1.56	219.36
12:55:11	9.24	7.61	0.00	43.66	11.05	308.21	1.63	209.94
12:55:41	9.49	7.39	0.00	44.15	9.63	290.52	1.37	212.63
12:56:11	9.74	7.16	0.00	44.99	8.26	277.14	1.82	210.24
12:56:41	9.94	7.00	0.00	45.24	6.82	268.61	1.97	220.71
12:57:11	10.09	6.89	0.00	45.26	6.39	253.21	1.56	212.26
12:57:41	10.22	6.67	0.00	47.71	5.43	242.48	1.48	230.63
12:58:11	12.21	5.47	0.00	56.98	1.48	212.53	1.65	230.93
12:58:40	9.79	8.03	0.00	63.19	5.43	198.85	1.61	250.63
12:59:10	6.48	10.30	0.00	81.33	9.19	433.45	1.60	245.56
12:59:40	6.68	9.78	0.00	74.08	9.14	573.23	1.63	232.85
13:00:10	7.59	8.86	0.00	59.98	6.98	437.98	1.32	237.12
13:00:40	8.41	8.16	0.00	49.64	5.37	339.77	1.56	228.52
13:01:10	8.99	7.75	0.00	45.72	4.52	300.69	1.27	221.60
13:01:40	9.25	7.54	0.00	44.25	2.78	277.74	1.48	214.93
13:02:10	9.50	7.32	0.00	43.54	1.74	263.57	1.44	211.33
13:02:40	9.61	7.24	0.00	43.17	1.34	245.48	1.35	212.62
13:03:10	9.71	7.11	0.00	43.16	1.03	230.86	1.65	192.98
13:03:40	9.93	6.92	0.00	44.64	0.46	216.38	1.95	202.91
13:04:10	10.97	6.04	0.00	50.94	0.00	205.82	1.77	201.15
13:04:40	11.83	5.98	0.00	56.30	0.00	176.25	1.53	205.42
13:05:10	8.07	9.50	0.00	71.89	3.24	285.10	1.75	226.71
13:05:41	6.44	10.42	0.71	79.91	4.92	376.70	1.64	230.20

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:06:11	5.85	10.28	0.00	90.18	9.38	452.90	1.63	226.34
13:06:41	6.28	9.82	0.00	83.20	9.66	407.41	1.72	216.58
13:07:11	6.60	9.47	0.00	74.32	8.93	362.36	1.32	219.42
13:07:41	7.12	8.98	0.00	66.37	7.93	340.86	1.61	206.19
13:08:11	7.91	8.37	0.00	58.74	6.67	312.88	1.52	197.17
13:08:41	8.45	7.99	0.00	53.85	5.60	287.86	1.41	190.43
13:09:11	8.80	7.72	0.00	49.22	4.61	261.88	1.39	182.46
13:09:41	9.11	7.47	0.00	45.92	3.37	247.05	1.55	175.27
13:10:11	9.59	6.89	0.00	50.94	2.22	231.41	1.49	177.95
13:10:41	11.81	6.57	0.00	62.78	0.00	201.40	1.49	177.54
13:11:11	7.13	10.70	0.00	76.72	5.88	227.89	1.48	188.18
13:11:41	5.70	10.74	0.00	78.46	12.70	293.62	1.54	189.88
13:12:11	6.68	9.62	0.00	70.35	12.35	294.09	1.65	182.97
13:12:41	7.81	8.70	0.00	56.10	9.07	233.94	1.31	180.57
13:13:11	8.78	7.87	0.00	48.48	6.48	198.95	1.59	172.59
13:13:41	9.41	7.35	0.00	45.69	5.15	173.93	1.36	168.37
13:14:11	9.90	6.99	0.00	43.97	4.27	165.98	1.46	159.05
13:14:41	10.24	6.75	0.00	43.84	4.03	153.99	1.72	151.37
13:15:10	10.26	6.68	0.00	45.45	4.05	156.28	1.71	157.97
13:15:40	10.49	6.47	0.00	47.04	3.84	148.91	1.71	161.31
13:16:10	10.65	6.37	0.00	48.51	3.05	146.03	1.66	173.15
13:16:40	12.26	5.10	0.00	52.91	0.00	139.31	1.86	171.20
13:17:10	11.06	7.22	0.00	57.74	1.73	131.32	1.52	175.61
13:17:40	8.49	8.94	0.00	57.61	5.38	147.79	1.46	177.70
13:18:10	9.05	8.00	0.00	43.09	6.86	173.29	1.82	183.41
13:18:40	9.68	7.44	0.00	44.02	6.04	176.20	1.53	153.45
13:19:10	10.17	6.92	0.00	47.21	4.93	170.41	1.80	149.94
13:19:40	10.46	6.70	0.00	50.33	3.93	163.23	1.83	157.70
13:20:10	10.69	6.47	0.00	51.98	3.17	159.71	1.90	156.33
13:20:40	10.84	6.36	0.00	52.71	2.14	154.25	1.72	161.01
13:21:10	10.95	6.24	0.00	54.45	1.79	148.10	1.63	174.16
13:21:40	10.55	6.37	0.00	54.55	2.12	141.89	1.47	163.97
13:22:10	10.56	6.29	0.00	53.73	1.74	135.86	1.55	167.07
13:22:39	10.87	5.99	0.00	55.61	1.62	138.16	1.66	181.46
13:23:09	12.74	5.21	0.00	57.35	0.00	134.41	1.54	179.31
13:23:39	9.00	9.14	0.00	78.03	3.42	197.18	1.78	176.55
13:24:09	7.03	9.15	73.85	67.21	16.93	413.18	1.73	184.03
13:24:39	9.37	7.69	2.84	59.65	16.34	416.74	1.56	185.68
13:25:09	8.21	9.07	0.00	64.00	14.22	440.77	1.60	159.80
13:25:39	7.28	9.29	0.00	59.47	15.31	499.14	1.49	143.19
13:26:09	7.55	8.96	0.85	55.67	14.01	494.68	1.55	143.68
13:26:39	8.01	8.48	0.89	56.31	12.30	441.83	1.56	144.73
13:27:09	8.40	8.04	0.04	54.53	11.19	395.13	1.92	134.19
13:27:39	8.82	7.81	0.00	50.83	9.19	374.07	1.72	137.04

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:28:09	9.00	7.62	0.00	49.70	8.44	351.25	1.43	137.05
13:28:39	9.10	7.56	0.19	46.34	7.27	330.63	1.30	130.55
13:29:09	9.15	7.46	0.71	43.18	6.50	320.69	1.62	133.41
13:29:39	9.27	7.34	0.81	41.52	5.21	307.15	1.64	139.26
13:30:09	9.38	7.28	0.98	39.27	4.62	304.10	1.69	136.80
13:30:39	10.45	6.40	0.15	48.97	2.41	300.90	2.07	128.99
13:31:09	9.80	8.21	0.00	64.77	3.82	274.26	1.70	125.82
13:31:39	6.87	10.49	0.00	77.39	10.81	382.57	1.51	143.37
13:32:09	6.19	10.29	0.00	69.70	14.09	469.90	1.40	152.39
13:32:38	7.24	9.28	0.00	56.45	13.87	413.70	1.47	141.73
13:33:08	8.24	8.41	0.00	49.37	11.83	373.72	1.50	126.91
13:33:38	9.01	7.86	0.00	46.21	9.78	347.22	1.20	132.35
13:34:08	9.03	7.82	0.00	44.55	9.01	332.18	1.50	119.10
13:34:38	9.29	7.54	0.00	42.58	7.96	323.76	1.36	133.86
13:35:08	9.66	7.21	0.00	42.38	7.34	295.34	1.35	124.00
13:35:38	10.13	6.82	0.00	42.04	4.66	268.91	1.54	125.44
13:36:08	10.36	6.66	0.00	43.76	3.52	251.75	1.54	116.55
13:36:38	10.72	6.21	0.00	48.01	2.06	245.45	1.81	123.00
13:37:08	11.43	7.24	0.00	60.11	0.00	216.73	1.67	156.57
13:37:38	6.46	11.32	0.00	71.17	9.09	268.98	1.45	127.11
13:38:08	4.88	11.62	1.37	73.81	17.91	379.31	1.18	140.40
13:38:38	6.32	10.12	0.00	64.94	19.73	380.85	1.75	129.61
13:39:08	7.49	9.10	0.00	54.68	16.97	346.01	1.19	148.73
13:39:38	8.44	8.24	0.00	48.05	13.83	329.04	1.60	123.27
13:40:08	9.20	7.64	0.00	44.18	10.92	318.34	1.53	123.24
13:40:38	9.76	7.21	0.00	45.61	8.88	306.00	1.47	112.60
13:41:08	10.11	6.94	0.00	47.32	6.95	281.63	1.40	118.57
13:41:38	10.17	6.92	0.00	49.40	5.51	260.58	1.51	125.20
13:42:08	10.15	6.86	0.00	51.44	5.50	237.52	1.44	134.75
13:42:38	10.32	6.60	0.00	52.15	3.46	217.26	1.50	140.01
13:43:07	12.59	5.25	0.00	53.88	0.00	191.70	1.46	144.83
13:43:37	10.28	7.98	0.00	62.46	2.61	301.67	1.53	147.81
13:44:07	7.24	9.81	0.00	72.84	9.49	478.28	1.48	139.77
13:44:37	7.41	9.28	0.00	59.16	11.99	448.38	1.46	141.55
13:45:07	8.17	8.54	0.00	53.26	11.61	368.47	1.33	138.76
13:45:37	9.00	7.84	0.00	54.15	10.52	308.38	1.44	123.99
13:46:07	9.51	7.46	0.00	54.46	8.90	280.89	1.44	126.07
13:46:37	9.90	7.08	0.00	53.20	8.16	261.69	1.60	124.62
13:47:07	10.30	6.82	0.00	54.27	5.73	259.79	1.52	128.80
13:47:37	10.75	6.44	0.00	53.80	5.69	243.12	1.73	134.69
13:48:07	10.88	6.43	0.00	54.67	3.80	231.32	1.59	135.17
13:48:37	10.83	6.39	0.00	54.99	4.31	213.98	1.70	149.46
13:49:07	11.31	5.76	0.00	53.94	1.38	207.90	1.94	132.11
13:49:37	12.73	5.89	0.00	60.56	0.00	207.45	1.34	144.24

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:50:07	7.63	10.19	0.00	85.76	10.57	518.32	1.34	138.27
13:50:37	5.56	10.98	0.00	90.80	18.70	833.88	0.93	152.05
13:51:07	6.17	10.25	0.00	80.42	19.88	829.06	0.80	146.44
13:51:37	6.86	9.48	0.00	70.43	18.28	712.72	1.07	138.44
13:52:07	7.56	8.87	0.00	62.54	16.23	634.74	1.30	125.85
13:52:37	7.81	8.69	0.00	59.98	14.79	612.54	1.15	135.89
13:53:07	8.05	8.43	0.00	56.02	13.73	573.15	1.30	134.59
13:53:37	8.33	8.14	0.00	52.54	12.23	509.75	1.53	129.82
13:54:06	8.57	8.04	0.00	49.22	10.82	440.29	0.92	128.31
13:54:36	8.75	7.80	0.00	48.19	9.72	405.56	1.43	131.14
13:55:06	9.07	7.51	0.00	49.37	8.03	358.11	1.63	121.43
13:55:36	10.41	6.30	0.00	55.76	3.74	307.75	1.51	124.68
13:56:06	11.82	6.26	0.00	64.39	0.00	234.04	1.33	122.73
13:56:36	8.69	8.78	0.00	69.48	6.02	207.32	1.37	148.21
13:57:06	8.45	8.41	0.00	63.39	7.91	206.00	1.20	141.35
13:57:36	9.18	7.74	0.00	51.87	6.89	194.72	0.84	152.79
13:58:06	9.52	7.33	0.00	50.17	5.72	182.86	1.24	117.39
13:58:36	9.81	7.09	0.00	50.52	4.04	175.24	1.24	124.27
13:59:06	10.02	6.89	0.00	52.27	4.16	163.37	0.82	119.88
13:59:36	10.22	6.69	0.00	53.56	3.03	165.60	1.42	128.96
14:00:06	10.40	6.54	0.00	56.27	2.07	156.99	1.34	127.40
14:00:36	10.64	6.35	0.00	57.21	1.44	155.58	1.64	125.55
14:01:06	10.72	6.30	0.00	57.54	3.06	150.22	1.50	128.68
14:01:36	10.77	6.18	0.00	58.67	2.85	146.40	1.44	132.85
14:02:06	12.77	4.97	0.00	58.48	2.22	138.72	1.66	146.11
14:02:36	10.01	8.82	0.00	66.14	3.26	200.06	1.67	128.33
14:03:06	3.85	13.00	768.79	90.52	16.52	497.44	1.57	147.22
14:03:36	2.74	12.92	1177.56	105.70	36.39	686.37	1.26	190.48
14:04:06	4.49	11.36	28.84	90.05	24.44	647.76	1.08	179.94
14:04:36	5.78	10.30	0.00	76.29	17.46	552.17	1.12	145.80
14:05:06	6.40	9.85	0.00	65.65	13.89	491.26	0.77	137.64
14:05:36	6.79	9.47	0.00	57.91	11.71	458.04	1.41	116.14
14:06:05	7.22	9.10	0.00	53.44	10.93	440.84	1.28	112.99
14:06:35	7.65	8.78	0.00	48.83	10.10	428.11	1.22	110.24
14:07:05	7.91	8.54	0.00	45.86	9.62	415.41	1.19	112.51
14:07:35	8.35	8.12	0.00	43.91	8.91	400.39	1.34	110.36
14:08:05	10.64	6.29	0.00	54.24	3.77	351.56	1.38	107.67
14:08:35	8.95	9.21	0.00	64.28	6.35	385.01	1.39	119.68
14:09:05	6.51	10.45	0.00	68.78	11.21	589.62	1.31	130.16
14:09:35	7.06	9.64	0.00	59.70	12.87	600.77	1.34	112.61
14:10:05	7.63	9.03	0.00	55.48	12.68	564.87	1.13	125.60
14:10:35	8.24	8.43	0.00	52.55	11.54	507.52	1.27	103.97
14:11:05	8.74	7.96	0.00	53.45	10.14	429.81	1.47	107.14
14:11:35	9.14	7.63	0.00	55.55	8.38	375.49	0.98	108.61

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:12:05	9.40	7.40	0.00	56.01	7.54	329.60	1.59	120.56
14:12:35	9.60	7.22	0.00	56.07	5.88	300.20	1.78	120.88
14:13:05	9.78	7.14	0.00	56.46	5.12	276.02	1.47	118.68
14:13:35	9.58	7.27	0.00	53.10	4.52	270.10	1.41	128.09
14:14:05	10.11	6.69	0.00	58.58	4.14	245.21	1.49	127.27
14:14:35	10.56	7.88	0.00	75.15	0.00	235.13	1.70	143.88
14:15:05	5.84	11.24	0.00	82.83	8.00	335.88	1.67	126.83
14:15:34	5.67	10.61	0.00	75.61	12.21	329.75	1.72	137.62
14:16:04	6.82	9.46	0.00	66.32	11.74	289.68	1.55	132.56
14:16:34	7.61	8.79	0.00	61.97	10.22	268.37	1.53	119.86
14:17:04	8.12	8.32	0.00	57.90	9.05	252.85	1.25	126.29
14:17:34	8.53	7.98	0.00	55.34	7.75	240.02	1.57	117.11
14:18:04	8.84	7.71	0.00	53.14	6.64	224.03	1.36	128.11
14:18:34	9.13	7.47	0.00	51.11	6.06	217.46	1.39	110.62
14:19:04	9.25	7.35	0.00	51.15	5.62	206.44	1.53	123.08
14:19:34	9.51	7.16	0.00	49.87	5.17	207.39	1.47	109.55
14:20:04	9.65	7.07	0.00	50.00	4.95	203.94	1.74	138.99
14:20:34	11.32	5.74	0.00	61.10	0.00	199.29	1.90	141.13
14:21:04	10.02	8.05	0.00	75.47	4.87	223.64	1.43	135.65
14:21:34	7.90	9.31	0.00	77.68	10.48	363.63	1.10	151.60
14:22:04	7.91	8.87	0.00	72.53	11.81	336.97	1.26	151.29
14:22:34	8.36	8.37	0.00	65.12	11.28	312.02	1.63	141.51
14:23:04	8.76	8.00	0.00	60.74	10.49	290.26	1.31	152.40
14:23:34	9.09	7.66	0.00	57.56	8.99	256.12	1.38	135.51
14:24:04	9.43	7.34	0.00	56.62	7.57	236.43	1.43	133.94
14:24:34	9.86	7.05	0.00	56.98	6.89	214.31	1.21	129.45
14:25:04	10.19	6.78	0.00	55.80	5.13	195.20	1.62	130.93
14:25:34	10.32	6.68	0.00	57.00	5.48	178.88	1.31	132.46
14:26:04	10.48	6.54	0.00	57.46	4.98	169.09	1.69	126.66
14:26:34	10.63	6.34	0.00	60.65	4.72	155.18	1.97	123.04
14:27:04	12.69	5.31	0.00	62.32	0.00	147.88	2.04	145.88
14:27:33	10.00	8.58	0.00	63.95	4.79	149.19	1.67	135.66
14:28:03	7.75	9.53	0.00	65.63	7.96	178.31	1.66	132.20
14:28:33	8.67	8.44	0.00	65.03	8.91	169.64	1.62	131.56
14:29:03	9.49	7.65	0.00	66.72	7.94	153.52	1.32	139.75
14:29:33	9.90	7.27	0.00	64.92	6.47	145.46	1.63	139.83
14:30:03	10.13	7.04	0.00	64.32	5.55	141.97	1.46	134.10
14:30:33	10.40	6.77	0.00	64.54	4.75	136.98	1.21	136.61
14:31:03	10.70	6.52	0.00	64.67	3.72	130.81	1.82	138.89
14:31:33	10.85	6.40	0.00	65.62	3.48	125.63	1.54	149.45
14:32:03	10.86	6.39	0.00	65.51	2.82	124.69	1.62	142.90
14:32:33	10.97	6.28	0.00	65.42	2.79	125.59	1.56	138.13
14:33:03	11.75	5.60	0.00	67.36	0.79	120.43	1.48	144.27
14:33:33	10.65	8.53	0.00	70.89	0.68	110.45	1.60	145.85

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 22, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:34:03	6.17	11.65	0.00	78.05	7.77	117.99	1.48	143.37
14:34:33	6.44	10.59	0.00	65.55	11.38	130.03	1.54	140.33
14:35:03	7.48	9.38	0.00	52.51	10.66	125.65	1.64	123.41
14:35:33	8.42	8.53	0.00	47.80	8.76	129.77	1.52	127.63
14:36:03	8.98	8.04	0.00	50.50	7.48	124.19	1.47	106.68
14:36:33	9.36	7.72	0.00	51.33	6.17	126.30	1.53	112.92
14:37:03	9.63	7.45	0.00	53.57	5.51	117.09	1.67	107.77
14:37:33	9.95	7.19	0.00	54.06	4.81	121.04	1.59	116.73
14:38:03	10.12	7.03	0.00	57.21	4.58	119.51	1.68	120.63
14:38:33	10.27	6.86	0.00	58.39	3.98	118.76	1.61	114.86
14:39:03	10.45	6.56	0.00	59.07	3.67	117.21	1.62	127.84
14:39:32	12.78	5.13	0.00	58.47	0.00	107.65	1.74	119.02
14:40:02	12.09	6.28	0.00	58.92	0.00	102.11	1.47	115.77
14:40:32	8.81	8.71	0.00	60.87	3.84	110.20	1.65	117.09
AVG	9.81	7.19	21.76	53.59	8.66	188.58	2.36	117.05

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:40:10	13.58	3.91	2.81	30.64	0.37		10.34	279.72
11:40:40	14.74	3.40	23.32	27.23	0.05		9.57	245.34
11:41:10	13.63	6.57	76.10	82.30	0.15		9.05	237.66
11:41:40	4.80	12.01	23.41	128.67	10.46		10.97	207.50
11:42:10	3.09	11.90	4.52	115.23	21.86		12.02	171.07
11:42:40	8.19	8.87	6.18	64.35	23.05		12.39	150.08
11:43:10	10.55	8.48	257.08	63.76	21.89		13.17	277.89
11:43:40	8.12	9.30	80.16	58.11	19.55		51.26	318.59
11:44:09	8.40	8.74	2.15	43.11	18.43		17.52	143.82
11:44:39	9.20	8.08	2.87	36.45	15.75		13.70	93.65
11:45:09	9.74	7.64	3.84	41.55	13.35		13.12	50.02
11:45:39	10.10	7.35	5.19	45.94	11.60		12.69	24.99
11:46:09	10.30	7.19	5.68	50.36	10.72		12.35	20.13
11:46:39	10.49	7.04	8.83	51.46	10.16		12.19	28.65
11:47:09	10.66	6.90	13.52	54.20	9.53		12.07	31.42
11:47:39	10.83	6.72	15.44	56.37	9.27		12.16	37.92
11:48:09	10.89	6.74	14.47	54.93	9.00		12.30	30.59
11:48:39	10.55	6.72	8.51	53.01	9.24		12.27	29.39
11:49:09	10.83	6.49	8.16	51.44	8.10		12.27	14.15
11:49:39	11.25	6.22	15.55	49.78	7.76		12.23	34.76
11:50:09	11.88	5.50	21.47	48.07	6.66		11.88	15.79
11:50:39	13.63	4.49	14.90	39.86	2.48		11.73	10.39
11:51:09	11.33	8.32	4.24	80.23	5.68		11.06	38.94
11:51:39	6.27	11.50	0.00	109.23	20.42		10.57	27.76
11:52:11	5.48	11.46	0.00	112.93	26.33		11.30	0.00
11:52:41	6.25	10.43	0.00	101.06	25.65		12.70	9.72
11:53:10	7.09	9.60	0.00	83.87	23.61		13.24	5.63
11:53:40	7.93	8.87	0.00	67.42	21.14		13.21	25.26
11:54:10	8.77	8.20	0.00	50.34	17.97		12.95	29.07
11:54:40	9.19	7.90	0.00	43.66	14.47		12.59	56.03
11:55:10	9.83	7.38	0.00	45.47	11.62		12.22	22.61
11:55:40	10.37	6.94	0.00	49.09	9.44		11.84	20.43
11:56:10	10.87	6.57	0.00	48.73	8.08		11.44	4.97
11:56:40	11.20	6.33	0.00	49.97	6.93		11.17	38.46
11:57:10	11.42	6.12	1.22	50.18	6.17		10.79	0.00
11:57:40	11.74	5.89	1.24	51.12	5.52		10.58	13.39
11:58:10	11.85	5.79	1.91	50.39	3.88		10.46	3.80
11:58:40	11.94	5.72	2.41	50.05	4.35		10.22	24.40
11:59:10	12.07	5.59	4.32	49.95	3.55		9.93	9.78
11:59:40	12.30	5.44	4.72	49.65	2.90		9.79	8.53
12:00:10	12.53	5.20	7.51	54.84	2.19		9.72	22.87
12:00:40	13.01	5.31	12.58	56.42	1.93		9.54	7.53
12:01:10	10.59	8.72	3.23	105.84	9.00		9.34	0.00
12:01:40	7.05	10.56	0.00	145.19	21.71		9.41	34.46

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:02:10	6.50	10.73	0.00	166.86	28.24		10.14	12.14
12:02:40	6.82	9.63	0.00	145.25	29.14		11.05	14.12
12:03:10	10.50	7.73	0.00	99.90	26.62		11.92	45.21
12:03:39	10.92	7.81	11.84	93.38	23.07		11.98	51.79
12:04:09	10.35	7.24	0.62	66.07	19.94		12.19	69.78
12:04:39	10.99	6.89	0.13	49.88	16.38		11.72	79.27
12:05:09	11.29	6.57	1.33	41.58	14.13		11.46	77.48
12:05:39	11.24	6.49	1.24	37.27	12.38		11.16	16.09
12:06:09	11.82	6.05	0.74	35.00	10.66		10.78	26.64
12:06:39	12.23	5.85	0.86	35.93	9.22		10.60	13.49
12:07:09	11.92	6.25	6.81	43.31	9.15		10.27	24.70
12:07:39	11.48	6.30	13.33	43.41	9.65		10.11	32.06
12:08:09	12.23	5.62	9.84	40.29	7.83		9.95	25.01
12:08:39	12.86	5.21	4.58	41.69	5.25		9.80	25.63
12:09:09	13.39	4.82	3.06	40.18	3.11		9.44	29.79
12:09:39	13.80	4.66	0.72	40.65	0.98		9.24	2.83
12:10:09	14.09	4.28	1.04	38.95	1.47		9.10	16.24
12:10:39	15.17	3.80	4.89	37.70	0.00		8.91	4.47
12:11:09	14.36	5.40	0.00	57.51	1.46		8.87	9.80
12:11:39	11.24	7.81	0.00	85.14	14.05		8.85	0.00
12:12:09	9.28	8.54	0.00	86.28	22.29		9.23	25.60
12:12:39	10.56	6.98	0.00	64.36	21.12		9.84	21.05
12:13:09	14.18	5.41	60.86	44.05	15.20		10.01	1.03
12:13:39	11.33	7.12	143.61	58.04	16.42		9.94	50.91
12:14:09	10.06	7.54	3.28	57.61	15.79		10.40	29.55
12:14:39	9.64	7.80	0.00	64.63	15.04		10.02	23.35
12:15:09	10.33	6.85	0.00	51.01	15.07		10.00	12.80
12:15:39	12.39	5.91	0.00	42.18	9.34		10.10	11.88
12:16:09	11.55	6.48	0.00	42.29	9.78		9.75	30.79
12:16:38	11.54	6.15	0.00	33.31	9.17		9.39	26.75
12:17:08	11.96	5.97	0.00	30.04	6.06		9.34	17.44
12:17:38	11.88	6.09	0.00	30.48	6.46		9.18	15.64
12:18:08	12.42	5.24	0.00	25.85	3.08		9.16	22.68
12:18:38	13.38	5.17	0.00	33.13	2.71		8.88	21.53
12:19:08	12.80	5.32	0.00	35.50	1.15		8.75	9.85
12:19:38	12.93	5.32	0.00	40.74	2.11		8.54	20.61
12:20:08	12.41	6.04	0.00	47.92	2.53		8.36	0.66
12:20:38	10.49	8.69	213.82	66.10	12.78		8.11	30.51
12:21:08	7.74	10.09	4735.52	90.97	46.19		8.31	21.61
12:21:38	8.47	10.20	1748.32	110.66	52.29		186.88	18.35
12:22:08	10.59	8.58	43.06	107.59	35.08		131.63	21.54
12:22:38	11.43	7.63	0.00	97.95	22.94		11.91	23.16
12:23:08	11.94	7.37	0.00	89.86	20.08		10.45	0.00
12:23:38	12.92	6.38	5.95	61.63	14.60		10.05	3.46

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:24:08	11.31	7.88	26.34	72.59	17.27		9.83	39.03
12:24:38	10.38	7.20	0.63	53.39	16.76		9.58	3.32
12:25:08	11.89	6.18	0.00	41.40	13.04		9.45	13.87
12:25:38	11.38	6.68	0.00	40.25	11.43		8.99	0.00
12:26:08	11.91	6.03	0.58	30.65	9.47		8.60	27.39
12:26:37	12.29	5.85	0.72	30.48	8.68		8.56	29.85
12:27:07	12.58	5.64	1.63	31.41	6.68		8.30	21.93
12:27:37	12.77	5.47	0.77	31.49	5.88		8.25	54.25
12:28:07	12.81	5.40	0.00	33.18	4.44		8.05	27.47
12:28:37	13.44	5.16	0.00	35.12	3.87		7.82	26.92
12:29:07	12.52	5.53	0.00	37.92	0.80		7.70	11.97
12:29:37	13.50	4.59	0.00	30.65	1.78		7.46	15.48
12:30:07	14.94	4.00	0.00	34.13	0.00		7.37	14.86
12:30:37	13.36	6.17	0.00	48.64	2.67		7.25	30.73
12:31:07	11.22	7.71	0.00	78.87	18.22		7.19	0.00
12:31:37	11.20	7.35	0.00	92.61	21.95		7.81	9.50
12:32:07	12.85	6.36	0.00	77.45	19.96		8.90	0.00
12:32:37	13.58	5.74	0.00	61.14	17.32		9.46	2.13
12:33:07	14.43	5.05	2.01	46.13	15.39		9.17	0.00
12:33:37	13.92	5.53	9.59	48.86	12.94		8.93	3.84
12:34:07	13.00	5.49	0.00	40.68	10.87		8.51	0.00
12:34:37	14.75	4.18	9.47	22.11	9.36		8.41	12.56
12:35:07	15.86	4.12	83.34	30.50	8.54		8.21	0.00
12:35:36	14.10	4.96	26.86	33.62	8.04		8.19	5.99
12:36:06	13.19	5.64	2.47	43.43	8.31		7.76	0.00
12:36:36	13.59	4.78	5.23	25.98	8.69		7.59	22.91
12:37:06	16.28	3.41	131.12	17.71	7.37		7.70	8.36
12:37:36	15.57	4.26	280.00	25.96	6.90		7.75	0.00
12:38:06	14.49	4.42	35.97	23.67	6.11		7.92	20.89
12:38:36	14.62	4.26	8.75	23.36	5.08		7.52	10.98
12:39:06	14.83	4.12	5.43	22.74	4.24		7.28	2.06
12:39:36	14.94	3.89	3.08	21.43	3.57		7.22	0.57
12:40:06	15.48	3.61	3.91	21.18	3.48		7.23	17.62
12:40:36	16.06	3.34	1.26	28.24	2.55		7.18	3.04
12:41:06	14.24	5.45	2.13	44.82	8.43		7.07	19.24
12:41:36	13.68	5.24	10.96	44.89	19.00		7.05	0.00
12:42:06	15.44	4.27	13.91	28.54	19.27		7.65	1.41
12:42:36	16.84	3.23	82.50	18.89	16.10		7.90	11.56
12:43:06	16.06	3.75	97.37	22.21	12.22		7.92	0.00
12:43:36	15.04	4.29	6.12	25.31	9.94		7.63	0.00
12:44:06	14.17	4.64	0.61	28.03	8.68		7.45	0.00
12:44:35	14.31	4.44	0.00	29.39	7.53		7.34	0.00
12:45:05	14.76	3.92	0.00	28.07	5.94		7.28	4.74
12:45:35	15.86	3.27	0.00	24.15	4.32		7.15	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:46:05	15.71	3.58	0.00	27.70	3.68		6.98	0.00
12:46:35	15.64	3.37	0.00	26.41	3.27		6.89	0.72
12:47:05	16.20	3.16	0.00	26.81	2.64		6.81	12.74
12:47:35	14.82	4.70	0.00	45.51	2.71		6.80	9.01
12:48:05	12.17	5.93	0.00	51.58	3.60		6.73	0.00
12:48:35	11.74	5.97	0.00	51.47	4.10		6.60	0.00
12:49:05	11.82	5.85	0.00	51.36	4.23		6.41	9.10
12:49:35	11.97	5.73	0.00	50.95	3.61		6.43	20.33
12:50:05	12.55	5.28	0.00	50.66	2.23		6.61	14.28
12:50:35	11.22	8.10	0.00	66.27	6.73		6.46	13.81
12:51:05	6.79	10.29	2357.10	75.36	35.61			1.68
12:51:35	10.45	7.52	2461.30	80.78	48.21			0.87
12:52:05	12.28	6.81	126.62	81.91	27.75			0.00
12:52:35	14.00	5.35	0.00	62.51	16.13			2.36
12:53:05								7.14
12:53:35								0.00
12:54:04								0.00
12:54:34								8.81
12:55:04								29.38
12:55:39								8.56
12:56:09								26.65
12:56:39								25.57
12:57:09	12.42	4.66	16.94	26.09	5.81		5.43	0.00
12:57:39	14.09	4.29	8.66	23.69	3.80		7.85	1.61
12:58:09	14.69	4.04	2.18	23.71	2.17		7.24	4.96
12:58:39	15.06	3.81	0.00	24.98	0.02		6.93	5.02
12:59:09	15.09	3.81	0.00	25.61	0.66		6.75	3.89
12:59:39	15.33	3.65	0.00	25.99	0.00		6.60	8.33
13:00:09	15.46	3.60	0.00	36.36	0.10		6.56	6.68
13:00:39	12.40	7.94	955.85	65.69	7.47		6.53	5.90
13:01:09	10.04	8.56	2022.48	76.72	28.80		6.40	35.58
13:01:39	12.17	7.18	73.09	69.45	22.97		106.45	8.78
13:02:09	13.60	5.88	0.20	45.45	17.75		8.18	0.80
13:02:38	15.52	4.24	6.11	22.59	12.80		7.00	1.41
13:03:08	16.28	4.00	52.01	22.20	10.57		6.71	15.37
13:03:38	14.66	5.17	110.80	30.48	10.65		6.56	15.46
13:04:08	13.84	4.96	22.87	25.09	9.54		6.71	11.08
13:04:38	14.08	4.69	8.73	23.84	7.66		6.37	13.99
13:05:08	13.92	4.94	5.04	26.94	6.41		6.45	19.77
13:05:38	13.93	4.63	1.59	25.86	5.58		6.22	16.89
13:06:08	14.62	4.20	0.00	26.08	4.37		6.33	9.82
13:06:38	14.77	4.17	0.00	27.02	3.42		6.18	19.15
13:07:08	14.88	4.04	0.00	27.54	2.73		6.23	26.58
13:07:38	15.10	3.80	0.00	26.31	2.28	98.95	6.15	22.25

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:08:08	15.31	3.82	0.00	28.11	1.80	86.18	6.11	23.26
13:08:38	15.23	3.82	0.00	28.45	1.68	69.00	6.12	0.00
13:09:08	15.37	3.54	0.00	26.06	1.47	63.88	6.00	18.35
13:09:38	15.86	3.32	0.00	25.69	1.11	56.49	6.07	15.78
13:10:08	15.96	3.23	0.00	28.32	1.00	54.15	6.06	26.65
13:10:38	15.99	4.25	0.00	42.14	1.82	40.38	6.15	18.71
13:11:08	12.01	7.12	233.85	69.43	17.46	40.28	6.16	11.10
13:11:38	12.59	6.37	388.25	72.30	30.72	59.27	6.22	25.36
13:12:08	14.39	4.96	29.28	56.06	24.49	43.93	55.26	0.33
13:12:38	15.79	4.02	12.43	36.89	16.79	50.65	7.16	11.60
13:13:07	16.62	3.39	38.73	21.72	11.40	39.39	6.83	24.55
13:13:37	17.28	3.21	150.31	23.21	8.73	39.16	6.87	1.70
13:14:07	14.78	4.71	101.90	35.74	8.92	37.96	6.85	17.59
13:14:37	13.73	4.93	21.62	31.15	8.10	39.27	7.03	10.68
13:15:07	13.74	4.68	13.95	26.64	7.26	39.42	6.83	12.19
13:15:37	14.30	4.34	10.54	23.98	3.47	37.97	6.61	28.06
13:16:07	15.92	2.86	44.27	13.00	1.47	36.71	6.56	34.45
13:16:37	17.30	2.94	157.90	18.36	2.32	39.54	6.32	22.91
13:17:07	15.76	3.58	41.05	20.98	1.55	30.66	6.69	29.81
13:17:37	15.36	3.69	6.73	22.34	0.87	43.80	6.56	22.88
13:18:07	15.41	3.61	1.84	22.28	0.52	32.61	6.49	22.41
13:18:37	15.51	3.52	0.00	22.42	3.36	44.06	6.33	9.55
13:19:07	15.76	3.35	0.00	22.38	2.95	29.48	6.19	2.77
13:19:37	15.81	3.31	0.00	23.48	2.62	34.42	6.25	12.62
13:20:07	16.00	3.27	0.00	26.63	2.21	25.71	6.14	13.53
13:20:37	16.04	3.27	0.00	33.60	2.13	30.86	6.14	24.46
13:21:07	15.05	4.70	0.00	45.21	3.51	25.54	6.05	16.70
13:21:37	13.72	5.25	0.00	64.09	6.77	26.36	6.12	16.67
13:22:07	15.40	4.30	0.00	52.22	4.87	25.18	6.38	30.77
13:22:37	16.27	3.72	0.37	36.73	3.25	22.45	6.58	13.72
13:23:07	16.55	3.83	25.45	42.03	1.37	36.17	6.45	7.37
13:23:37	14.63	4.62	10.95	46.20	4.48	31.53	6.44	11.64
13:24:06	15.10	3.76	2.09	25.72	5.40	26.30	6.42	16.13
13:24:36	17.01	2.93	54.60	22.26	4.82	20.97	6.30	14.76
13:25:06	16.05	4.08	109.12	37.25	5.06	27.91	6.53	28.74
13:25:36	14.47	4.40	22.10	33.27	5.00	26.17	6.73	25.16
13:26:06	14.71	4.21	5.78	29.17	4.14	24.24	6.57	24.76
13:26:36	14.74	4.15	4.33	26.53	3.49	20.14	6.40	5.59
13:27:06	15.51	3.26	7.88	18.06	2.87	22.03	6.32	22.14
13:27:36	17.49	2.64	99.35	18.54	2.93	19.62	6.32	15.11
13:28:06	16.17	3.40	43.02	23.59	2.77	27.16	6.41	17.10
13:28:36	15.59	3.65	0.00	26.43	2.06	20.15	6.50	32.21
13:29:06	15.52	3.50	0.00	26.63	1.34	29.77	6.23	20.88
13:29:36	15.82	3.28	0.00	25.98	0.83	20.15	6.14	6.80

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:30:06	16.22	3.04	0.00	25.08	0.60	30.98	6.15	25.80
13:30:36	16.26	3.21	0.00	31.83	0.35	28.81	6.16	26.05
13:31:06	14.43	6.10	146.14	72.00	2.47	26.33	6.13	22.94
13:31:36	11.83	7.46	363.07	71.89	21.32	26.20	6.08	31.48
13:32:06	13.15	6.12	24.34	73.22	22.26	25.59	14.84	8.77
13:32:36	14.76	4.86	0.00	77.41	14.04	15.57	6.90	20.40
13:33:06	15.71	4.20	0.00	64.65	8.24	16.79	6.65	9.33
13:33:36	16.27	3.75	0.00	48.38	8.32	27.27	6.59	10.06
13:34:06	16.74	3.45	2.42	36.40	7.05	16.96	6.50	10.57
13:34:36	17.07	3.13	14.26	26.09	6.73	27.43	6.48	14.94
13:35:05	17.58	2.86	48.48	23.97	5.95	17.56	6.54	23.89
13:35:35	16.09	3.75	44.68	31.23	5.29	14.25	6.56	9.12
13:36:05	15.29	3.97	5.57	28.88	4.17	10.19	6.68	23.08
13:36:35	16.23	2.89	5.31	15.54	3.19	30.93	6.62	15.89
13:37:05	17.88	2.56	66.43	18.27	2.91	17.38	6.58	6.11
13:37:35	16.40	3.33	33.88	21.81	2.67	18.92	6.64	12.06
13:38:05	15.89	3.45	0.49	20.52	2.08	10.67	6.54	4.90
13:38:35	15.95	3.39	0.00	19.53	1.46	15.18	6.47	12.97
13:39:05	15.81	3.48	0.00	19.23	1.08	11.32	6.35	10.64
13:39:35	15.80	3.43	0.00	19.05	0.86	20.56	6.44	10.76
13:40:05	15.87	3.36	0.00	19.05	0.80	17.76	6.33	5.48
13:40:35	16.68	2.62	0.40	20.93	0.45	25.81	6.39	6.57
13:41:05	16.98	4.51	12.22	56.08	1.39	18.97	6.38	17.46
13:41:35	12.04	7.38	280.80	82.44	10.90	17.25	6.24	20.73
13:42:05	12.43	6.85	360.63	96.87	17.28	22.37	6.20	33.57
13:42:35	14.07	5.41	16.39	78.37	12.47	14.43	21.65	13.07
13:43:05	15.39	4.51	0.00	69.57	7.72	25.73	6.71	33.82
13:43:35	15.88	4.28	0.00	59.62	4.09	21.24	6.55	21.27
13:44:04	16.28	3.75	6.41	44.40	2.71	21.74	6.38	10.66
13:44:34	16.10	4.60	30.44	57.15	1.58	17.99	6.30	15.42
13:45:04	12.86	6.20	12.45	67.15	6.83	20.20	6.31	9.07
13:45:34	13.14	4.60	5.29	31.81	6.34	16.43	6.13	22.26
13:46:04	16.78	3.37	59.69	30.72	1.09	21.12	6.12	23.07
13:46:34	14.42	5.41	93.99	46.94	4.77	17.34	6.21	20.16
13:47:04	12.33	5.83	24.41	40.06	7.30	20.83	6.38	28.20
13:47:34	12.45	5.76	15.05	36.10	6.40	8.11	6.08	40.93
13:48:04	15.04	3.54	59.73	18.24	2.01	15.12	5.99	24.77
13:48:34	15.78	4.43	187.53	30.58	2.30	19.05	6.08	33.55
13:49:04	13.84	5.17	55.16	32.17	4.86	14.65	6.08	25.86
13:49:34	12.34	6.13	21.54	36.85	5.45	13.67	6.09	27.47
13:50:04	12.13	5.46	14.78	32.11	4.96	10.59	6.00	49.03
13:50:34	13.25	5.21	4.55	56.60	2.88	21.75	5.85	41.07
13:51:04	11.54	7.72	6.40	70.84	5.35	14.55	5.74	40.42
13:51:34	10.96	8.20	60.41	97.67	19.73	18.37	5.74	35.07

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:52:04	11.62	7.63	11.06	103.67	24.01	13.94	5.68	28.41
13:52:34	11.32	8.32	0.79	120.82	22.38	22.29	5.97	27.72
13:53:04	11.63	7.47	3.47	98.61	20.57	8.12	6.08	27.85
13:53:34	12.17	7.01	12.52	83.85	17.13	20.72	5.90	24.28
13:54:03	12.79	6.53	40.83	59.77	15.37	7.42	5.83	33.17
13:54:33	13.15	6.89	131.40	68.14	14.89	15.10	5.92	26.34
13:55:03	9.13	8.92	94.25	85.41	16.13	11.01	5.88	36.19
13:55:33	9.48	7.46	39.25	54.12	14.65	23.40	6.07	18.05
13:56:03	12.77	6.15	151.64	45.21	12.40	9.95	6.03	36.36
13:56:33	12.19	7.48	331.74	68.06	13.21	12.46	5.95	49.35
13:57:03	8.61	8.84	122.92	73.82	14.06	11.52	6.33	41.70
13:57:33	8.59	8.00	59.54	55.55	12.04	15.07	6.22	20.68
13:58:03	12.54	5.69	221.71	37.40	9.96	13.55	6.03	12.00
13:58:33	13.26	6.07	316.80	48.53	8.25	12.67	5.99	54.54
13:59:03	11.11	6.95	110.14	50.67	8.25	20.81	6.22	16.22
13:59:33	9.91	7.69	56.06	52.09	7.18	5.25	5.98	35.00
14:00:03	12.32	4.93	87.46	27.26	3.86	11.37	5.85	16.16
14:00:40	16.19	4.55	273.80	40.99	1.25	5.46	5.97	41.53
14:01:09	12.33	7.79	52.46	79.13	4.73	13.26	5.95	26.33
14:01:39	6.89	11.57	290.37	131.17	18.31	13.70	5.86	9.42
14:02:09	6.19	11.96	406.10	182.02	37.97	15.40	5.83	5.73
14:02:53	7.46	10.48	24.42	118.68	25.75	5.55	24.12	37.32
14:03:22	10.35	8.15	11.22	55.00	9.49	18.72	6.18	18.80
14:03:52	12.06	6.76	40.10	41.11	5.61	14.87	6.06	30.01
14:04:22	13.63	5.92	104.95	38.59	3.19	15.81	5.86	28.64
14:04:52	10.53	8.31	116.30	59.04	5.63	9.98	5.89	29.31
14:05:22	8.13	8.81	25.38	59.27	6.17	3.61	6.03	46.92
14:05:52	11.05	6.84	27.82	36.72	5.32	14.69	5.82	32.68
14:06:22	13.18	6.33	123.51	40.33	4.12	12.76	5.74	29.24
14:06:52	10.11	7.90	106.71	48.92	6.52	18.39	5.79	28.88
14:07:22	9.96	7.16	28.85	38.83	5.22	8.28	5.91	54.45
14:07:54	11.39	5.58	31.78	27.39	3.65	24.41	5.72	0.00
14:08:24	13.82	6.02	332.53	37.93	3.76	11.74	5.87	28.18
14:08:53	9.96	7.95	146.60	44.37	6.61	14.66	5.90	30.51
14:09:23	8.89	8.07	36.21	42.57	5.36	14.48	5.89	38.02
14:09:53	9.37	7.34	21.91	37.63	4.20	8.22	5.74	36.76
14:10:23	12.82	5.03	67.49	32.16	1.39	16.36	5.69	49.81
14:10:53	13.27	8.11	749.97	80.52	1.11	17.20	5.61	38.03
14:11:23	4.84	12.98	5045.79	139.45	46.52	16.44	5.67	33.97
14:11:53	5.38	12.64	523.73	157.78	72.49	0.00	165.23	6.35
14:12:23	6.71	11.36	14.08	146.01	51.96	15.23	11.60	51.86
14:12:53	8.41	9.83	0.02	125.08	31.79	4.14	7.08	34.12
14:13:23	9.98	8.58	2.19	105.42	22.69	26.58	6.56	38.72
14:13:53	11.10	7.95	7.85	97.40	19.86	6.62	6.31	29.22

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:14:23	11.56	7.56	9.68	85.93	18.17	6.78	6.02	33.71
14:14:53	12.12	7.11	15.92	71.81	16.30	10.70	5.97	20.20
14:15:23	12.54	6.74	40.18	60.37	15.95	19.87	5.98	14.21
14:15:53	12.64	7.10	100.17	65.01	15.06	9.68	5.89	33.40
14:16:23	8.93	8.67	46.97	69.68	17.16	16.41	5.92	52.45
14:16:53	10.44	6.74	22.13	43.49	14.67	11.74	5.85	38.89
14:17:23	13.40	5.70	92.57	38.96	12.42	21.29	5.82	37.55
14:17:53	11.56	7.61	134.90	55.68	13.55	12.78	5.76	20.73
14:18:23	9.00	8.24	26.84	55.01	13.05	15.62	5.91	46.23
14:18:53	9.69	6.89	15.44	36.64	10.88	11.68	5.73	26.48
14:19:23	13.85	5.13	100.64	29.64	8.10	8.10	5.71	34.29
14:19:52	11.96	7.08	152.64	42.48	9.24	13.78	5.66	37.62
14:20:22	9.70	7.64	24.05	42.08	9.57	7.90	5.62	46.56
14:20:52	9.68	7.31	7.40	59.18	8.55	21.97	5.52	34.66
14:21:22	9.03	10.23	68.72	215.26	12.87	3.45	5.47	25.79
14:21:52	4.58	14.03	1599.14	216.11	62.51	21.25	5.57	13.09
14:22:22	5.01	12.26	1328.07	167.74	86.38	12.49	7.62	0.00
14:22:52	7.72	10.35	40.82	143.60	38.00	7.35	91.76	24.57
14:23:22	9.57	8.84	0.16	109.48	17.92	9.54	6.92	23.39
14:23:52	10.95	7.89	4.50	84.40	10.72	21.74	6.29	15.06
14:24:22	11.85	7.26	19.07	63.82	8.23	12.05	6.30	10.87
14:24:52	12.60	6.64	51.29	49.93	6.33	18.73	6.26	51.36
14:25:22	13.06	6.16	118.72	46.32	5.36	4.82	6.12	30.99
14:25:52	11.68	7.82	173.86	65.47	6.52	4.00	6.19	33.10
14:26:22	8.81	8.23	34.83	58.09	5.65	10.33	6.33	22.02
14:26:52	11.32	6.15	34.78	36.37	3.32	9.75	6.19	27.41
14:27:22	14.03	5.73	175.73	40.27	1.39	17.16	6.18	15.55
14:27:52	10.55	7.63	114.05	49.22	3.90	8.74	6.13	35.83
14:28:22	9.21	7.92	17.06	48.02	3.08	19.16	6.09	32.85
14:28:52	9.14	7.70	9.33	44.82	2.58	0.00	6.01	18.12
14:29:22	11.79	5.31	44.96	29.32	1.07	31.59	5.98	20.66
14:29:52	13.84	5.80	203.60	39.51	0.00	0.89	6.21	38.71
14:30:21	10.62	7.13	45.70	44.60	1.92	14.86	6.12	17.74
14:30:51	9.98	7.13	6.37	50.21	1.53	5.20	5.86	17.60
14:31:21	11.00	7.36	9.11	79.65	1.50	17.29	5.74	20.31
14:31:51	6.99	13.02	406.36	160.96	53.55	59.85	5.68	0.00
14:32:21	3.52	15.46	500.47	195.06	123.35	51.00	7.07	54.53
14:32:51	3.85	14.12	204.34	193.58	97.79	28.25	24.71	100.94
14:33:21	5.35	12.44	4.80	180.69	46.82	55.03	6.84	56.87
14:33:51	7.32	10.66	0.00	143.73	27.18	44.98	6.24	48.33
14:34:21	9.03	9.49	2.01	111.31	20.07	56.52	6.16	67.96
14:34:51	9.96	8.81	7.93	87.91	16.44	42.61	6.21	81.47
14:35:21	10.76	8.13	31.05	68.27	15.21	38.54	6.04	91.73
14:35:51	11.57	7.52	98.66	53.41	14.46	41.35	6.07	121.05

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:36:21	12.11	7.10	234.39	49.12	16.17	34.78	6.08	191.22
14:36:51	12.45	6.68	410.84	44.52	18.60	39.74	6.03	256.15
14:37:21	11.91	7.74	459.95	48.87	20.72	42.62	6.21	335.83
14:37:51	8.74	8.84	122.79	48.68	18.95	37.03	6.18	220.16
14:38:21	9.55	7.35	92.25	37.67	15.31	28.85	6.04	157.34
14:38:51	12.74	6.17	332.12	35.18	14.39	27.81	5.90	202.24
14:39:21	11.17	7.91	317.40	44.74	14.58	17.56	5.92	196.48
14:39:51	8.87	8.47	58.96	46.35	12.27	21.34	5.90	148.63
14:40:21	8.87	7.61	35.27	41.96	9.81	16.41	5.92	113.81
14:40:51	13.07	5.56	193.60	36.41	7.58	24.10	5.81	158.64
14:41:20	12.62	6.79	186.71	59.17	7.39	17.20	5.73	173.32
14:41:50	8.00	11.70	1011.35	102.71	32.50	13.76	5.75	243.00
14:42:20	4.93	13.60	1706.54	134.78	136.93	26.83	5.60	640.84
14:42:50	4.38	13.24	126.08	148.84	80.85	26.46	59.90	289.28
14:43:20	5.59	11.84	4.49	141.78	33.60	20.29	7.23	193.77
14:43:50	7.19	10.34	2.27	118.35	16.47	35.79	7.00	162.55
14:44:20	9.37	8.62	6.21	100.29	9.20	30.61	7.06	140.39
14:44:50	10.88	7.75	18.74	87.32	5.88	41.02	6.77	172.45
14:45:20	11.63	7.25	41.99	74.11	4.40	40.84	6.82	172.37
14:45:50	12.15	6.91	85.20	64.92	3.38	56.77	6.78	164.79
14:46:20	12.57	6.59	139.04	56.18	2.99	54.62	6.61	152.30
14:46:50	12.93	6.34	220.78	52.25	3.71	33.25	6.61	111.50
14:47:20	13.25	5.94	304.84	47.53	3.65	32.38	6.62	77.78
14:47:50	12.78	7.06	377.90	55.39	4.74	15.58	6.45	53.08
14:48:20	9.10	8.42	86.99	55.71	4.31	14.24	6.48	23.47
14:48:50	10.55	6.36	44.01	36.64	2.37	10.12	6.26	41.73
14:49:20	13.98	5.26	187.39	33.97	0.00	22.03	6.22	18.24
14:49:50	11.78	7.36	167.39	44.54	2.17	7.48	6.03	30.96
14:50:20	9.40	7.95	23.48	43.56	1.66	9.39	6.07	19.49
14:50:50	9.17	7.16	14.52	35.19	0.98	8.87	5.97	24.77
14:51:20	13.48	4.96	103.49	25.27	0.00	16.97	6.02	27.10
14:51:49	13.32	6.16	164.61	50.87	0.00	5.14	5.97	20.66
14:52:19	9.25	10.76	180.97	103.75	3.84	15.81	5.93	22.34
14:52:49	6.08	12.09	432.37	140.11	23.22	8.08	5.74	18.98
14:53:19	6.89	11.58	34.88	132.23	13.03	8.58	17.19	27.63
14:53:49	8.31	9.70	16.83	95.10	6.94	14.74	6.39	28.86
14:54:19	10.90	7.76	54.19	66.09	4.59	9.43	6.44	25.74
14:54:49	12.35	6.78	93.40	51.44	3.22	5.86	6.51	86.27
14:55:19	12.94	6.44	127.17	46.83	2.37	14.38	6.40	44.55
14:55:49	12.73	7.67	186.43	55.43	2.66	18.87	6.33	0.00
14:56:19	9.02	8.79	67.93	55.97	3.39	3.09	6.36	28.17
14:56:49	9.70	7.02	24.10	39.35	2.17	18.98	6.06	31.16
14:57:19	13.42	5.57	87.85	36.13	0.00	1.00	6.05	28.45
14:57:49	11.80	7.50	114.58	47.87	0.52	15.72	5.90	24.10

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:58:19	9.24	8.12	14.75	49.93	1.01	10.28	5.99	21.83
14:58:49	9.24	7.13	7.36	42.49	1.00	6.79	5.73	34.44
14:59:19	13.63	5.08	70.61	34.59	0.00	4.85	5.82	11.03
14:59:49	12.57	6.92	107.56	47.20	0.00	15.15	5.67	0.00
15:00:19	9.80	7.63	11.36	49.81	1.08	11.81	5.67	16.53
15:00:48	9.45	7.47	4.00	48.79	0.60	3.04	5.68	10.33
15:01:18	12.19	5.08	26.76	34.81	0.00	9.76	5.69	28.75
15:01:48	14.42	5.61	92.75	46.52	0.00	4.96	5.61	10.94
15:02:18	10.93	6.87	21.35	55.81	1.09	7.09	5.41	41.51
15:02:48	11.03	8.52	60.93	125.03	1.64	6.69	5.47	16.04
15:03:18	6.30	12.87	208.62	314.42	22.74	1.33	5.42	11.87
15:03:48	6.18	12.01	18.14	240.28	27.67	6.40	7.32	0.00
15:04:18	8.19	10.26	0.00	174.71	16.63	20.35	5.81	14.02
15:04:48	9.64	9.03	0.25	138.87	11.08	9.37	5.76	35.30
15:05:18	10.71	8.24	2.66	115.12	8.76	12.81	5.78	38.42
15:05:48	11.46	7.66	3.73	99.09	7.51	0.00	5.82	0.00
15:06:18	12.03	7.21	4.23	83.88	5.97	8.39	5.83	25.63
15:06:48	12.56	6.74	12.05	68.46	5.89	3.47	5.75	15.97
15:07:18	12.95	7.04	49.80	71.82	4.54	14.79	5.70	18.35
15:07:48	9.03	8.66	21.28	74.10	6.43	9.31	5.77	25.29
15:08:18	10.50	6.71	6.61	50.52	4.60	15.79	5.71	22.71
15:08:48	13.41	5.71	41.73	44.22	2.65	3.52	5.61	28.52
15:09:18	11.85	7.55	59.55	56.41	3.85	6.02	5.51	26.79
15:09:47	9.08	8.21	5.00	54.66	4.65	0.00	5.59	9.53
15:10:17	10.58	6.15	10.46	34.68	3.38	10.00	5.56	19.14
15:10:47	14.66	5.49	107.94	39.01	1.52	15.00	5.50	20.99
15:11:17	11.26	7.34	64.55	46.40	4.21	7.41	5.43	22.50
15:11:47	9.53	7.79	5.21	46.72	4.40	7.80	5.49	9.48
15:12:17	9.54	6.82	4.05	36.46	3.48	16.43	5.37	9.87
15:12:47	13.74	4.88	48.40	44.97	1.44	11.34	5.34	0.00
15:13:17	12.99	8.12	54.48	168.18	5.66	4.00	5.24	45.05
15:13:47	6.63	10.83	81.85	241.49	32.33	11.50	5.31	11.19
15:14:17	8.98	8.96	34.99	146.66	28.60	11.58	6.12	12.90
15:14:47	10.82	7.79	20.87	95.93	18.36	13.20	6.06	3.43
15:15:17	11.99	6.94	44.21	71.31	14.88	0.00	5.70	23.51
15:15:47	12.77	6.30	119.53	60.96	14.17	5.39	5.51	17.70
15:16:17	11.66	7.95	178.61	76.30	13.47	7.74	5.61	0.00
15:16:47	8.33	8.38	62.76	65.66	12.80	10.34	5.71	32.84
15:17:17	11.56	6.16	100.93	40.32	10.73	4.78	5.57	10.42
15:17:47	13.84	5.83	263.38	41.70	8.31	11.94	5.56	39.06
15:18:17	10.43	7.82	168.95	50.67	10.41	3.89	5.49	27.31
15:18:47	9.02	8.09	45.41	48.54	8.60	4.37	5.72	33.25
15:19:17	9.64	6.74	41.49	38.24	6.85	1.14	5.47	16.30
15:19:47	13.76	5.16	153.31	34.32	3.82	16.87	5.49	6.43

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:20:17	11.79	7.18	149.84	45.86	5.55	7.44	5.48	24.72
15:20:46	9.55	7.76	36.48	46.72	5.57	11.68	5.53	13.14
15:21:16	9.20	7.55	17.03	44.24	4.65	12.17	5.44	25.90
15:21:46	12.01	5.23	51.68	31.42	2.74	13.16	5.28	10.29
15:22:16	13.97	5.61	133.58	45.83	2.01	6.16	5.41	13.93
15:22:46	12.38	6.91	33.05	71.55	2.93	12.91	5.24	5.22
15:23:16	7.81	11.01	23.24	102.77	12.42	7.57	5.38	22.47
15:23:46	8.14	10.05	20.18	94.40	18.79	4.80	5.15	19.46
15:24:16	10.27	8.28	3.86	75.83	12.62	15.69	5.57	25.62
15:24:46	11.74	7.18	2.40	67.78	8.44	6.83	5.17	9.12
15:25:16	12.80	6.36	5.23	56.79	4.02	20.92	5.28	10.71
15:25:46	12.97	7.37	15.18	64.08	4.49	1.30	5.22	13.41
15:26:16	9.56	8.29	3.70	65.76	5.17	11.05	5.36	24.96
15:26:46	9.70	6.84	0.44	49.34	4.64	20.67	5.20	37.57
15:27:16	13.56	5.32	11.76	44.47	1.80	7.97	5.22	21.57
15:27:46	11.36	7.50	9.79	60.59	3.64	11.32	5.12	23.93
15:28:16	9.23	7.97	0.00	61.44	4.53	10.56	5.00	27.11
15:28:46	9.76	6.71	0.00	47.61	3.89	9.10	5.05	16.96
15:29:16	13.84	5.09	16.70	42.19	1.30	14.13	5.13	26.85
15:29:51	14.56	6.44	34.18	53.70	1.36	5.71	5.17	9.27
15:30:21	9.80	7.50	0.00	52.59	4.10	15.04	5.08	18.52
15:30:51	9.68	6.79	0.00	44.10	3.82	8.85	5.06	18.78
15:31:21	13.78	4.61	12.71	35.02	0.70	0.00	4.91	10.98
15:31:51	13.28	6.33	30.30	48.22	1.35	19.11	4.98	7.60
15:32:21	10.58	6.64	0.00	58.52	3.98	2.10	4.90	28.58
15:32:51	12.09	7.63	0.00	76.70	2.62	14.48	5.02	20.97
15:33:21	8.02	11.69	16.92	107.87	9.52	6.60	5.11	38.22
15:33:51	7.46	12.26	15.02	116.63	13.15	14.75	4.93	31.88
15:34:21	8.27	11.96	122.83	116.67	12.49	12.21	4.98	23.97
15:34:51	4.63	15.96	3468.54	149.11	80.53	14.82	5.05	45.40
15:35:21	3.98	15.27	473.60	138.88	74.10	8.48	111.61	26.56
15:35:50	5.63	13.42	20.15	131.16	35.31	13.76	13.01	41.37
15:36:20	7.15	12.01	3.60	124.03	19.23	7.31	6.85	71.34
15:36:50	8.26	11.05	0.92	113.83	13.10	8.75	5.96	30.03
15:37:20	8.97	10.43	1.61	108.81	10.13	6.10	5.56	19.96
15:37:50	9.63	9.80	1.79	105.79	8.90	3.93	5.38	20.13
15:38:20	10.16	9.34	0.96	102.09	8.02	5.87	5.44	38.13
15:38:50	10.63	8.96	0.00	99.08	8.13	5.14	5.32	26.42
15:39:20	11.03	8.52	0.78	92.30	8.39	14.09	5.14	37.70
15:39:53	11.30	8.32	1.20	89.94	8.75	21.95	5.11	12.76
15:40:23	11.84	7.80	3.25	83.84	8.55	19.44	5.10	22.53
15:40:53	12.27	7.53	6.22	81.17	8.29	10.59	5.15	35.99
15:41:23	12.42	7.38	12.04	80.34	9.09	25.75	5.08	12.46
15:41:53	12.58	7.22	22.80	78.41	9.57	12.13	5.25	26.20

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 26, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:42:23	12.83	6.85	38.78	63.82	10.55	16.33	5.12	37.05
15:42:53	10.41	11.00	1475.27	101.08	16.97	8.96	5.17	59.57
15:43:23	3.81	14.95	6070.94	138.23	91.56	18.77	5.19	50.12
15:43:53	3.35	14.95	630.53	152.75	93.53	7.06	162.13	24.31
15:44:23	4.97	12.93	43.21	146.27	56.94	10.83	11.87	33.25
15:44:53	7.35	11.09	0.00	133.28	31.82	12.44	6.40	39.20
15:45:23	8.80	10.02	0.00	124.97	20.96	23.92	5.84	55.25
15:45:53	9.76	9.34	0.00	119.37	16.61	17.05	5.50	38.78
15:46:23	10.33	8.92	0.00	113.58	15.22	15.00	5.45	44.40
15:46:53	10.77	8.55	0.00	109.55	14.68	9.84	5.43	4.09
15:47:23	11.20	8.19	0.00	103.37	13.86	16.90	5.42	54.58
15:47:52	11.61	7.88	0.62	98.54	13.60	24.92	5.44	52.06
15:48:22	11.93	7.63	3.23	95.41	13.72	10.34	5.16	58.40
15:48:52	12.11	7.49	4.28	92.86	13.89	12.86	5.21	66.32
15:49:22	12.38	7.23	7.60	84.49	13.92	13.60	5.12	61.26
15:49:52	12.63	7.06	13.88	79.15	14.14	10.68	5.11	31.90
15:50:22	12.83	6.76	19.07	72.80	14.33	8.32	5.05	42.46
15:50:52	12.30	7.93	26.32	78.27	14.20	17.37	5.03	61.43
15:51:22	9.32	8.04	9.03	71.74	15.48	7.78	5.03	64.31
15:51:52	12.28	6.67	16.22	64.83	13.71	16.17	5.07	64.55
15:52:22	13.30	6.44	31.23	59.56	13.39	8.66	4.97	65.09
15:52:52	10.80	10.24	38.28	114.57	16.95	15.59	4.99	62.88
15:53:22	5.00	14.57	1251.55	143.84	57.53	13.67	5.03	55.57
15:53:52	2.25	15.93	2556.76	155.10	200.56	28.73	11.73	62.87
15:54:22	3.10	14.37	271.16	167.76	178.37	22.73	85.77	82.58
15:54:52	5.07	12.60	17.22	167.99	77.94	17.43	7.05	63.26
15:55:22	6.67	11.43	0.00	153.92	34.01	12.61	5.94	62.01
15:55:52	7.67	10.70	0.00	143.49	18.19	13.34	5.83	66.24
15:56:22	8.42	10.11	0.00	139.66	11.41	18.04	5.84	79.14
15:56:52	9.11	9.62	0.00	132.19	8.67	8.60	5.78	61.42
15:57:21	9.62	9.17	0.00	123.68	6.43	14.45	5.77	68.09
15:57:51	10.14	8.73	0.00	113.98	5.40	6.58	5.70	71.16
15:58:21	10.68	8.26	0.00	101.08	4.99	19.97	5.67	59.71
15:58:51	11.24	7.83	0.00	88.42	5.60	11.36	5.60	63.31
AVG	11.77	6.89	128.43	63.45	12.57	18.32	9.43	35.65

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:59:00	4.23	8.98	0.82	27.75	0.00	10.60	3.69	52.45
10:59:30	6.35	8.06	51.48	41.07	0.00	9.82	3.84	79.71
11:00:00	9.68	6.34	0.00	52.17	0.00	8.98	4.71	42.88
11:00:30	13.46	4.37	0.00	31.08	0.00	8.41	3.83	46.72
11:01:00	15.26	3.25	19.70	23.81	0.00	6.77	3.65	41.39
11:01:30	10.49	6.47	55.55	54.08	0.00	6.40	3.24	61.74
11:02:00	4.99	10.06	2.85	70.54	0.90	6.34	4.89	34.73
11:02:30	5.79	9.83	0.00	55.34	2.55	4.91	4.02	30.84
11:03:00	8.33	8.59	0.00	34.39	3.21	6.19	4.01	28.75
11:03:30	9.15	7.95	0.00	33.57	3.05	5.32	3.91	31.84
11:04:00	10.09	7.14	0.00	37.13	2.36	6.19	3.96	32.08
11:04:30	11.13	6.26	0.00	39.09	1.49	6.81	3.82	32.52
11:05:00	11.48	5.93	0.00	39.51	0.53	7.11	3.82	36.75
11:05:30	11.61	5.77	0.00	40.24	0.00	6.09	3.73	35.92
11:05:59	11.12	5.97	0.00	41.66	0.11	7.77	3.80	41.09
11:06:29	10.86	6.03	0.00	41.32	0.16	5.06	3.73	36.39
11:06:59	11.23	5.91	0.00	41.51	0.34	7.85	3.63	35.16
11:07:29	11.21	5.86	0.00	42.16	0.09	6.99	3.75	41.19
11:07:59	11.04	5.89	0.00	42.76	0.09	7.83	3.47	40.52
11:08:29	11.39	5.71	0.00	41.99	0.00	7.22	3.77	46.83
11:08:59	11.46	5.67	0.00	42.53	0.00	8.55	3.80	56.57
11:09:29	11.14	5.78	0.00	43.48	0.00	8.19	3.73	64.30
11:09:59	11.40	5.65	0.00	43.51	0.00	9.14	3.89	61.81
11:10:29	13.05	4.89	11.01	43.27	0.00	10.15	3.87	74.37
11:10:59	12.72	5.12	16.54	46.16	0.00	11.72	3.81	99.23
11:11:29	7.11	8.61	0.00	77.73	3.91	10.62	3.19	87.01
11:11:59	7.28	9.06	0.00	48.75	7.65	11.11	3.63	63.79
11:12:29	8.71	8.39	0.00	37.97	8.86	17.28	4.08	77.15
11:12:59	9.54	7.62	0.00	38.31	8.33	25.37	4.12	76.68
11:13:29	10.16	7.05	0.00	41.46	6.95	32.64	3.85	86.39
11:13:59	10.44	6.77	0.00	43.17	5.82	39.78	3.60	101.93
11:14:29	10.84	6.43	0.00	44.33	4.60	47.35	3.70	111.39
11:14:59	11.12	6.19	0.00	43.96	3.81	54.77	3.75	136.63
11:15:29	11.30	6.06	0.00	44.10	3.34	61.15	3.67	148.05
11:15:59	11.41	5.96	0.00	43.99	3.07	68.02	3.72	166.40
11:16:29	11.16	6.01	0.00	44.74	2.86	73.35	3.60	186.02
11:16:59	10.99	6.04	0.00	44.61	3.01	74.47	3.60	184.62
11:17:28	11.65	5.72	0.00	43.37	1.44	81.86	3.55	208.79
11:17:58	11.77	5.63	0.10	43.70	1.38	89.29	3.58	238.92
11:18:28	11.26	5.82	0.00	44.08	1.93	95.19	3.74	250.72
11:18:58	11.68	5.62	0.00	42.50	1.37	101.66	3.85	258.56
11:19:28	12.01	5.39	0.36	42.15	0.00	113.90	3.57	286.15
11:19:58	11.84	5.41	0.00	43.71	0.00	123.42	3.75	301.04
11:20:28	12.92	4.81	6.85	40.25	0.00	128.55	3.62	323.86

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:20:58	11.82	5.89	3.02	89.71	0.00	108.05	3.59	357.35
11:21:28	4.28	10.91	181.20	218.07	11.20	74.19	3.48	375.51
11:21:58	5.44	11.01	124.60	204.51	26.92	89.66	3.77	302.91
11:22:28	6.27	10.40	0.00	181.95	32.60	123.71	6.13	222.14
11:22:58	7.00	9.68	0.00	147.37	35.05	142.59	4.13	225.15
11:23:28	7.73	9.08	0.00	105.24	33.19	161.43	4.11	232.53
11:23:58	8.06	8.71	0.00	90.35	30.93	176.92	3.79	238.59
11:24:28	8.23	8.51	0.00	83.97	29.05	187.25	3.89	253.14
11:24:58	8.19	8.51	0.00	86.71	28.52	189.73	3.95	258.30
11:25:28	8.14	8.54	0.00	86.77	30.48	187.59	3.88	264.21
11:25:58	8.39	8.35	0.00	73.39	31.59	185.11	4.03	262.66
11:26:27	8.72	8.07	0.00	59.92	29.94	187.39	3.96	261.17
11:26:57	8.97	7.89	0.00	51.99	27.55	191.79	3.75	256.02
11:27:27	8.94	7.85	0.00	53.08	26.01	191.28	3.59	258.80
11:27:57	9.02	7.78	0.00	51.99	25.53	195.38	3.59	243.63
11:28:27	9.15	7.67	0.00	48.17	24.27	192.39	3.63	239.42
11:28:57	9.35	7.50	0.00	44.69	23.18	195.56	3.50	229.34
11:29:27	9.55	7.34	0.00	42.29	21.61	194.30	3.80	214.44
11:29:57	9.79	7.13	0.00	48.31	21.08	202.06	3.42	200.00
11:30:27	10.35	7.22	0.00	67.60	20.43	196.91	3.46	202.26
11:30:57	6.39	10.74	25.35	111.20	27.06	146.01	3.51	190.01
11:31:27	5.16	12.08	394.99	93.56	57.94	148.16	3.79	401.75
11:31:57	6.84	10.73	61.22	78.57	58.88	219.54	19.31	281.41
11:32:27	4.76	11.97	1.53	184.69	55.79	243.54	4.07	178.83
11:32:57	7.71	10.93	0.00	192.34	63.97	343.14	3.32	154.91
11:33:27	9.15	9.73	0.00	141.18	52.59	425.82	3.67	174.23
11:33:57	9.00	9.10	0.00	109.06	39.44	403.09	3.76	190.98
11:34:27	7.30	9.34	0.00	92.66	32.77	313.44	3.71	176.83
11:34:57	7.75	8.90	0.00	77.11	27.58	283.00	4.13	160.92
11:35:26	8.06	8.60	0.00	68.64	24.28	276.66	3.85	155.02
11:35:56	8.46	8.29	0.00	59.12	21.84	269.80	3.97	146.72
11:36:26	8.69	8.03	0.00	53.43	20.70	268.23	3.68	148.97
11:36:56	8.95	7.84	0.00	47.96	19.26	266.26	3.77	142.84
11:37:26	9.15	7.61	0.00	43.90	17.93	272.99	3.49	144.42
11:37:56	9.36	7.45	0.00	40.54	16.51	276.44	3.71	148.56
11:38:26	9.52	7.31	0.00	39.47	15.65	278.80	3.67	148.50
11:38:56	9.62	7.21	0.00	38.43	14.36	278.94	3.77	145.00
11:39:26	9.69	7.13	0.00	38.43	13.72	279.21	3.66	148.97
11:39:56	9.81	7.03	0.00	38.17	13.31	281.35	3.88	142.04
11:40:26	9.91	6.94	0.00	38.67	12.59	279.46	3.90	143.83
11:40:56	10.04	6.84	0.00	39.68	12.09	279.13	3.63	145.18
11:41:26	10.13	6.77	0.00	40.25	11.77	274.09	3.59	141.12
11:41:56	10.92	6.41	0.00	48.82	9.93	285.21	3.61	144.33
11:42:26	8.63	8.59	0.00	69.56	14.36	281.56	3.37	160.04

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:42:56	4.83	11.48	125.28	117.02	43.71	452.74	3.34	191.80
11:43:26	6.09	10.98	81.37	94.35	68.58	768.00	4.34	185.40
11:43:56	8.92	9.54	47.16	105.34	58.30	725.35	7.04	163.72
11:44:25	8.41	9.78	9.17	136.42	46.95	590.94	3.69	169.50
11:44:55	5.49	10.78	0.00	134.69	45.90	475.03	3.87	153.12
11:45:25	8.83	9.36	0.00	130.38	44.38	521.06	4.14	123.62
11:45:55	10.70	8.08	0.00	93.41	36.46	579.95	4.12	148.35
11:46:25	8.41	8.60	8.84	96.13	31.69	494.08	3.94	180.44
11:46:55	7.41	8.94	0.00	89.50	28.30	396.10	3.84	157.63
11:47:25	7.67	8.69	0.00	78.91	25.72	376.68	3.86	150.22
11:47:55	8.61	7.96	0.00	59.96	22.11	376.95	4.12	143.96
11:48:25	13.71	5.64	159.11	40.12	13.88	447.49	3.68	202.90
11:48:55	9.78	7.05	358.75	52.28	19.58	421.01	3.69	459.14
11:49:25	9.10	7.51	24.02	49.13	15.67	366.86	3.60	298.92
11:49:55	9.27	7.43	1.08	43.58	13.06	350.62	3.58	213.46
11:50:25	9.57	7.21	0.00	40.37	11.05	337.87	3.44	181.97
11:50:55	9.49	7.27	0.00	40.50	10.29	319.14	3.29	169.01
11:51:25	9.38	7.41	0.00	40.51	9.75	313.78	3.40	156.61
11:51:55	9.30	7.47	0.00	41.01	9.30	306.25	3.02	158.16
11:52:25	9.29	7.49	0.00	39.88	9.38	304.22	3.18	154.71
11:52:55	9.28	7.49	0.00	40.85	9.19	301.42	2.93	155.04
11:53:25	10.71	6.65	0.00	53.29	7.96	312.15	3.42	153.99
11:53:54	8.92	8.57	0.00	84.27	9.84	386.65	3.13	156.91
11:54:24	2.99	12.69	1621.99	120.05	73.77	520.70	2.86	681.95
11:54:54	6.02	12.06	1559.74	154.35	111.11	701.82	12.24	1450.68
11:55:24	8.08	10.56	58.13	143.90	48.18	770.67	79.77	638.83
11:55:54	9.75	9.18	0.00	125.83	29.73	742.26	4.52	364.97
11:56:24	11.04	8.00	0.00	97.95	21.00	718.36	3.83	268.39
11:56:54	8.88	8.79	1.66	99.17	18.72	607.59	3.70	237.12
11:57:24	6.80	9.59	0.00	97.00	19.96	501.30	3.37	191.16
11:57:54	9.12	8.39	0.00	69.48	18.02	514.14	3.44	157.86
11:58:24	12.36	6.80	26.43	52.95	11.86	612.43	3.47	183.94
11:58:54	8.43	8.27	23.32	71.33	15.88	516.79	3.44	213.15
11:59:24	8.05	8.49	0.00	63.03	14.59	438.53	2.91	176.06
11:59:54	8.34	8.29	0.00	54.31	12.93	415.55	3.04	161.60
12:00:24	8.63	8.07	0.00	49.07	10.91	401.21	3.19	146.93
12:00:54	8.81	7.92	0.00	45.53	9.65	387.28	3.07	155.78
12:01:24	8.97	7.79	0.00	42.14	9.01	377.03	3.01	145.76
12:01:54	9.15	7.64	0.00	40.14	8.28	365.91	2.70	148.57
12:02:24	9.31	7.52	0.00	37.76	7.54	355.91	2.87	149.86
12:02:54	9.47	7.39	0.00	36.05	6.70	344.42	2.85	147.44
12:03:24	9.45	7.35	0.00	35.94	5.15	325.33	3.10	143.96
12:03:53	9.72	7.50	0.00	54.97	3.95	325.65	3.08	146.21
12:04:23	3.80	11.76	2272.73	266.33	62.34	347.13	2.90	682.34

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:04:53	1.40	14.71	7949.40	204.66	285.44	452.08	3.15	2762.48
12:05:26	1.72	15.22	4462.47	183.25	452.43	697.93		2359.18
12:05:56	4.52	13.28	119.56	178.73	125.45	821.42		1370.16
12:06:26	6.83	11.40	0.00	162.22	37.76	715.77	7.14	711.25
12:06:56	8.44	10.05	0.00	136.64	17.65	689.22	5.36	478.49
12:07:26	10.14	8.69	0.00	100.55	9.23	697.89	4.55	270.35
12:07:56	11.01	7.95	0.00	76.61	6.87	702.25	4.33	235.96
12:08:26	11.62	7.35	3.06	60.59	5.40	693.53	3.75	218.47
12:08:56	10.36	7.92	20.28	74.66	8.85	621.22	3.97	219.95
12:09:26	7.31	9.16	0.92	83.30	12.58	497.34	3.49	188.83
12:09:56	8.81	8.30	0.00	62.25	13.03	497.40	3.74	160.28
12:10:25	12.40	6.65	20.85	43.72	7.29	596.32	3.33	169.59
12:10:55	9.38	7.96	39.45	61.88	12.83	554.17	3.38	215.67
12:11:25	7.93	8.57	1.25	60.52	12.62	488.03	3.36	179.82
12:11:55	7.82	8.64	0.00	58.65	12.03	477.96	3.45	158.45
12:12:25	8.25	8.16	0.00	49.75	11.27	486.88	3.70	146.76
12:12:55	13.09	6.02	40.69	33.34	2.54	568.93	3.71	157.79
12:13:25	10.09	7.39	120.95	49.31	9.49	557.23	3.72	267.12
12:13:55	8.51	8.00	14.04	50.88	9.56	486.11	3.65	205.03
12:14:25	8.97	8.63	0.00	82.94	9.70	464.23	3.22	160.12
12:14:55	4.13	13.06	59.62	134.78	39.67	353.19	3.12	144.29
12:15:25	2.03	15.31	442.71	139.31	146.57	609.30	3.54	303.33
12:15:55	2.75	14.54	262.59	153.68	125.97	866.86	16.43	272.89
12:16:25	3.89	13.47	4.27	159.79	58.11	731.92	7.04	151.51
12:16:55	5.61	12.04	0.00	160.83	42.59	606.96	5.05	124.77
12:17:25	7.08	10.83	0.00	155.06	36.90	589.34	4.58	126.98
12:17:55	8.05	10.02	0.00	143.14	33.68	584.13	3.93	142.89
12:18:25	9.04	9.18	0.00	120.86	31.57	575.62	3.33	155.96
12:18:55	9.96	8.50	1.45	95.65	29.11	539.47	3.56	157.67
12:19:25	10.58	7.92	12.58	72.98	27.22	534.82	3.43	170.06
12:19:55	11.18	7.46	38.06	56.31	26.52	539.90	3.28	183.14
12:20:25	10.98	7.52	107.61	66.48	25.10	511.12	3.59	218.65
12:20:55	7.48	9.01	50.74	80.78	28.75	414.16	3.44	206.98
12:21:24	9.20	7.93	18.99	50.69	24.39	422.83	3.04	161.93
12:21:54	12.29	6.55	129.19	42.40	18.77	493.84	3.26	197.16
12:22:24	9.48	7.93	207.88	63.44	23.55	450.88	3.53	281.59
12:22:54	7.68	8.69	45.87	63.24	21.81	393.19	3.37	210.89
12:23:24	7.98	8.30	22.52	51.62	19.97	394.61	3.30	161.25
12:23:54	12.20	6.33	121.09	38.11	14.35	455.09	3.37	178.17
12:24:24	9.31	9.14	352.68	111.06	23.27	473.18	3.36	250.90
12:25:07	2.30	13.25	3633.74	124.16	167.13	793.00	3.24	1486.88
12:25:37	1.71	14.99	1435.54	133.37	361.32	2056.73	59.19	1686.29
12:26:07	3.02	14.09	291.21	139.05	179.15	2281.83	14.08	798.61
12:26:37	5.03	12.50	23.15	132.82	68.91	2317.86	19.89	396.96

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:27:07	7.12	10.79	0.00	113.55	32.27	2215.05	28.80	237.93
12:27:37	8.04	10.05	0.00	106.70	19.30	1985.62	9.68	177.86
12:28:07	8.61	9.49	0.27	98.16	14.01	1826.93	4.92	148.02
12:28:37	9.46	8.81	3.69	86.51	11.09	1690.52	4.68	139.39
12:29:07	10.21	8.24	12.84	74.73	9.19	1587.34	4.45	126.73
12:29:37	10.75	7.78	31.72	64.61	9.50	1488.70	4.32	134.43
12:30:07	11.25	7.35	66.29	54.27	10.66	1403.36	3.89	153.05
12:30:37	11.76	6.97	135.74	46.68	12.33	1286.97	3.75	184.80
12:31:07	12.40	6.50	280.76	44.06	14.62	1164.63	3.99	257.21
12:31:37	9.25	8.13	275.10	61.01	17.64	925.73	4.02	315.42
12:32:07	7.58	8.39	51.98	54.73	13.78	790.00	3.74	201.22
12:32:37	11.78	6.54	111.32	36.64	8.19	836.29	3.30	168.00
12:33:07	12.80	6.17	418.19	43.11	12.27	885.95	3.56	302.88
12:33:37	8.83	7.98	245.29	51.93	15.24	749.41	3.55	303.73
12:34:07	8.28	8.71	55.38	63.67	12.52	683.35	3.61	187.98
12:34:37	5.18	11.88	236.11	131.89	34.54	732.11	3.30	169.98
12:35:07	3.64	13.91	75.15	157.19	53.20	1165.90	7.04	142.26
12:35:36	3.53	13.65	6.38	174.87	52.45	1374.50	4.33	87.06
12:36:06	4.87	12.56	0.00	172.01	39.56	1266.51	4.96	69.26
12:36:36	6.07	11.64	0.00	160.05	31.59	1158.92	5.02	66.30
12:37:06	7.10	10.72	0.00	148.32	27.48	1040.29	4.71	64.49
12:37:36	8.03	9.97	0.00	136.69	24.67	966.35	4.32	73.13
12:38:06	8.55	9.62	0.00	130.58	22.52	907.60	3.88	74.55
12:38:36	8.70	9.38	0.00	118.18	20.84	864.64	3.74	78.63
12:39:06	9.07	9.05	0.09	108.68	18.94	826.41	3.52	75.59
12:39:36	9.53	8.69	7.20	97.56	17.80	803.44	3.58	77.04
12:40:06	9.87	8.41	16.57	88.08	16.54	778.22	3.55	78.75
12:40:36	10.10	8.26	27.58	82.86	15.80	755.23	3.50	79.64
12:41:06	10.33	8.08	39.27	72.26	15.51	697.48	3.44	97.25
12:41:36	10.64	7.83	60.77	65.97	14.40	654.82	3.43	91.16
12:42:06	10.88	7.48	97.99	56.66	15.12	609.38	2.95	90.94
12:42:36	10.15	8.14	146.15	65.37	15.00	543.69	3.35	117.07
12:43:06	8.07	8.40	48.08	52.35	15.11	473.33	3.09	92.17
12:43:36	11.51	6.86	55.05	34.28	9.40	480.45	3.46	81.08
12:44:06	11.59	8.06	445.34	69.22	12.12	445.69	3.07	113.72
12:44:36	2.87	13.21	7658.08	119.16	152.67	367.27	2.81	1322.51
12:45:06	0.10	15.09	15522.86	122.37	543.02	428.96	88.16	2676.36
12:45:36	0.98	15.43	4909.30	148.32	662.79	778.23	1502.16	2765.13
12:46:05	2.93	14.03	536.87	154.93	295.28	1013.97	516.34	1842.50
12:46:35	5.04	12.36	23.13	151.59	102.45	1122.36	56.33	773.19
12:47:05	6.65	11.02	0.00	135.44	45.38	1095.76	36.84	371.50
12:47:35	7.91	10.03	0.81	115.61	24.78	1022.19	30.02	196.74
12:48:05	8.99	9.20	4.99	94.18	16.02	946.15	26.35	137.23
12:48:35	9.81	8.60	12.65	79.91	11.81	862.63	23.58	94.70

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:49:05	10.42	8.17	24.14	65.30	8.98	774.68	22.47	73.21
12:49:35	10.93	7.73	39.09	51.44	7.47	702.84	20.79	70.39
12:50:05	11.41	7.37	68.23	44.12	6.32	643.51	19.09	93.97
12:50:35	11.83	7.01	92.75	39.14	6.83	585.30	15.27	91.40
12:51:05	12.56	6.40	161.30	37.30	5.10	508.39	3.25	95.53
12:51:35	10.33	7.99	179.54	49.58	7.04	435.21	3.29	90.90
12:52:05	8.04	8.62	47.95	48.60	7.16	379.44	3.23	63.18
12:52:35	9.52	7.16	31.64	31.99	5.68	343.61	3.26	48.77
12:53:05	13.11	5.88	106.54	29.95	2.15	336.19	3.09	55.68
12:53:35	10.42	7.42	121.45	43.57	4.16	309.70	3.34	65.32
12:54:05	8.54	9.57	770.59	84.20	6.36	287.38	2.73	99.20
12:54:35	3.65	12.74	5724.21	126.83	79.36	301.21	2.75	1095.84
12:55:05	4.05	13.24	702.68	130.46	78.57	440.88	204.46	675.91
12:55:35	5.54	11.92	7.51	132.11	38.41	567.63	10.07	272.98
12:56:05	6.85	10.65	0.00	103.76	21.94	577.91	5.73	149.33
12:56:34	8.39	9.77	7.04	108.64	16.07	496.60	4.96	85.92
12:57:04	8.71	9.38	5.51	104.62	13.71	456.26	4.23	57.27
12:57:34	9.31	8.79	9.76	92.13	11.86	422.39	3.88	46.15
12:58:04	10.03	8.11	18.72	75.54	11.02	390.02	3.48	36.61
12:58:34	10.85	7.47	36.59	61.54	9.73	368.20	3.47	42.66
12:59:04	11.45	7.00	71.44	51.79	7.80	352.45	3.36	54.16
12:59:34	11.96	6.59	130.03	46.33	7.68	334.99	3.37	57.40
13:00:04	12.10	6.93	254.81	55.88	7.14	317.93	3.35	63.54
13:00:34	8.63	8.31	120.01	60.95	9.86	296.75	3.09	69.14
13:01:04	8.68	7.34	45.67	44.63	8.18	268.22	3.09	57.10
13:01:34	12.43	5.56	135.08	35.03		259.30	3.40	44.97
13:02:04	12.22	6.72	249.36	44.38		252.08	2.94	63.32
13:02:34	9.28	7.66	71.32	45.69	0.00	237.01	2.89	55.62
13:03:04	8.75	7.82	35.62	45.52	0.00	224.08	2.79	44.24
13:03:34	9.01	6.93	30.89	35.01	0.00	212.96	2.95	36.69
13:04:04	13.48	5.07	122.68	27.53	0.00	200.07	2.65	41.88
13:04:34	11.78	6.56	130.54	38.34	0.00	205.05	2.86	45.49
13:05:04	9.82	7.13	11.53	41.21	0.00	200.81	2.71	42.22
13:05:34	9.71	7.04	0.59	51.67	0.00	199.95	2.68	40.68
13:06:04	8.54	10.15	9.76	102.31	0.00	222.91	2.65	30.98
13:06:34	4.42	13.80	309.01	127.87	0.00	328.02	2.70	64.83
13:07:04	3.55	14.23	374.30	133.42	0.00	480.08	23.94	105.26
13:07:40	4.30	13.55	26.73	133.01	0.00	567.96	13.93	62.18
13:08:10	6.06	11.43	0.14	117.43	0.00	608.97	3.69	28.33
13:08:40	7.89	9.90	5.53	99.04	0.00	611.32	3.74	26.95
13:09:10	9.40	8.75	18.04	78.73	0.00	620.86	3.58	23.36
13:09:40	10.41	7.96	53.05	61.55	0.00	656.87	3.37	29.26
13:10:10	11.26	7.25	136.28	48.10	0.00	665.93	3.21	46.28
13:10:40	11.96	6.65	275.87	41.43	0.00	649.77	3.25	67.38

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:11:10	12.56	6.11	428.08	39.22	0.00	609.71	3.07	91.81
13:11:40	12.74	6.58	478.33	42.49	0.00	546.08	3.15	113.79
13:12:10	9.44	7.81	161.59	42.83	0.00	479.47	3.27	87.59
13:12:39	8.71	7.86	42.80	42.30	0.00	430.35	3.03	53.21
13:13:09	8.78	7.21	23.63	38.69	0.00	394.87	2.84	39.23
13:13:39	12.48	5.10	113.74	31.46	0.00	369.25	2.79	43.50
13:14:09	12.71	6.36	154.55	44.08	0.00	359.25	2.55	45.26
13:14:39	10.10	7.03	19.31	48.06	0.00	329.07	2.56	45.76
13:15:34	9.77	7.05	3.82	49.12	0.00	312.31	2.44	29.05
13:16:04	9.85	9.44	14.74	115.06	0.00	286.30	2.41	28.47
13:16:34	4.61	14.12	3982.02	129.12	4.90	399.74	2.43	398.70
13:17:04	0.96	15.41	9012.27	159.02	156.38	419.29	83.82	1679.99
13:17:34	2.75	13.40	1219.11	167.92	239.96	441.98	188.60	1179.30
13:18:04	5.45	11.44	50.45	144.29	130.71	442.40	8.57	483.38
13:18:34	7.42	9.91	2.72	120.00	72.24	405.70	4.84	212.89
13:19:04	9.08	8.68	3.94	95.71	44.77	382.58	3.84	115.19
13:19:34	10.33	7.87	24.43	78.24	29.74	366.03	3.37	86.79
13:20:04	11.09	7.17	56.99	50.47	20.93	357.30	2.85	62.82
13:20:34	12.02	6.53	106.50	40.33	14.22	336.74	2.65	49.71
13:21:04	12.53	6.26	177.54	40.28	9.26	314.33	2.54	53.36
13:21:34	12.71	5.95	260.20	38.43	6.44	296.01	2.45	58.46
13:22:04	12.84	6.83	354.42	49.67	4.70	275.81	2.26	76.51
13:22:34	9.30	8.08	138.80	53.41	6.29	261.17	2.59	54.66
13:23:03	8.42	7.15	64.89	41.59	5.42	245.49	2.47	48.04
13:23:33	12.13	5.39	170.69	35.60	2.92	232.95	2.47	45.46
13:24:03	13.08	6.43	249.25	45.25	1.35	235.60	2.31	68.43
13:24:33	10.14	7.34	73.17	46.95	2.46	233.72	2.39	37.98
13:25:03	9.35	7.41	36.21	48.11	1.68	227.94	2.23	33.90
13:25:33	9.27	6.78	35.79	42.66	1.11	223.49	2.20	33.77
13:26:03	12.02	4.76	118.30	42.70	0.00	205.44	2.11	43.66
13:26:33	13.89	6.89	61.85	62.99	0.00	208.02	2.23	25.03
13:27:07	9.74	9.56	12.21	87.32	0.00	229.32	1.91	11.52
13:27:37	6.74	9.48	12.79	97.84	0.14	350.50	2.24	32.67
13:28:07	9.41	7.93	11.07	80.92	0.51	379.78	2.15	28.00
13:28:37	11.22	7.06	28.96	64.10	0.00	337.01	2.34	15.49
13:29:07	12.05	6.30	57.89	49.58	0.00	306.36	2.36	25.32
13:29:37	12.15	7.60	93.21	61.00	0.00	279.80	2.51	31.47
13:30:07	9.20	8.14	32.17	61.55	0.00	261.28	2.06	24.06
13:30:37	9.87	6.22	42.36	16.81	0.00	233.86	2.26	22.77
13:31:07	13.04	5.43	115.11	3.21	0.00	221.46	2.11	32.64
13:31:37	12.42	7.32	84.64	38.30	0.00	217.07	1.99	38.94
13:32:06	9.40	7.74	23.78	46.61	0.00	201.43	2.07	23.46
13:32:36	8.85	7.26	19.99	39.07	0.00	187.05	1.94	22.15
13:33:06	12.23	4.90	93.11	26.62	0.00	168.96	2.04	29.86

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:33:36	13.10	6.48	113.34	39.16	0.00	166.77	1.81	23.35
13:34:06	10.20	7.12	24.45	39.89	0.00	164.09	1.74	25.87
13:34:36	9.50	7.17	13.44	39.39	0.00	157.42	1.69	26.52
13:35:06	9.40	7.11	9.49	38.69	0.00	155.31	1.78	24.26
13:35:36	10.18	5.07	30.26	24.17	0.00	142.24	1.50	17.10
13:36:06	14.02	5.12	121.45	37.57	0.00	136.78	2.10	25.04
13:36:36	12.03	6.89	29.68	74.14	0.00	137.35	1.71	32.10
13:37:06	9.00	11.20	4.58	138.52	0.00	162.41	1.44	16.16
13:37:36	6.15	11.71	7.32	165.76	0.00	224.01	1.63	13.52
13:38:06	7.03	10.50	8.36	145.25	3.61	260.12	1.83	12.88
13:38:36	8.56	9.45	9.30	133.55	5.55	249.01	2.01	14.43
13:39:06	9.42	9.08	11.00	123.66	6.38	262.96	2.11	15.29
13:39:36	9.97	8.25	15.01	89.90	7.10	257.95	2.14	18.19
13:40:06	10.93	7.54	22.79	69.88	7.12	252.99	2.02	21.21
13:40:36	11.61	7.10	28.37	61.89	6.49	246.57	1.87	24.39
13:41:06	12.07	6.91	46.27	63.58	5.49	232.01	1.85	21.15
13:41:35	10.90	8.55	37.14	74.68	5.88	219.95	1.85	21.12
13:42:05	8.89	7.31	19.09	58.69	6.66	206.69	1.79	22.59
13:42:35	11.19	6.93	49.52	55.76	6.29	212.97	1.80	23.16
13:43:05	12.09	6.77	109.34	52.77	5.85	204.53	1.91	28.24
13:43:35	10.64	8.35	64.43	60.94	7.11	195.06	1.79	29.84
13:44:05	8.42	7.25	27.23	42.52	7.53	184.39	1.78	31.20
13:44:35	11.48	5.77	118.44	33.18	6.50	176.25	1.86	33.97
13:45:05	12.97	6.91	207.54	42.82	5.08	182.59	1.92	40.32
13:45:35	10.09	7.81	55.33	44.80	7.06	179.57	1.73	38.09
13:46:05	9.00	7.87	16.92	43.89	6.56	170.16	1.72	30.62
13:46:35	8.87	6.85	18.06	39.03	5.41	155.52	2.04	26.78
13:47:05	11.34	9.57	220.52	115.12	6.12	164.00	1.79	41.46
13:47:35	6.18	13.65	10829.62	110.26	102.48	212.19	1.67	1061.38
13:48:05	1.44	14.93	10123.93	112.94	467.28	298.21	198.37	1714.88
13:48:35	1.00	14.46	2690.64	132.39	501.06	354.07	221.91	1450.75
13:49:05	2.94	12.07	525.19	131.53	253.12	377.38	12.47	804.48
13:49:35	5.75	10.47	115.50	109.55	109.32	376.08	5.50	350.77
13:50:04	7.55	9.59	41.02	97.10	59.62	370.82	3.68	178.25
13:50:34	8.61	8.83	13.09	87.59	38.40	343.11	3.26	84.32
13:51:04	9.55	8.25	5.91	81.61	27.17	322.19	3.05	56.79
13:51:34	10.26	7.73	5.73	76.61	20.73	298.68	2.91	35.74
13:52:04	10.88	7.21	11.01	69.97	15.98	280.38	2.78	26.20
13:52:34	11.54	6.69	17.42	60.74	12.67	257.11	2.48	25.90
13:53:04	12.19	6.25	25.37	52.14	8.55	235.59	2.35	17.09
13:53:34	12.75	5.94	41.83	45.27	7.80	218.46	2.21	25.42
13:54:04	13.16	5.62	75.48	38.81	4.90	213.15	2.08	20.18
13:54:34	13.57	5.39	148.32	37.32	4.32	205.56	1.86	40.93
13:55:04	13.44	7.32	168.28	49.41	4.20	207.62	1.95	36.81

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:55:34	10.13	7.73	52.96	44.56	6.76	195.01	1.89	27.04
13:56:04	9.66	5.85	54.75	30.45	5.66	166.98	1.95	23.89
13:56:34	12.56	5.24	163.85	32.79	3.31	164.84	2.02	35.56
13:57:04	13.26	7.23	172.23	51.37	3.52	166.24	1.91	36.28
13:57:34	10.39	11.46	464.03	109.23	7.01	194.35	1.97	39.38
13:58:04	5.77	14.27	4630.69	117.90	91.47	416.85	2.28	397.33
13:58:34	2.46	15.28	10557.80	128.69	521.30	582.35	76.43	1248.31
13:59:03	1.04	14.52	4188.42	151.85	592.61	562.95	237.18	1343.00
13:59:33	2.48	12.36	726.75	158.14	269.31	516.84	15.69	788.25
14:00:03	4.98	11.31	93.80	153.53	103.87	507.12	4.59	328.13
14:00:33	6.39	10.40	42.39	146.67	50.57	476.17	3.31	153.10
14:01:03	7.50	9.84	12.58	133.80	30.87	423.97	2.96	86.52
14:01:33	8.24	9.34	6.24	118.62	21.68	393.40	2.68	51.74
14:02:03	8.87	8.83	3.10	102.84	16.80	363.27	2.51	26.61
14:02:33	9.48	8.41	6.64	88.86	14.24	340.06	2.41	21.20
14:03:03	10.02	8.02	8.23	82.04	12.29	312.97	2.26	29.80
14:03:33	10.49	7.70	8.93	73.01	10.12	287.24	2.17	15.31
14:04:03	10.89	7.33	15.01	63.20	8.35	272.85	2.45	17.13
14:04:33	11.30	6.98	27.72	54.06	7.87	260.06	2.29	11.58
14:05:03	11.74	6.66	46.34	47.55	6.22	247.87	2.30	16.31
14:05:33	12.12	6.46	72.99	44.68	6.40	233.12	2.46	17.04
14:06:03	12.43	6.33	101.66	43.41	5.78	216.21	2.31	12.40
14:06:33	12.61	6.27	127.53	44.02	4.97	199.46	2.48	24.49
14:07:03	12.65	8.41	195.97	89.38	5.71	188.02	2.36	24.67
14:07:32	11.08	12.20	284.88	159.55	18.74	222.19	2.23	24.35
14:08:02	6.44	11.73	89.17	179.92	24.89	230.15	3.97	21.10
14:08:32	6.44	10.41	5.44	153.99	14.45	205.68	2.63	16.38
14:09:02	7.52	9.31	3.80	119.27	9.19	189.92	2.43	20.55
14:09:32	9.20	8.31	10.59	85.02	7.25	177.96	2.32	9.11
14:10:02	11.45	7.62	20.15	5.89	6.11	178.07	2.18	14.64
14:10:32	11.61	7.27	27.03	19.47	4.70	167.01	2.37	14.00
14:11:02	11.81	6.91	39.20	47.25	3.37	153.85	2.24	13.74
14:11:32	12.24	6.48	61.49	43.59	3.01	140.74	2.22	7.92
14:12:02	13.05	6.20	91.12	13.50	0.00	134.24	2.32	16.03
14:12:32	13.54	7.94	74.86	13.51	0.00	127.73	2.33	4.45
14:13:02	13.21	7.53	23.33	5.56	0.00	121.75	2.44	2.69
14:13:32	10.54	5.75	33.37	28.58	2.42	104.23	2.13	12.26
14:14:02	12.01	6.45	71.11	33.37	0.00	103.29	1.98	10.80
14:14:32	13.71	7.72	27.08	31.49	0.00	106.34	2.00	2.95
14:15:02	11.03	7.45	4.45	36.27	0.96	102.71	1.78	11.49
14:15:32	9.83	5.43	13.81	30.37	1.39	88.32	1.76	12.20
14:16:02	11.82	6.48	42.50	40.41	0.00	82.19	1.95	15.98
14:16:32	12.16	7.45	8.48	42.64	0.00	83.10	1.86	11.32
14:17:02	10.12	7.34	0.00	53.05	0.73	83.53	2.06	16.16

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:17:31	9.69	10.82	403.33	119.78	2.37	81.75	1.88	6.32
14:18:01	8.71	14.24	1241.06	144.40	43.84	113.68	1.76	45.75
14:18:31	5.31	14.18	276.30	145.70	90.10	149.03	62.03	32.87
14:19:01	3.71	12.36	35.84	135.67	54.74	150.33	3.50	16.06
14:19:31	4.52	10.70	0.00	124.54	23.64	138.01	2.83	8.40
14:20:01	6.07	9.46	0.00	106.42	12.21	134.25	2.52	3.96
14:20:31	7.65	8.51	11.35	86.52	7.64	124.94	2.56	10.71
14:21:01	8.95	7.94	22.06	72.58	5.96	117.67	2.42	13.56
14:21:31	9.88	7.55	29.96	61.79	5.02	115.17	2.39	8.92
14:22:01	10.48	7.07	51.58	49.82	4.71	114.80	2.58	10.53
14:22:31	11.06	6.67	65.74	44.14	4.08	109.13	2.09	16.42
14:23:01	11.64	6.32	71.30	41.81	2.11	100.64	2.21	15.80
14:23:31	12.17	5.84	74.46	35.83	0.19	94.32	2.20	15.49
14:24:01	12.60	6.60	92.02	40.77	0.00	92.17	2.32	17.76
14:24:31	12.70	7.81	32.85	43.71	0.00	93.31	1.93	21.42
14:25:01	10.33	6.79	10.45	34.78	0.48	85.26	2.19	18.92
14:25:31	9.74	5.38	39.47	31.19	0.00	71.21	1.93	5.27
14:26:01	12.10	6.86	52.73	41.40	0.00	66.76	1.80	17.55
14:26:31	12.06	7.50	7.77	42.96	0.00	69.62	2.31	19.33
14:27:04	10.51	7.59	0.00	47.53	0.00	66.71	1.93	24.50
14:27:34	9.83	8.33	4.70	116.37	0.00	57.05	1.86	10.34
14:28:14	12.14	11.97	122.00	138.88	2.42	63.87	1.83	7.30
14:28:44	7.13	10.27	207.05	102.11	19.96	84.66	10.73	13.95
14:29:14	7.33	9.49	87.08	96.42	14.64	96.29	2.61	15.24
14:29:44	7.56	7.69	125.77	70.17	11.29	94.21	2.56	6.02
14:30:14	9.71	8.25	174.54	103.47	8.31	88.72	2.37	11.35
14:30:44	10.16	8.37	92.71	98.66	6.99	87.96	2.02	14.48
14:31:14	9.71	8.06	61.29	90.30	5.23	85.55	1.85	17.16
14:31:44	10.08	7.49	66.28	71.73	3.73	73.34	2.03	19.34
14:32:14	10.46	6.92	85.29	54.73	2.69	70.95	2.00	9.81
14:32:44	11.14	6.56	118.28	48.44	1.69	66.16	2.04	11.16
14:33:14	11.71	6.33	159.03	46.06	0.90	68.24	1.75	10.01
14:33:44	12.27	8.01	114.03	53.94	0.00	66.51	1.92	6.10
14:34:14	11.00	7.20	47.40	43.05	0.72	68.44	1.94	16.34
14:34:44	9.38	5.80	93.12	37.23	0.97	59.60	1.71	12.67
14:35:14	11.35	6.50	197.91	42.85	0.15	60.00	1.69	3.30
14:35:44	12.49	7.82	81.06	46.65	0.00	60.42	1.61	12.03
14:36:14	10.43	7.29	23.55	40.55	1.13	62.54	1.57	12.62
14:36:43	9.23	5.42	29.56	33.55	0.96	52.80	1.47	10.53
14:37:13	11.16	6.46	56.81	42.02	0.00	53.08	1.66	7.97
14:37:43	12.48	7.41	10.73	46.95	0.00	57.59	1.31	10.33
14:38:13	10.60	7.26	0.00	45.99	0.68	56.68	1.50	11.31
14:38:43	9.67	5.26	7.19	37.14	0.92	49.23	1.35	12.92
14:39:13	10.81	5.77	42.79	48.47	0.24	49.07	1.52	6.55

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
15:01:41	6.80	10.66	0.00	152.59	12.29	63.81	1.87	12.22
15:02:11	6.81	9.69	0.00	131.81	10.73	65.40	1.74	17.34
15:02:41	7.36	8.94	0.00	118.59	9.35	60.34	1.73	11.59
15:03:11	8.25	8.47	0.00	106.12	8.06	59.04	1.67	12.73
15:03:41	9.02	8.28	0.00	100.94	7.74	55.66	1.43	9.57
15:04:11	9.60	8.05	0.35	90.55	7.17	57.94	1.44	9.40
15:04:41	9.93	7.84	5.12	85.48	6.79	55.58	1.49	13.96
15:05:11	10.23	7.62	10.62	80.37	6.59	58.81	1.37	17.01
15:05:41	10.49	7.36	18.27	73.13	6.61	57.60	1.36	9.70
AVG	9.24	8.45	504.95	78.46	35.78	335.26	12.56	174.20

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 27, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:39:43	12.85	8.33	25.79	83.53	0.00	55.03	1.68	5.80
14:40:13	11.54	12.38	424.06	133.98	12.40	68.09	1.46	13.77
14:40:43	7.97	12.69	173.02	129.94	25.30	77.42	8.70	0.00
14:41:13	6.07	10.99	54.71	128.75	23.79	82.03	1.93	6.21
14:41:43	6.22	9.89	26.42	123.93	18.47	82.90	1.72	9.74
14:42:13	7.40	9.46	19.66	119.16	16.29	80.13	1.78	7.90
14:42:43	8.24	8.79	15.64	113.08	15.00	79.88	1.68	0.00
14:43:13	8.91	8.21	30.65	109.65	13.72	75.49	1.53	10.98
14:43:43	9.65	7.71	19.28	104.93	12.56	74.51	1.59	8.75
14:44:13	10.32	7.27	28.36	96.86	11.70	72.59	1.60	11.81
14:44:43	10.91	6.87	40.64	88.01	10.74	71.44	1.41	5.85
14:45:13	11.46	6.89	82.12	87.12	8.78	69.35	1.71	18.87
14:45:43	11.82	6.63	73.48	85.61	8.95	65.12	1.44	9.09
14:46:13	11.95	6.45	116.57	82.53	8.60	60.77	1.58	17.43
14:46:43	12.21	6.29	103.42	74.99	9.57	59.88	1.57	8.64
14:47:13	12.38	6.20	197.35	75.89	9.92	54.00	1.62	9.53
14:47:43	12.52	5.95	191.61	68.06	11.18	54.05	1.60	8.05
14:48:13	12.59	7.75	170.93	85.91	11.03	54.76	1.73	0.69
14:48:42	12.15	6.72	114.11	63.53	10.40	56.56	1.72	4.44
14:49:12	9.99	5.83	115.70	53.71	9.97	49.22	1.54	12.55
14:49:42	11.66	7.29	191.77	88.78	9.59	50.43	1.64	6.22
14:50:12	12.47	12.67	27825.08	115.66	142.43	79.83	1.42	266.53
14:50:42	8.79	13.58	34808.23	110.65	933.53	111.99	174.96	810.80
14:51:12	2.38	14.77	25063.29	138.61	1454.88	114.22	349.26	956.04
14:51:42	0.42	15.70	6628.21	165.87	953.01	108.54	270.87	674.02
14:52:12	0.58	14.91	4985.06	185.42	518.94	102.83	23.70	579.03
14:52:42	0.78	12.99	3607.14	185.46	222.65	91.37	10.80	584.17
14:53:12	2.22	11.38	1601.83	166.70	93.83	73.37	7.44	305.22
14:53:42	4.11	10.24	354.77	159.88	48.49	69.81	5.47	144.84
14:54:12	5.93	9.68	37.34	162.96	30.48	72.22	3.65	73.38
14:54:42	7.30	9.35	0.97	163.56	21.71	73.70	3.07	51.54
14:55:12	8.05	8.89	0.00	153.79	16.62	71.61	3.04	48.64
14:55:42	8.64	8.25	0.00	133.00	13.52	70.00	2.48	32.85
14:56:12	9.31	7.89	0.00	125.71	11.28	65.51	2.46	24.12
14:56:42	10.05	7.49	2.22	106.48	10.11	58.29	2.36	23.89
14:57:12	10.51	7.10	5.17	88.45	9.16	54.75	2.33	14.65
14:57:42	11.05	6.70	10.30	69.26	8.27	53.28	2.18	17.27
14:58:12	11.55	6.29	11.07	55.25	7.12	50.50	1.87	6.84
14:58:42	12.03	5.96	19.10	46.64	5.59	46.81	1.83	15.35
14:59:11	12.52	6.00	34.07	41.99	5.03	46.98	1.95	10.55
14:59:41	12.90	8.02	63.83	109.61	4.11	45.86	1.74	13.80
15:00:11	12.85	11.14	57.58	162.48	13.69	58.18	1.62	16.01
15:00:41	10.87	12.38	9.79	171.45	16.84	65.18	2.02	15.40
15:01:11	8.37	11.68	0.00	160.70	15.11	64.35	1.86	12.81

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:05:10	8.88	6.72	0.00	38.49	0.00		1.25	9.15
10:05:40	11.26	4.87	0.57	26.27	0.00		1.20	96.71
10:06:10	15.15	3.24	24.43	29.91	0.00		1.50	221.34
10:06:40	10.02	7.52	40.04	81.21	0.00		1.42	317.77
10:07:10	4.66	10.62	2.05	87.74	0.00		2.68	358.00
10:07:40	7.56	9.09	0.00	43.02	0.24		1.84	369.60
10:08:10	9.06	8.16	0.00	39.66	0.67		1.70	383.09
10:08:40	9.72	7.61	0.00	42.60	1.40		1.48	386.68
10:09:10	9.95	7.39	0.00	43.98	2.29		1.56	387.24
10:09:40	10.06	7.23	0.00	44.28	3.30		1.56	377.53
10:10:10	10.26	7.03	0.00	45.18	4.28		1.59	372.55
10:10:40	10.59	6.72	0.65	47.64	5.34		1.65	370.64
10:11:10	10.84	6.42	0.00	48.57	5.82		1.67	365.86
10:11:40	10.58	6.39	0.00	49.30	5.85		1.67	364.52
10:12:10	10.89	6.20	0.00	49.61	5.37		1.74	362.86
10:12:40	11.23	6.04	0.00	50.05	5.02		1.79	364.02
10:13:10	10.96	6.09	0.00	50.53	4.78		1.75	368.47
10:13:40	11.07	5.92	0.00	50.13	3.75	498.44	1.73	369.98
10:14:10	11.58	5.63	0.00	49.70	2.06	1903.52	1.66	295.88
10:14:40	11.53	5.65	0.00	49.58	1.87	1542.18	1.70	268.61
10:15:09	11.26	5.72	0.00	49.37	2.87	1153.42	1.64	223.82
10:15:39	12.13	5.26	1.23	53.13	0.89	1002.14	1.77	202.96
10:16:09	12.44	5.41	10.71	55.09	1.11	982.19	1.67	178.98
10:16:39	9.33	8.19	1.36	59.58	3.45	896.68	1.70	158.84
10:17:09	7.17	9.84	0.00	56.56	5.09	850.32	1.90	107.14
10:17:39	8.62	8.40	0.00	37.11	7.65	897.68	2.14	125.52
10:18:09	9.91	7.30	0.00	37.01	7.11	918.53	2.38	119.88
10:18:39	10.54	6.71	0.00	40.76	5.14	932.99	2.07	130.68
10:19:09	10.90	6.36	0.00	41.75	3.17	906.47	2.15	132.15
10:19:39	11.21	6.11	0.00	42.25	1.26	877.88	2.24	129.33
10:20:09	11.40	5.93	0.00	42.58	0.28	821.63	2.08	114.96
10:20:39	11.55	5.82	0.00	42.63	0.95	754.41	2.15	114.65
10:21:09	11.44	5.83	0.00	43.09	0.37	663.55	2.06	109.53
10:21:39	11.18	5.87	0.00	43.38	0.18	569.36	2.01	109.34
10:22:09	11.75	5.57	0.00	42.57	0.00	482.14	2.01	110.22
10:22:39	12.04	5.43	0.00	42.46	0.00	428.29	2.19	110.94
10:23:09	11.74	5.53	0.00	43.31	0.00	392.23	1.97	115.54
10:23:39	11.55	5.55	0.00	43.14	0.00	363.56	2.05	105.81
10:24:09	12.16	5.26	0.00	42.81	0.00	336.60	2.01	124.08
10:24:39	12.35	5.16	0.00	42.99	0.00	324.42	1.99	127.85
10:25:08	11.85	5.37	0.00	42.95	0.00	312.89	2.03	133.35
10:25:38	11.98	5.20	0.00	43.16	0.00	302.52	1.84	139.84
10:26:08	12.91	4.85	2.95	41.62	0.00	281.44	1.87	130.70
10:26:38	12.76	5.27	6.92	47.46	0.00	278.43	1.74	142.81

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:27:08	6.05	9.89	15.36	81.35	0.00	306.63	1.90	141.24
10:27:38	4.12	11.50	98.71	93.67	2.16	514.66	2.19	188.41
10:28:08	5.75	10.47	9.78	78.06	6.47	669.62	3.61	145.01
10:28:38	7.34	9.15	0.00	55.91	6.87	649.29	3.39	136.19
10:29:08	8.45	8.25	0.00	42.32	5.57	623.12	4.19	244.47
10:29:38	8.93	7.83	0.00	37.98	4.39	538.66	4.25	391.77
10:30:08	9.17	7.61	0.00	36.54	3.47	436.45	4.25	248.97
10:30:38	9.32	7.47	0.00	35.20	2.56	414.41	4.06	202.76
10:31:08	9.42	7.36	0.00	34.92	1.95	410.69	3.99	189.67
10:31:38	9.71	7.14	0.00	36.11	1.35	411.18	3.84	200.81
10:32:08	10.05	6.86	0.00	37.95	0.89	396.50	3.67	184.53
10:32:38	10.30	6.70	0.00	39.11	0.43	378.54	3.61	171.29
10:33:08	10.37	6.62	0.00	39.44	0.28	371.75	3.45	172.48
10:33:38	10.40	6.59	0.00	39.64	0.22	353.97	3.45	161.92
10:34:08	10.40	6.57	0.00	40.34	0.00	343.78	3.26	155.32
10:34:37	10.52	6.47	0.00	41.19	0.00	326.20	3.22	142.93
10:35:07	10.69	6.35	0.00	41.56	0.00	310.98	3.18	147.33
10:35:37	10.79	6.28	0.00	41.67	0.00	287.35	3.00	142.26
10:36:07	11.20	6.05	0.07	44.23	0.00	270.08	2.92	143.14
10:36:37	10.30	7.40	1.03	54.66	0.00	267.32	2.82	147.05
10:37:07	6.46	10.58	0.00	92.25	0.39	333.41	2.82	139.95
10:37:37	4.44	11.60	0.00	92.30	4.71	389.23	3.18	129.92
10:38:07	6.13	10.26	0.00	86.50	9.21	421.49	3.74	133.10
10:38:37	10.45	8.02	0.00	72.23	9.37	445.73	4.19	156.40
10:39:07	9.11	8.70	1.90	82.23	7.86	410.24	4.18	132.81
10:39:37	6.96	9.37	0.00	81.72	7.23	363.11	4.17	107.74
10:40:07	7.12	9.18	0.00	77.31	6.61	334.16	4.15	99.13
10:40:37	7.50	8.86	0.00	71.59	5.66	311.46	4.06	95.83
10:41:07	8.04	8.40	0.00	58.34	4.69	283.80	3.85	92.34
10:41:37	8.58	8.00	3.70	48.50	3.83	264.08	3.80	107.37
10:42:07	8.86	7.78	4.01	43.68	3.08	247.89	3.51	117.26
10:42:37	9.09	7.61	3.55	40.46	2.39	238.06	3.34	153.17
10:43:07	9.24	7.50	4.00	38.92	1.89	232.65	3.30	181.47
10:43:37	9.40	7.36	3.97	38.12	1.38	235.01	3.20	195.19
10:44:06	9.61	7.20	4.05	38.38	0.98	232.72	3.08	185.11
10:44:36	9.82	7.04	4.61	39.90	0.72	227.51	2.99	137.37
10:45:06	9.95	6.93	4.22	41.30	0.30	218.42	2.89	111.05
10:45:36	10.09	6.82	4.21	43.22	0.29	211.03	2.78	89.85
10:46:06	10.41	6.91	5.00	52.02	0.00	203.18	2.89	82.91
10:46:36	7.75	9.70	6.59	82.18	0.02	205.90	2.86	86.16
10:47:06	3.97	12.68	41.49	99.87	4.65	217.77	2.93	150.54
10:47:36	6.34	11.29	23.70	112.21	20.39	332.65	3.58	163.67
10:48:06	9.17	9.55	3.98	100.30	22.54	406.84	3.52	160.49
10:48:36	10.86	8.03	4.99	74.11	17.30	388.09	3.77	142.80

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
10:49:06	9.01	8.56	8.99	75.02	13.48	329.25	3.79	121.18
10:49:36	7.91	8.71	3.72	68.68	10.94	285.14	3.61	105.05
10:50:06	8.28	8.35	3.73	56.06	9.61	259.49	3.74	84.99
10:50:36	8.81	7.92	3.79	46.04	8.58	242.54	3.47	76.54
10:51:06	8.98	7.91	3.93	50.42	7.52	225.43	3.38	56.15
10:51:36	8.44	8.28	4.26	58.76	7.25	211.99	3.22	56.76
10:52:06	8.53	8.20	4.85	55.96	7.60	206.23	3.29	64.66
10:52:36	8.81	7.96	4.92	47.17	8.21	200.35	3.08	62.03
10:53:05	8.82	7.99	4.77	50.18	7.93	196.18	2.75	55.31
10:53:35	9.28	7.53	6.23	42.25	7.91	192.77	2.32	46.12
10:54:05	10.24	6.93	5.59	36.78	7.09	192.64	2.92	48.94
10:54:35	10.49	6.75	6.00	34.77	6.08	191.80	2.56	77.94
10:55:05	10.61	6.65	4.78	32.77	5.25	193.13	2.41	83.39
10:55:35	10.65	6.60	5.06	35.71	5.00	190.24	2.33	73.68
10:56:05	11.63	6.44	4.74	46.80	3.28	185.14	2.39	56.53
10:56:35	8.82	9.42	7.56	72.23	4.78	168.47	2.24	40.37
10:57:05	7.18	10.53	11.31	100.85	11.47	204.58	2.24	52.93
10:57:35	9.74	9.09	4.61	96.07	17.28	308.63	2.39	56.35
10:58:05	12.62	6.23	3.81	46.52	11.58	386.58	2.11	50.63
10:58:35						394.53		44.36
10:59:05						366.63		42.50
10:59:35						359.48		36.49
11:00:05	10.77	6.84	5.33	49.77	3.72	366.01	2.31	51.54
11:00:35	9.92	7.29	4.17	46.61	5.89	362.44	2.19	67.13
11:01:05	9.55	7.62	4.51	50.38	5.72	356.41	2.98	62.62
11:01:35	8.53	8.16	3.74	53.13	6.40	367.19	2.56	64.69
11:02:04	7.32	5.99	8.04	26.70	6.54	356.54	2.52	69.68
11:02:34	1.48	1.11	15.53	1.00	3.02	343.99	1.65	43.79
11:03:04	0.42	0.18	7.81	0.64	0.00	328.90	4.32	27.12
11:03:34	1.95	2.57	6.80	22.61	0.00	326.98	0.55	40.00
11:04:04	7.37	6.55	5.26	39.32	1.94	315.42	0.11	45.76
11:04:34	9.03	7.19	3.84	39.54	3.31	303.74	0.02	45.58
11:05:04	9.49	7.25	4.27	38.67	2.89	288.69	3.48	54.17
11:05:34	9.61	7.21	3.88	38.90	2.62	279.70	4.33	37.72
11:06:04	9.90	7.12	4.25	46.78	2.46	277.15	3.60	37.57
11:06:34	7.66	10.11	47.76	86.51	5.41	275.26	3.11	39.85
11:07:04	1.70	13.87	4533.28	111.18	133.20	333.89	3.04	329.35
11:07:34	0.00	15.05	20238.32	117.44	773.32	569.80	2.90	
11:08:04	0.20	15.87	10455.94	130.83	746.24	777.90	33.53	
11:08:43	1.94	14.74	1313.21	141.87	294.80	841.14	160.78	
11:09:13	6.14	11.45	115.12	133.54	62.96	885.17	0.00	
11:09:43	8.37	9.77	8.67	115.67	27.97	831.73	97.08	620.96
11:10:12	9.59	8.82	5.96	96.38	16.06	788.50	59.44	315.05
11:10:42	10.39	8.12	6.65	77.28	10.84	766.87	43.94	162.57

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:11:12	11.48	7.30	15.76	53.36	7.32	745.58	35.39	107.59
11:11:42	12.37	6.86	45.47	54.25	4.61	698.46	29.96	72.79
11:12:12	8.25	8.65	42.28	71.31	5.05	621.75	26.30	73.46
11:12:42	7.35	9.01	15.18	70.31	4.32	570.53	24.15	59.25
11:13:12	8.91	7.86	15.04	50.37	3.46	561.68	22.91	62.95
11:13:42	12.59	6.54	68.42	47.57	0.62	602.90	22.43	68.44
11:14:12	9.11	8.09	83.64	53.32	2.67	561.53	21.78	98.82
11:14:42	8.30	8.39	14.76	49.16	2.18	459.46	19.74	55.28
11:15:12	8.34	8.33	7.71	46.93	2.08	455.99	17.77	71.54
11:15:42	8.47	8.18	5.50	44.84	1.46	1162.75	17.72	56.70
11:16:12	8.71	7.97	5.48	45.91	1.32	676.49	17.56	33.56
11:16:42	7.37	10.15	64.52	126.12	1.59	508.61	16.96	35.71
11:17:12	3.61	13.72	880.62	271.55	31.80	591.11	15.71	111.17
11:17:42	1.15	14.92	5789.30	276.27	385.36	784.21	47.35	1245.96
11:18:12	5.26	12.02	1018.40	201.67	154.43	810.24	195.76	1287.32
11:18:42	7.90	10.04	31.31	133.83	39.77	817.22	139.32	666.86
11:19:12	9.80	8.52	10.50	81.90	15.12	743.24	12.39	361.06
11:19:42	11.32	7.34	40.78	59.25	6.73	678.33	7.85	245.68
11:20:12	12.74	6.47	180.53	54.03	1.90	592.73	6.11	157.56
11:20:42	9.26	8.04	220.36	57.81	4.25	501.53	5.31	112.91
11:21:12	8.29	8.37	31.43	54.01	3.02	436.66	4.59	70.63
11:21:42	8.35	8.27	13.25	51.55	1.96	396.76	4.16	45.40
11:22:12	8.55	8.09	10.10	49.28	1.34	377.41	4.07	41.49
11:22:42	8.73	7.96	7.97	46.44	1.38	359.67	3.80	36.81
11:23:12	9.00	7.73	5.98	45.63	1.12	348.39	3.42	27.72
11:23:41	9.13	7.63	4.94	44.59	0.73	333.11	3.39	28.06
11:24:11	9.24	7.55	4.55	43.42	0.39	320.91	3.31	26.17
11:24:41	9.32	7.47	4.64	42.70	0.50	304.72	3.01	38.01
11:25:11	9.36	7.41	4.73	41.18	0.33	296.73	2.99	44.31
11:25:41	9.37	7.37	6.20	40.51	0.18	286.53	2.88	60.18
11:26:11	9.47	7.29	5.25	41.51	0.00	280.41	2.74	66.97
11:26:41	9.61	8.01	10.32	70.67	0.00	269.12	2.73	45.41
11:27:11	4.33	13.28	911.68	133.87	19.59	274.19	2.74	164.80
11:27:41	0.88	15.22	5542.90	124.75	188.46	352.56	2.72	1006.25
11:28:11	1.09	15.11	3249.09	153.94	250.62	452.16	94.19	1621.24
11:28:41	3.71	13.16	328.83	180.99	77.59	545.38	265.43	1298.90
11:29:11	5.76	11.64	18.26	178.41	22.31	594.52	13.95	609.30
11:29:41	7.21	10.51	4.35	158.25	9.84	583.21	6.78	296.97
11:30:11	8.38	9.61	3.90	141.09	5.29	540.50	5.21	181.37
11:30:41	9.28	8.96	4.12	120.27	3.17	514.56	4.49	138.35
11:31:11	9.91	8.48	6.02	96.17	1.80	511.79	3.97	133.55
11:31:41	10.43	8.09	12.13	79.42	1.07	515.11	3.65	137.07
11:32:11	10.86	7.73	27.01	64.19	0.49	500.35	3.29	114.05
11:32:40	11.38	7.19	83.75	57.67	0.00	479.27	3.20	62.11

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:33:10	9.60	8.56	140.81	82.76	0.86	425.18	3.22	50.83
11:33:40	7.27	8.78	38.94	73.55	1.21	371.92	3.20	36.57
11:34:10	11.19	7.04	42.01	48.63	0.00	385.63	2.95	26.57
11:34:40	12.33	6.75	202.57	58.64	0.00	402.10	3.12	40.48
11:35:10	8.48	8.45	164.64	70.73	1.38	356.38	2.96	48.15
11:35:40	7.69	8.73	36.06	68.38	0.75	327.76	3.04	33.65
11:36:10	8.81	7.64	34.75	52.71	0.32	316.32	2.72	33.93
11:36:40	12.70	6.05	182.25	48.14	0.00	337.43	3.06	44.17
11:37:10	7.28	11.60	680.04	116.69	6.77	319.90	2.97	112.37
11:37:40	1.88	15.38	2787.87	136.33	88.45	356.62	3.18	668.17
11:38:10	2.73	14.74	1009.91	148.52	96.30	575.52	102.82	819.72
11:38:40	3.75	14.15	42.65	157.58	26.17	733.14	154.71	437.38
11:39:10	4.75	13.00	2.42	157.22	12.48	796.54	6.84	211.26
11:39:40	6.26	11.53	2.30	135.21	9.27	791.08	5.02	113.10
11:40:10	7.81	10.36	2.76	112.33	6.99	717.99	4.37	66.87
11:40:40	8.62	9.72	6.46	97.58	5.03	643.19	4.32	41.03
11:41:10	9.20	9.18	12.39	80.64	4.17	621.37	3.95	27.45
11:41:40	9.83	8.61	29.60	62.28	3.40	603.58	3.62	28.30
11:42:10	10.46	8.09	61.05	50.69	2.82	591.13	3.46	30.45
11:42:39	11.00	7.62	130.42	44.61	2.93	562.83	3.40	41.55
11:43:09	11.54	7.02	271.45	42.25	2.55	524.67	3.23	96.31
11:43:39	9.78	8.47	383.06	56.74	4.67	457.02	3.34	150.50
11:44:09	7.16	9.14	136.41	56.87	4.56	399.32	3.57	170.65
11:44:39	9.72	7.39	95.76	41.40	2.36	390.68	3.62	109.70
11:45:09	12.23	6.47	265.57	42.06	0.19	406.82	3.10	74.64
11:45:39	9.84	8.05	330.38	50.51	2.09	371.67	3.21	68.57
11:46:09	7.94	8.51	101.36	48.66	1.59	321.36	3.24	51.38
11:46:39	8.27	7.90	53.23	50.28	0.75	304.95	3.00	40.99
11:47:09	10.46	8.69	33.09	177.57	0.00	299.92	2.89	30.21
11:47:39	5.10	13.42	526.05	274.18	30.06	518.46	2.79	76.96
11:48:09	2.46	14.85	886.53	242.54	106.80	633.39	2.85	368.25
11:48:39	4.12	13.05	99.75	197.01	32.82	650.20	100.64	287.12
11:49:09	6.27	11.38	5.71	156.81	9.87	609.57	8.23	251.19
11:49:39	7.93	10.06	4.97	121.48	3.43	582.55	4.78	272.10
11:50:09	9.13	9.15	10.13	92.44	1.05	530.56	4.15	213.57
11:50:39	9.87	8.51	23.80	69.16	0.37	495.38	3.66	107.64
11:51:09	10.63	7.89	44.02	51.39	0.00	464.03	3.33	56.13
11:51:39	11.26	7.40	66.40	44.84	0.00	442.91	3.18	35.78
11:52:08	12.20	6.68	100.86	44.55	0.00	410.95	3.04	34.48
11:52:38	9.53	8.37	95.46	56.65	0.00	361.24	2.99	34.53
11:53:08	7.79	8.78	25.15	56.07	0.00	310.16	2.92	30.62
11:53:38	9.39	7.20	17.53	39.40	0.00	290.32	2.80	29.52
11:54:08	13.01	6.13	100.20	39.51	0.00	297.00	2.69	25.92
11:54:38	9.52	7.83	99.21	47.54	0.00	274.53	2.63	83.86

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
11:55:08	8.44	8.19	19.49	46.44	0.00	249.06	2.52	104.66
11:55:38	8.37	8.15	12.20	45.28	0.00	233.20	2.39	115.06
11:56:08	8.46	7.68	9.98	41.17	0.00	226.27	2.50	130.25
11:56:38	12.61	5.46	50.17	32.14	0.00	217.12	2.54	77.06
11:57:08	11.98	6.55	109.18	55.07	0.00	212.08	2.59	55.13
11:57:38	7.07	11.53	1363.06	111.41	8.73	188.63	2.47	90.90
11:58:08	0.70	15.45	15819.38	123.15	234.48	184.08	2.70	1672.98
11:58:38	.07	16.21	16554.95	148.97	493.67	249.78	99.83	2820.16
11:59:08	2.26	14.45	2323.57	169.89	220.14	331.30	339.28	2597.12
11:59:38	5.10	12.39	137.39	161.58	54.22	424.16	150.82	1443.27
12:00:08	6.95	10.86	11.00	140.53	19.03	479.68	16.39	713.50
12:00:38	8.41	9.73	6.15	121.17	8.17	441.54	9.73	397.82
12:01:07	9.54	8.81	5.88	95.51	3.50	388.89	7.12	265.20
12:01:37	10.58	7.99	7.39	66.73	0.53	359.02	5.70	247.82
12:02:07	11.40	7.42	11.54	50.26	0.00	337.71	4.95	266.68
12:02:37	11.94	6.98	13.74	42.67	0.00	309.87	4.02	155.70
12:03:07	12.88	6.44	27.81	44.84	0.00	292.72	3.60	70.83
12:03:37	9.63	8.11	33.35	59.67	0.00	258.66	3.50	44.60
12:04:07	8.32	8.41	8.30	59.28	0.00	224.36	3.08	22.45
12:04:37	10.28	6.60	8.72	40.91	0.00	207.99	3.08	18.73
12:05:07	13.48	5.93	49.54	42.62	0.00	208.90	2.90	12.89
12:05:37	9.88	7.62	39.79	53.59	0.00	203.35	2.78	28.97
12:06:07	8.88	7.91	7.56	51.90	0.00	185.05	2.48	20.27
12:06:37	8.77	7.80	5.65	47.69	0.00	176.46	2.60	11.75
12:07:07	11.44	5.78	15.39	33.50	0.00	172.98	2.42	41.05
12:07:37	13.32	6.77	62.64	68.05	0.00	181.13	2.57	63.24
12:08:07	5.75	12.52	341.09	144.49	3.85	161.56	2.50	112.86
12:08:37	5.43	12.72	167.27	176.94	7.57	177.36	2.33	196.58
12:09:07	7.20	11.01	6.93	129.49	1.07	221.18	11.90	238.51
12:09:37	9.10	9.40	3.00	85.94	0.00	228.51	2.56	192.12
12:10:07	10.47	8.30	5.05	62.54	0.00	218.68	2.49	101.87
12:10:37	11.29	7.57	10.28	52.06	0.00	212.68	2.35	57.23
12:11:07	11.45	7.75	22.73	58.42	0.00	205.15	2.41	32.97
12:11:37	8.19	8.92	12.50	64.67	0.00	183.67	2.26	23.62
12:12:06	9.09	7.48	6.68	48.76	0.00	178.47	2.31	15.43
12:12:36	12.79	6.29	28.62	49.31	0.00	195.29	2.48	8.33
12:13:06	10.06	8.17	39.59	68.38	0.00	197.17	2.32	8.58
12:13:36	8.17	8.57	12.98	66.35	0.00	181.47	2.36	11.97
12:14:06	9.64	6.98	11.21	46.98	0.00	175.69	2.16	27.90
12:14:36	13.57	5.76	54.82	42.48	0.00	196.02	2.50	56.48
12:15:06	10.39	7.43	52.90	51.99	0.00	192.23	2.36	101.48
12:15:36	9.15	7.81	9.53	50.27	0.00	175.67	2.22	103.92
12:16:06	9.00	7.79	5.96	50.12	0.00	167.48	2.01	70.21
12:16:36	9.03	7.72	5.38	47.95	0.00	162.43	2.43	33.64

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:17:06	11.44	5.63	12.60	33.45	0.00	161.43	2.27	17.82
12:17:36	13.55	5.70	64.86	53.12	0.00	163.56	2.45	20.16
12:18:06	8.40	10.97	2502.61	114.23	9.91	161.03	2.22	57.42
12:18:36	2.56	14.83	8697.44	151.93	133.58	175.98	2.05	1604.38
12:19:06	2.72	15.11	603.13	184.63	53.86	246.97	181.14	1326.88
12:19:36	4.45	13.32	23.59	188.20	13.60	339.98	58.41	717.13
12:20:06	6.27	11.75	4.63	176.35	4.10	373.38	9.62	461.80
12:20:36	7.71	10.76	2.95	164.34	1.23	361.65	5.71	335.72
12:21:06	8.53	10.08	2.68	144.91	0.29	337.79	4.38	260.74
12:21:35	9.17	9.60	3.86	125.04	0.00	309.68	3.89	153.08
12:22:05	9.52	9.32	4.36	115.93	0.00	305.04	3.47	86.51
12:22:35	9.82	9.00	6.68	108.49	0.00	298.10	2.91	38.44
12:23:05	10.21	8.70	9.63	99.96	0.00	294.90	2.96	36.55
12:23:35	10.54	8.38	14.90	92.15	0.00	294.59	2.81	28.51
12:24:05	10.80	8.15	24.94	85.66	0.00	314.18	2.64	56.51
12:24:35	11.33	8.01	50.50	88.80	0.00	331.06	2.75	146.29
12:25:05	7.79	9.59	49.17	103.85	1.10	295.51	2.72	148.32
12:25:35	9.47	8.15	20.90	80.68	0.00	289.76	2.48	91.69
12:26:05	11.39	7.37	45.55	66.93	0.00	315.08	2.57	45.43
12:26:35	11.45	7.91	118.69	83.13	0.00	301.56	2.44	32.03
12:27:05	7.80	9.29	70.12	90.68	1.77	257.38	2.45	28.92
12:27:35	9.46	7.68	35.75	67.78	0.00	250.48	2.81	17.90
12:28:05	12.30	6.36	73.72	58.23	0.00	271.77	2.63	9.33
12:28:35	9.02	11.49	1637.37	164.50	14.93	233.91	2.52	49.07
12:29:05	1.16	14.84	15013.20	187.13	314.73	178.71	2.37	1246.77
12:29:35	0.00	15.94	22566.49	199.06	627.82	226.38	116.99	2812.11
12:30:05	0.48	15.98	6838.57	231.72	435.67	272.98	331.74	2820.40
12:30:35	2.90	14.15	1608.19	228.22	123.49	288.41	264.67	2820.54
12:31:05	4.82	12.80	176.10	218.06	27.53	351.36	21.22	2104.89
12:31:35	6.11	11.70	12.32	198.57	4.75	403.29	9.25	1211.55
12:32:05	7.36	10.69	5.27	172.70	0.00	397.90	6.57	757.32
12:32:35	8.48	9.84	4.44	148.87	0.00	373.21	5.10	447.76
12:33:05	9.36	9.19	6.19	128.88	0.00	346.96	4.25	243.61
12:33:35	10.06	8.64	7.56	110.21	0.00	334.83	3.69	137.13
12:34:04	10.54	8.23	8.98	96.85	0.00	317.42	3.45	83.57
12:34:34	11.00	7.86	11.54	76.48	0.00	304.08	3.08	47.65
12:35:04	11.47	7.49	12.56	63.39	0.00	294.78	3.02	42.85
12:35:34	11.84	7.19	21.07	55.40	0.00	282.40	2.82	28.12
12:36:04	12.12	6.82	31.45	50.74	0.00	267.24	2.76	20.36
12:36:34	11.27	8.02	40.98	72.27	0.00	246.34	2.66	23.22
12:37:04	7.97	8.52	14.77	65.70	0.00	216.49	2.56	57.84
12:37:34	11.18	6.70	16.47	49.75	0.00	223.15	2.76	72.24
12:38:04	12.12	9.02	170.57	113.11	0.00	229.99	2.37	86.16
12:38:34	4.69	13.67	1327.52	171.27	31.49	396.81	2.27	314.32

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
12:39:04	2.52	14.97	418.28	198.72	54.51	1171.74	90.78	464.49
12:39:34	3.69	13.47	55.83	208.04	11.92	1697.20	13.36	276.87
12:40:04	5.47	11.96	3.55	197.49	0.00	1502.45	3.86	154.72
12:40:34	7.05	10.67	2.79	169.54	0.00	1359.18	3.80	93.39
12:41:04	8.26	9.85	5.17	141.82	0.00	1260.63	3.37	49.28
12:41:34	8.93	9.37	9.85	125.70	0.00	1178.57	3.33	34.02
12:42:04	9.57	8.88	18.23	103.40	0.00	1152.71	3.06	25.52
12:42:34	10.04	8.54	27.99	91.17	0.00	1132.31	2.93	21.76
12:43:04	10.54	8.09	38.71	77.20	0.00	1111.51	2.91	37.75
12:43:33	10.98	7.79	53.47	67.42	0.00	1064.24	3.02	62.37
12:44:03	11.27	7.55	65.93	62.66	0.00	1028.69	2.93	89.33
12:44:33	11.41	7.62	68.06	73.81	0.00	982.03	2.86	118.01
12:45:03	11.68	7.28	63.65	60.86	0.00	875.45	2.91	144.79
12:45:33	9.51	8.73	51.91	67.61	0.00	667.80	2.60	99.02
12:46:03	8.61	7.75	22.89	53.69	0.00	526.12	2.58	64.89
12:46:33	12.56	5.92	49.86	42.35	0.00	512.43	2.49	34.83
12:47:03	12.01	7.27	74.20	53.73	0.00	470.60	2.47	26.00
12:47:33	9.76	7.61	17.33	78.11	0.00	385.70	2.40	29.56
12:48:03	7.04	11.99	25.34	199.97	3.55	377.30	2.15	18.75
12:48:33	3.80	15.04	164.38	219.17	56.25	748.89	1.66	28.98
12:49:03	2.90	14.39	96.17	249.78	57.18	854.19	3.21	57.02
12:49:33	4.80	12.71	8.93	250.37	15.65	772.21	3.29	61.26
12:50:03	6.27	11.45	3.67	232.73	5.89	711.01	2.54	83.93
12:50:33	7.54	10.46	4.52	202.86	3.32	678.65	2.87	98.65
12:51:03	8.36	9.85	7.78	182.65	1.97	669.83	2.74	115.14
12:51:33	8.95	9.39	10.87	160.32	1.05	639.95	2.52	106.44
12:52:03	9.57	8.87	17.04	130.18	0.44	603.99	2.59	78.09
12:52:33	10.11	8.43	35.40	106.05	0.29	589.19	2.46	52.25
12:53:03	10.74	7.90	78.11	81.83	0.47	587.14	2.17	41.33
12:53:33	11.37	7.39	169.95	69.61	2.61	596.89	1.99	29.86
12:54:03	11.95	6.95	271.62	60.55	0.37	569.36	2.15	22.25
12:54:33	12.35	6.58	395.61	55.96	2.39	532.70	2.56	17.18
12:55:02	12.97	6.52	492.86	54.40	0.00	489.42	3.31	19.66
12:55:32	9.60	8.25	317.21	61.99	2.13	430.82	2.79	34.87
12:56:02	8.10	8.00	87.30	53.90	0.00	385.90	2.88	53.84
12:56:32	11.75	6.05	148.85	43.20	0.00	406.19	2.38	93.18
12:57:02	13.51	6.02	286.80	47.85	0.00	429.43	2.32	94.27
12:57:32	10.11	7.51	132.78	55.06	0.00	383.67	2.29	112.41
12:58:02	9.35	8.00	28.96	69.01	0.00	339.03	2.69	101.04
12:58:32	5.53	13.04	5520.07	133.83	71.02	324.38	2.15	130.07
12:59:02	0.11	14.93	29822.39	154.40	796.44	299.76	1.97	2292.45
12:59:32	0.22	15.30	16594.67	148.60	830.11	447.75	187.28	2819.17
13:00:02	2.67	13.74	3521.67	145.95	224.75	509.11	272.21	2819.84
13:00:32	3.93	13.34	629.75	148.55	63.71	563.98	28.00	2758.75

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:01:02	5.19	12.35	54.70	145.68	26.01	610.94	10.97	1805.91
13:01:32	6.21	11.57	7.98	139.07	12.93	572.05	7.47	1012.77
13:02:02	7.16	10.68	5.54	134.38	6.73	576.32	5.30	589.61
13:02:32	8.17	9.87	4.68	125.49	3.10	578.46	4.50	394.79
13:03:02	8.91	9.27	5.49	116.65	0.74	562.21	4.15	285.82
13:03:32	9.53	8.69	5.93	108.44	0.00	532.62	3.86	233.45
13:04:02	10.21	8.14	7.76	97.76	0.00	518.37	3.79	225.87
13:04:32	10.86	7.60	7.10	89.27	0.00	488.06	3.02	164.67
13:05:01	11.42	7.22	8.72	76.56	0.00	470.23	3.17	115.50
13:05:31	11.84	6.91	13.19	67.46	0.00	441.45	2.97	77.85
13:06:01	12.15	6.67	21.32	60.08	0.00	426.66	2.79	70.66
13:06:31	12.54	6.30	37.11	48.35	0.00	412.30	2.76	45.62
13:07:01	12.96	5.97	47.69	40.45	0.00	408.53	2.65	51.86
13:07:31	13.53	5.41	66.77	34.22	0.00	397.27	2.48	55.24
13:08:01	12.46	7.08	77.38	45.75	0.00	382.36	2.11	88.78
13:08:31	9.37	7.74	18.33	45.42	0.00	344.41	2.23	139.75
13:09:01	10.85	6.09	15.45	42.91	0.00	334.17	2.64	139.52
13:09:31	13.58	6.84	54.35	78.83	0.00	344.61	2.21	149.01
13:10:01	7.57	11.49	421.62	125.82	7.70	410.50	1.96	153.54
13:10:31	6.92	11.34	157.18	138.66	5.00	714.57	7.72	167.63
13:11:01	7.91	10.07	9.12	123.13	0.00	855.31	8.06	116.77
13:11:31	9.56	8.77	5.72	102.46	0.00	798.34	2.53	92.28
13:12:01	10.80	7.87	6.07	87.34	0.00	702.64	2.39	60.85
13:12:31	11.69	7.16	6.70	64.75	0.00	625.65	2.41	68.31
13:13:01	12.43	6.64	13.98	51.38	0.00	587.86	2.48	48.47
13:13:31	12.93	6.11	27.29	43.61	0.00	566.41	2.35	247.57
13:14:01	12.52	7.39	46.38	58.55	0.00	482.52	2.08	249.43
13:14:31	8.89	8.33	18.14	55.23	0.00	386.70	2.28	192.59
13:15:01	10.42	6.38	12.79	36.28	0.00	367.75	1.75	146.57
13:15:31	13.45	5.66	44.26	35.30	0.00	396.31	1.68	118.09
13:16:00	11.49	7.50	53.18	47.34	0.00	361.72	1.72	93.54
13:16:30	9.10	7.96	11.53	47.55	0.00	309.62	1.84	65.70
13:17:00	9.63	6.45	9.50	33.54	0.00	288.59	1.80	63.32
13:17:30	13.68	5.16	52.78	30.43	0.00	304.12	1.77	52.71
13:18:00	11.95	6.96	59.11	42.48	0.00	295.06	1.83	63.46
13:18:30	9.72	7.40	8.08	44.66	0.00	261.17	1.52	67.85
13:19:00	9.40	7.35	4.01	44.39	0.00	244.95	1.89	59.80
13:19:30	11.09	5.25	8.99	33.36	0.00	249.77	1.74	63.07
13:20:00	14.09	6.93	18.38	65.83	0.00	253.84	1.85	57.08
13:20:30	7.27	11.70	19.21	101.42	3.69	231.90	1.64	70.69
13:21:00	5.94	11.49	19.06	153.22	7.35	278.21	1.29	75.09
13:21:30	7.17	10.68	7.16	165.74	1.02	317.93	1.77	71.27
13:22:00	8.12	9.86	8.07	139.06	0.00	328.15	1.99	42.03
13:22:30	9.06	9.12	8.74	117.78	0.11	343.66	2.12	47.71

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:23:00	9.80	8.54	11.05	101.14	1.72	348.99	1.91	33.24
13:23:30	10.54	7.87	11.85	81.88	0.00	341.17	1.72	32.18
13:24:00	11.32	7.25	20.03	66.37	0.00	329.30	1.76	33.89
13:24:30	12.03	6.80	34.70	55.13	0.00	316.87	1.81	20.86
13:25:00	12.49	6.43	60.40	49.19	0.00	301.19	1.30	26.62
13:25:30	12.93	6.93	106.42	52.11	0.00	287.98	1.28	23.95
13:26:00	9.08	8.40	53.46	54.90	0.00	253.41	1.56	54.99
13:26:30	10.60	6.44	47.25	37.96	0.00	240.73	1.51	53.29
13:27:00	12.74	5.82	108.87	36.39	0.00	260.21	1.30	41.66
13:27:30	12.16	7.50	151.18	48.61	0.00	258.38	1.33	44.64
13:28:00	8.83	8.28	57.40	48.07	0.00	229.73	1.68	35.83
13:28:29	9.67	6.46	49.32	31.09	0.00	217.60	1.91	23.47
13:28:59	13.22	5.44	130.69	29.71	0.00	234.21	1.60	20.75
13:29:29	11.88	7.31	134.96	42.92	0.00	227.00	1.40	17.70
13:29:59	9.36	7.75	32.43	60.97	0.00	208.00	1.85	24.52
13:30:29	7.42	11.90	654.37	123.47	14.95	182.30	1.26	26.50
13:30:59	5.69	12.41	367.36	134.86	29.89	276.24	0.89	124.14
13:31:29	7.00	10.91	19.57	119.47	9.01	504.45	67.74	106.70
13:31:59	8.25	9.85	11.79	111.99	3.78	661.63	2.53	69.99
13:32:29	9.45	8.88	15.78	105.50	1.85	773.37	2.22	56.73
13:32:59	10.27	8.26	24.60	97.73	0.32	833.78	2.12	50.56
13:33:29	10.90	7.71	33.87	89.92	0.00	815.83	2.41	30.78
13:33:59	11.42	7.32	47.37	81.02	0.00	782.58	2.25	21.61
13:34:29	11.78	7.06	62.73	71.24	0.00	755.84	2.27	17.95
13:34:59	12.09	6.80	85.03	65.52	0.00	748.72	2.15	8.12
13:35:29	12.70	6.67	101.42	63.98	0.00	751.18	2.06	8.96
13:35:59	9.94	8.41	64.75	75.21	0.30	649.72	2.16	12.79
13:36:29	9.40	6.91	25.20	55.13	0.00	575.19	2.17	12.39
13:36:59	12.46	5.92	53.60	49.73	0.00	626.68	2.04	11.51
13:37:29	12.88	6.91	94.44	61.03	0.00	657.55	1.85	4.17
13:37:58	9.28	8.25	35.94	65.68	0.00	555.42	2.07	5.21
13:38:28	9.40	6.69	23.04	47.60	0.00	508.57	1.82	14.11
13:38:58	12.75	5.56	74.64	43.72	0.00	558.89	1.62	14.28
13:39:28	12.43	7.23	101.07	57.72	0.00	588.78	1.97	15.16
13:39:58	9.33	8.60	24.61	75.81	0.00	512.53	2.39	24.93
13:40:28	6.18	12.86	499.23	146.31	32.69	337.90	1.64	22.02
13:40:58	5.14	13.23	265.36	170.67	32.65	256.34	13.45	82.93
13:41:28	5.98	11.99	9.39	163.68	4.04	552.50	49.35	63.25
13:41:58	7.26	10.90	3.38	156.18	0.00	1013.37	2.67	41.19
13:42:28	8.05	10.21	6.39	148.89	0.00	984.56	2.55	32.03
13:42:58	8.76	9.63	10.98	137.19	0.00	851.34	2.46	20.89
13:43:28	9.37	9.12	11.97	127.53	0.00	841.29	2.42	15.05
13:43:58	9.98	8.61	14.80	112.37	0.00	856.87	2.42	23.99
13:44:28	10.50	8.28	19.78	98.18	0.00	871.20	2.49	22.74

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
13:44:58	10.81	8.03	26.27	85.94	0.00	877.10	2.28	22.82
13:45:28	11.05	7.81	37.10	76.32	0.00	890.64	2.59	22.01
13:45:58	11.38	7.56	48.18	69.03	0.00	895.54	2.20	10.60
13:46:28	11.63	7.39	74.35	64.73	0.00	858.42	2.49	13.74
13:46:57	11.79	7.24	101.29	61.93	0.00	819.39	2.19	9.00
13:47:27	12.16	7.10	124.93	58.84	0.00	754.59	2.38	1.09
13:47:57	9.86	8.77	85.87	68.86	0.00	673.83	2.19	6.36
13:48:27	9.33	7.33	59.88	53.41	0.00	598.96	2.39	2.87
13:48:57	11.86	6.74	130.56	51.02	0.00	628.35	1.88	12.29
13:49:27	12.79	6.75	215.73	55.59	0.00	671.33	1.97	9.38
13:49:57	9.70	8.55	128.60	64.65	0.00	642.67	2.39	15.23
13:50:27	8.95	9.43	61.00	99.87	0.00	571.65	2.54	19.30
13:50:57	5.30	14.27	6244.28	133.50	252.80	420.11	2.17	30.93
13:51:27	0.50	15.26	22266.24	130.55	1102.92	195.03	2.13	665.35
13:51:57	0.31	15.92	9520.70	169.40	805.16	173.60	297.56	1617.86
13:52:27	1.37	14.42	3354.23	174.82	284.03	301.12	302.01	1689.28
13:52:57	4.02	12.57	807.64	168.18	80.29	564.47	19.07	1623.74
13:53:27	5.79	11.44	67.51	160.72	28.97	927.16	6.80	1021.49
13:53:57	7.11	10.52	7.43	146.26	13.31	1317.26	4.68	609.70
13:54:27	8.00	9.99	3.70	130.43	6.37	1696.78	3.71	369.35
13:54:56	8.53	9.62	3.78	113.64	2.25	1531.19	3.38	229.07
13:55:26	9.04	9.22	4.10	102.74	0.24	1008.27	3.01	144.89
13:55:56	9.40	8.99	4.69	96.25	0.00	867.45	2.73	95.60
13:56:26	9.75	8.71	5.83	91.39	0.00	856.65	2.61	68.13
13:56:56	9.92	8.69	9.21	88.71	0.00	863.15	2.35	43.26
13:57:26	10.04	8.47	13.20	83.91	0.00	887.11	2.45	36.31
13:57:56	10.32	8.16	19.03	78.57	0.00	875.40	2.29	21.18
13:58:26	10.67	7.87	29.59	74.57	0.00	831.25	2.46	20.57
13:58:56	11.05	7.59	49.13	67.71	0.00	781.41	2.29	7.90
13:59:26	11.34	7.42	67.56	63.04	0.00	744.67	2.04	8.00
13:59:56	11.49	7.28	79.58	64.07	0.00	702.58	2.17	13.89
14:00:26	10.74	10.42	51.47	122.48	0.00	608.22	2.00	18.78
14:00:56	7.93	11.66	17.99	155.37	0.00	544.22	2.08	19.05
14:01:26	7.18	11.24	4.94	150.96	0.00	607.78	2.02	15.75
14:01:56	7.88	10.18	3.98	134.16	0.00	628.35	2.35	17.64
14:02:26	8.99	9.33	4.58	122.04	0.00	599.63	2.00	12.93
14:02:56	9.77	8.91	6.32	114.92	0.00	580.02	2.36	6.99
14:03:26	10.15	8.62	8.89	107.10	0.00	583.48	1.97	7.69
14:03:56	10.49	8.28	12.64	96.88	0.00	579.70	2.26	12.41
14:04:26	10.79	8.07	13.25	91.36	0.00	580.79	2.24	11.74
14:04:55	11.00	7.86	11.71	84.19	0.00	581.46	2.06	10.63
14:05:25	11.32	7.55	11.16	75.61	0.00	579.27	2.04	11.29
14:05:55	11.63	7.30	14.42	69.06	0.00	564.65	1.89	19.67
14:06:25	11.91	7.08	18.99	61.67	0.00	553.26	1.84	14.94

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:06:55	12.14	6.92	27.27	57.11	0.00	553.54	1.76	18.99
14:07:25	12.40	6.62	53.50	52.30	0.00	540.50	1.70	13.07
14:07:55	11.41	8.37	55.77	63.09	0.00	504.09	1.48	9.52
14:08:25	9.25	7.09	21.95	46.01	0.00	451.28	1.83	8.14
14:08:55	12.03	6.25	47.94	40.42	0.00	451.00	1.63	2.32
14:09:25	13.24	6.62	104.98	46.23	0.00	458.51	1.95	7.19
14:09:55	10.04	10.48	164.55	94.67	0.00	418.82	1.45	3.60
14:10:25	4.13	14.78	5746.57	127.95	217.45	264.50	1.73	41.24
14:10:55	1.35	15.83	6143.15	138.48	718.18	134.98	106.00	415.96
14:11:25	1.16	14.95	1798.53	151.60	484.45	125.79	226.27	616.20
14:11:55	2.85	13.60	189.65	155.54	123.26	215.95	36.80	540.54
14:12:25	4.18	12.48	11.02	146.14	39.05	606.70	4.75	340.90
14:12:55	5.33	11.54	3.05	136.07	16.77	1148.79	3.69	212.60
14:13:25	6.27	10.86	2.40	127.25	7.69	1713.44	3.34	122.35
14:13:55	6.99	10.29	1.83	125.79	3.13	2039.48	3.04	73.93
14:14:25	7.66	9.81	1.96	125.16	0.82	2050.45	2.75	49.67
14:14:55	8.22	9.37	1.77	114.71	0.00	2050.45	2.68	29.67
14:15:25	8.64	9.01	2.82	105.18	0.00	1976.82	2.42	18.74
14:15:55	9.13	8.57	4.76	92.37	0.00	2267.59	2.54	17.65
14:16:25	9.52	8.39	5.87	86.63	0.00	2632.32	2.65	0.00
14:16:55	10.14	7.82	11.91	74.54	0.00	2300.91	2.40	7.81
14:17:25	10.72	7.39	21.17	65.39	0.00	2103.45	2.00	8.55
14:17:55	11.24	7.04	39.20	60.01	0.00	1903.14	2.18	12.25
14:18:25	11.66	6.82	64.89	56.49	0.00	1754.80	1.87	4.05
14:18:55	11.96	6.64	100.45	53.44	0.00	1634.99	1.83	0.00
14:19:24	12.25	6.41	141.66	49.10	0.00	1534.95	1.82	2.15
14:19:54	12.51	6.91	168.43	62.98	0.00	1440.15	1.78	0.00
14:20:24	11.09	11.86	335.47	129.22	7.49	1258.36	1.97	0.00
14:20:54	4.66	14.54	3935.53	136.67	274.41	845.33	1.79	21.89
14:21:24	1.65	15.26	3718.99	137.26	557.32	1112.71	103.24	190.40
14:21:54	1.76	13.64	851.40	139.03	236.70	2547.32	143.44	325.62
14:22:24	3.72	12.41	101.07	138.62	64.42	3967.39	7.34	290.20
14:22:54	4.87	11.77	7.82	134.88	24.16	3692.40	3.04	170.68
14:23:24	5.57	11.25	4.13	130.36	11.84	2738.24	2.80	109.85
14:23:54	6.26	10.60	3.36	125.85	6.99	2341.24	2.48	68.35
14:24:24	7.07	9.98	3.16	121.86	4.03	2129.95	2.58	51.20
14:24:54	7.96	9.30	2.71	114.49	2.18	1995.94	2.39	27.79
14:25:24	8.76	8.79	3.07	107.42	0.87	1888.87	2.25	14.06
14:25:54	9.44	8.34	3.22	100.32	0.01	1834.18	2.18	9.44
14:26:24	10.08	7.95	3.07	95.70	0.00	1750.38	2.12	7.44
14:26:54	10.39	7.69	3.14	88.73	0.00	1688.65	2.15	4.61
14:27:24	10.76	7.44	5.53	81.81	0.00	1639.24	1.93	0.81
14:27:54	11.10	7.26	8.27	76.88	0.00	1641.96	2.12	0.00
14:28:24	11.33	7.07	11.60	73.25	0.00	1641.91	1.56	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA FOR AUGUST 28, 1990

TIME	OXYGEN (%V,dry)	CO2 (%V,dry)	CO (ppmV,dry)	NOX (ppmV,dry)	SO2 (ppmV,dry)	HCl (ppmV,dry)	THC (ppmCH4,wet)	CO WET (ppmV,wet)
14:28:54	11.58	6.84	14.65	67.97	0.00	1662.18	1.79	0.00
14:29:24	11.85	6.62	20.41	62.71	0.00	1683.26	1.78	0.00
14:29:53	12.11	7.13	28.18	73.24	0.00	1705.88	2.12	0.00
AVG	9.00	8.71	564.42	84.71	28.26	577.71	12.67	202.99



CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD - AUGUST 19, 1990

08-19-1990 TIME	O2 %V	CO2 %V	CO-lo ppmV	NOx ppmV	SO2hi ppmV	HCl ppmVw	THC ppmCw
16:23:42	18.13	1.58	0.00	23.80	0.00	29.48	2.14
16:24:12	18.04	1.57	0.00	23.27	0.00	25.15	2.08
16:24:42	18.08	1.56	0.00	23.01	0.00	18.77	2.14
16:25:12	18.10	1.56	0.00	23.64	0.00	19.22	2.39
16:25:42	18.11	1.55	0.00	23.24	0.00	12.39	2.28
16:26:12	18.10	1.55	0.00	23.55	0.00	18.46	2.23
16:26:42	18.12	1.55	0.00	23.69	0.00	16.71	2.19
16:27:12	18.10	1.55	0.00	23.30	0.00	16.80	2.16
16:27:41	18.14	1.54	0.00	23.22	0.00	16.37	2.13
16:28:11	18.12	1.53	0.00	23.14	0.00	16.63	2.11
16:28:41	18.15	1.53	0.00	23.06	0.00	18.95	2.09
16:29:11	18.16	1.53	0.00	23.05	0.00	15.21	2.05
16:29:41	18.16	1.53	0.00	23.03	0.00	14.44	2.03
16:30:11	18.16	1.53	0.00	23.17	0.00	15.38	2.00
16:30:41	18.17	1.52	0.00	23.12	0.00	14.98	1.95
16:31:11	18.17	1.52	0.00	23.06	0.00	19.28	1.94
16:31:41	18.20	1.52	0.00	23.01	0.00	14.93	1.92
16:32:11	18.16	1.52	0.00	22.91	0.00	15.68	1.88
16:32:41	18.15	1.52	0.00	22.92	0.00	13.74	1.86
16:33:11	18.19	1.51	0.00	22.98	0.00	16.67	1.84
16:33:41	18.20	1.51	0.00	23.05	0.00	17.39	1.82
16:34:11	18.15	1.51	0.00	22.74	0.00	22.37	1.81
16:34:41	18.17	1.52	0.00	22.74	0.00	23.78	1.78
16:35:11	18.18	1.52	0.00	23.08	0.00	19.02	1.76
16:35:41	18.17	1.52	0.00	23.42	0.00	18.64	1.76
16:36:11	18.20	1.51	0.00	22.84	0.00	17.75	1.76
16:36:41	18.21	1.51	0.00	23.02	0.00	19.68	1.75
16:37:11	18.15	1.51	0.00	22.90	0.00	20.73	1.74
16:37:41	18.19	1.50	0.00	22.92	0.00	24.34	1.74
16:38:10	18.17	1.50	0.00	23.10	0.00	23.40	1.72
16:38:40	18.18	1.50	0.00	23.06	0.00	23.19	1.71
16:39:10	18.21	1.49	0.00	23.05	0.00	22.11	1.69
16:39:40	18.19	1.50	0.00	23.28	0.00	23.76	1.69
16:40:10	18.18	1.50	0.00	22.81	0.00	20.40	1.69
16:40:40	18.14	1.49	0.00	22.64	0.00	24.35	1.66
16:41:10	18.18	1.48	0.00	22.74	0.00	21.59	1.67
16:41:40	18.20	1.49	0.00	22.81	0.00	28.73	1.66
16:42:10	18.21	1.48	0.00	22.88	0.00	24.89	1.68
16:42:40	18.14	1.49	0.00	23.15	0.00	25.36	1.65
16:43:10	18.16	1.49	0.00	22.57	0.00	26.72	1.64
16:43:40	18.17	1.49	0.00	22.94	0.00	24.19	1.63
16:44:10	18.22	1.48	0.00	22.92	0.00	18.83	1.61
16:44:40	18.19	1.48	0.00	22.83	0.00	26.01	1.63
16:45:10	18.17	1.48	0.00	22.50	0.00	28.18	1.60
16:45:40	18.21	1.48	0.00	22.69	0.00	22.61	1.59

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD - AUGUST 19, 1990

08-19-19902	CO2	CO-lo	NOx	SO2hi	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
16:46:10	18.14	1.48	0.00	22.86	0.00	27.61	1.61
16:46:40	18.21	1.48	0.00	22.66	0.00	27.89	1.56
16:47:10	18.20	1.48	0.00	22.28	0.00	28.71	1.57
16:47:40	18.16	1.48	0.00	22.40	0.00	29.62	1.57
16:48:09	18.15	1.49	0.00	22.31	0.00	40.86	1.55
16:48:39	18.16	1.50	0.00	21.59	0.00	29.34	1.54
16:49:09	18.17	1.51	0.00	21.66	0.00	28.71	1.53
16:49:39	18.17	1.51	0.00	21.53	0.00	29.94	1.54
16:50:09	18.16	1.50	0.00	21.83	0.00	28.74	1.53
16:50:39	18.16	1.50	0.00	21.73	0.00	22.46	1.55
16:51:09	18.17	1.49	0.00	21.76	0.00	27.14	1.53
16:51:39	18.17	1.49	0.00	21.70	0.00	29.12	1.51
16:52:09	18.17	1.49	0.00	21.44	0.00	29.11	1.53
16:52:39	18.17	1.49	0.00	21.86	0.00	29.16	1.50
16:53:09	18.17	1.49	0.00	21.93	0.00	31.80	1.52
16:53:39	18.17	1.49	0.00	21.80	0.00	30.25	1.53
16:54:09	18.18	1.48	0.00	21.83	0.00	27.63	1.49
16:54:39	18.20	1.48	0.00	21.51	0.00	27.66	1.50
16:55:09	18.14	1.48	0.00	21.66	0.00	30.18	1.49
16:55:39	18.17	1.48	0.00	21.65	0.00	28.90	1.49
16:56:09	18.17	1.48	0.00	21.56	0.00	39.03	1.49
16:56:39	18.20	1.47	0.00	21.45	0.00	30.99	1.51
16:57:08	18.19	1.48	0.00	21.60	0.00	32.12	1.52
16:57:38	18.18	1.48	0.00	21.76	0.00	29.76	1.54
16:58:08	18.15	1.47	0.00	21.52	0.00	30.23	1.56
16:58:38	18.21	1.47	0.00	21.42	0.00	28.64	1.57
16:59:08	18.17	1.47	0.00	21.32	0.00	31.68	1.58
16:59:38	18.16	1.47	0.00	21.26	0.00	29.23	1.59
17:00:08	18.18	1.47	0.00	21.43	0.00	29.89	1.59
17:00:38	18.22	1.46	0.00	21.10	0.00	32.58	1.61
17:01:08	18.17	1.45	0.00	20.88	0.00	28.24	1.62
17:01:38	18.18	1.46	0.00	20.80	0.00	35.99	1.63
17:02:08	18.18	1.48	0.00	21.15	0.00	21.55	1.64
17:02:38	18.20	1.48	0.00	21.07	0.00	41.65	1.62
17:03:08	18.18	1.48	0.00	21.02	0.00	23.08	1.65
17:03:38	18.18	1.47	0.00	21.20	0.00	31.88	1.62
17:04:08	18.15	1.47	0.00	20.66	0.00	31.82	1.66
17:04:38	18.17	1.47	0.00	20.83	0.00	28.02	1.62
17:05:08	18.16	1.47	0.00	21.31	0.00	31.27	1.62
17:05:38	18.18	1.47	0.00	21.22	0.00	33.96	1.63
17:06:08	18.20	1.47	0.00	21.19	0.00	29.70	1.62
17:06:38	18.16	1.47	0.00	20.80	0.00	34.33	1.65
17:07:08	18.16	1.47	0.00	20.99	0.00	35.49	1.65
17:07:38	18.16	1.47	0.00	21.03	0.00	38.45	1.66
17:08:07	18.20	1.46	0.00	21.05	0.00	35.55	1.63

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD - AUGUST 19, 1990

08-19-19902	CO2	CO-lo	NOx	SO2hi	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmV	ppmCw
17:08:37	18.18	1.47	0.00	20.88	0.00	32.69	1.62
17:09:07	18.15	1.46	0.00	20.56	0.00	33.14	1.62
17:09:37	18.16	1.46	0.00	20.47	0.00	34.81	1.61
17:10:07	18.19	1.45	0.00	20.41	0.00	36.53	1.62
17:10:37	18.17	1.45	0.00	20.43	0.00	31.84	1.62
17:11:07	18.17	1.45	0.00	20.07	0.00	33.03	1.60
17:11:37	18.17	1.46	0.00	20.33	0.00	31.94	1.61
17:12:07	18.18	1.46	0.00	20.40	0.00	34.58	1.59
17:12:37	18.20	1.46	0.00	20.34	0.00	33.22	1.61
17:13:07	18.20	1.45	0.00	20.55	0.00	34.36	1.58
17:13:37	18.16	1.45	0.00	20.35	0.00	32.37	1.57
17:14:07	18.19	1.44	0.00	20.31	0.00	35.85	1.55
17:14:37	18.19	1.45	0.00	20.47	0.00	30.80	1.55
17:15:07	18.17	1.44	0.00	20.33	0.00	35.59	1.55
17:15:37	18.20	1.44	0.00	20.28	0.00	31.58	1.55
17:16:07	18.17	1.44	0.00	20.27	0.00	30.68	1.55
17:16:37	18.20	1.44	0.00	20.07	0.00	34.31	1.52
17:17:07	18.16	1.45	0.00	20.43	0.00	31.19	1.50
17:17:37	18.20	1.44	0.00	20.24	0.00	17.93	1.53
17:18:06	18.20	1.44	0.00	20.48	0.00	23.87	1.48
17:18:36	18.17	1.44	0.00	20.05	0.00	31.41	1.50
17:19:06	18.18	1.44	0.00	20.12	0.00	33.39	1.51
17:19:36	18.19	1.44	0.00	20.30	0.00	32.23	1.47
17:20:06	18.17	1.43	0.00	20.19	0.00	35.89	1.51
17:20:36	18.20	1.43	0.00	20.21	0.00	33.64	1.50
17:21:06	18.20	1.43	0.00	19.96	0.00	30.62	1.50
17:21:36	18.21	1.43	0.00	20.01	0.00	34.78	1.54
17:22:06	18.18	1.43	0.00	19.91	0.00	31.69	1.51
17:22:36	18.19	1.43	0.00	19.87	0.00	34.39	1.54
17:23:06	18.20	1.43	0.00	20.27	0.00	34.02	1.56
17:23:36	18.18	1.43	0.00	20.09	0.00	29.80	1.61
17:24:06	18.18	1.43	0.00	19.80	0.00	34.27	1.62
17:24:36	18.20	1.42	0.00	20.10	0.00	33.19	1.61
17:25:06	18.22	1.42	0.00	19.95	0.00	28.41	1.60
17:25:36	18.23	1.43	0.00	20.06	0.00	33.68	1.59
17:26:06	18.22	1.42	0.00	19.67	0.00	31.88	1.64
17:26:36	18.21	1.42	0.00	19.76	0.00	32.56	1.66
17:27:06	18.23	1.42	0.00	20.02	0.00	32.39	1.63
17:27:36	18.21	1.42	0.00	19.83	0.00	31.36	1.62
17:28:06	18.20	1.43	0.00	19.64	0.00	30.08	1.62
17:28:36	18.19	1.43	0.00	20.08	0.00	30.36	1.64
17:29:06	18.18	1.43	0.00	20.19	0.00	31.77	1.63
17:29:35	18.19	1.43	0.00	19.88	0.00	32.92	1.67
17:30:05	18.21	1.43	0.00	19.68	0.00	30.86	1.66
17:30:35	18.21	1.43	0.00	19.86	0.00	31.86	1.63

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD - AUGUST 19, 1990

08-19-19902	CO2	CO-lo	NOx	SO2hi	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:31:05	18.22	1.42	0.00	19.45	0.00	34.12	1.65
17:31:35	18.24	1.41	0.00	19.30	0.00	30.86	1.63
17:32:05	18.23	1.41	0.00	19.46	0.00	37.37	1.66
17:32:35	18.23	1.42	0.00	19.81	0.00	35.49	1.65
17:33:05	18.13	1.50	0.00	18.82	0.00	21.66	1.65
17:33:35	18.10	1.48	0.00	19.23	0.00	25.04	1.68
17:34:05	18.24	1.41	0.00	20.48	0.00	32.55	1.65
17:34:35	18.28	1.40	0.00	20.57	0.00	32.80	1.65
17:35:05	18.31	1.40	0.00	20.38	0.00	27.23	1.64
17:35:35	18.26	1.42	0.00	20.37	0.00	25.02	1.65
17:36:05	18.05	1.53	0.00	18.07	0.00	32.40	1.66
17:36:35	18.15	1.46	0.00	19.79	0.00	30.03	1.62
17:37:05	18.30	1.39	0.00	20.39	0.00	29.59	1.65
17:37:35	18.28	1.39	0.00	20.79	0.00	32.81	1.64
17:38:05	18.32	1.39	0.00	20.73	0.00	27.37	1.68
17:38:34	18.12	1.51	0.00	18.38	0.00	28.86	1.65
17:39:04	18.01	1.53	0.00	18.55	0.00	31.03	1.61
17:39:34	18.23	1.41	0.00	20.51	0.00	30.62	1.60
17:40:04	18.30	1.39	0.00	20.93	0.00	30.70	1.64
17:40:34	18.28	1.38	0.00	20.47	0.00	30.53	1.68
17:41:04	18.30	1.40	0.00	20.34	0.00	17.99	1.64
17:41:34	18.00	1.54	0.00	18.19	0.00	25.63	1.62
17:42:04	18.08	1.50	0.00	19.30	0.00	28.11	1.62
17:42:34	18.18	1.41	0.00	20.86	0.00	37.33	1.66
17:43:04	18.30	1.39	0.00	20.75	0.00	28.16	1.66
17:43:34	18.31	1.39	0.00	20.42	0.00	16.78	1.61
17:44:04	18.29	1.42	0.00	19.73	0.00	15.81	1.62
17:44:34	17.99	1.55	0.00	17.83	0.00	29.39	1.62
17:45:04	18.13	1.48	0.00	19.49	0.00	29.81	1.64
17:45:34	18.26	1.39	0.00	20.59	0.00	28.12	1.69
17:46:04	18.32	1.39	0.00	20.40	0.00	28.80	1.61
17:46:34	18.31	1.39	0.00	20.32	0.00	28.94	1.62
17:47:04	18.17	1.48	0.00	18.48	0.00	30.39	1.63
17:47:34	17.93	1.56	0.00	17.72	0.00	29.16	1.63
17:48:04	18.20	1.43	0.00	20.13	0.00	30.07	1.61
17:48:34	18.30	1.38	0.00	20.33	0.00	27.38	1.60
17:49:04	18.28	1.39	0.00	20.43	0.00	29.73	1.59
17:49:34	18.31	1.39	0.00	20.13	0.00	26.77	1.63
17:50:03	18.03	1.53	0.00	17.94	0.00	29.09	1.65
17:50:33	18.03	1.51	0.00	18.39	0.00	28.42	1.62
17:51:03	18.26	1.40	0.00	20.15	0.00	29.29	1.59
17:51:33	18.32	1.38	0.00	19.83	0.00	28.04	1.60
17:52:03	18.27	1.39	0.00	19.79	0.00	28.82	1.60
17:52:33	18.09	1.48	0.00	18.30	0.00	28.09	1.64
17:53:03	17.96	1.54	0.00	17.86	0.00	28.70	1.63

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD - AUGUST 19, 1990

08-19-19902		CO2	CO-lo	NOx	SO2hi	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:53:33	18.22	1.43	0.00	20.12	0.00	29.84	1.57
17:54:03	18.27	1.38	0.00	20.14	0.00	28.07	1.61
17:54:33	18.32	1.38	0.00	20.18	0.00	29.16	1.61
17:55:03	18.25	1.42	0.00	19.14	0.00	27.32	1.63
17:55:33	17.97	1.54	0.00	17.43	0.00	28.83	1.58
17:56:03	18.00	1.52	0.00	18.10	0.00	28.50	1.58
17:56:33	18.24	1.39	0.00	20.11	0.00	28.05	1.57
17:57:03	18.29	1.37	0.00	20.27	0.00	28.08	1.61
17:57:33	18.34	1.37	0.00	20.01	0.00	27.26	1.63
17:58:03	18.15	1.47	0.00	18.34	0.00	27.96	1.58
17:58:33	17.96	1.55	0.00	17.44	0.00	26.63	1.58
17:59:02	18.11	1.46	0.00	19.31	0.00	27.61	1.60
17:59:32	18.26	1.38	0.00	20.38	0.00	25.87	1.62
18:00:02	18.32	1.37	0.00	19.84	0.00	27.37	1.61
18:00:32	18.30	1.39	0.00	19.47	0.00	26.05	1.58
18:01:02	17.98	1.53	0.00	17.54	0.00	27.76	1.56
18:01:32	17.96	1.53	0.00	17.54	0.00	28.19	1.62
18:02:02	18.22	1.41	0.00	19.52	0.00	28.36	1.62
18:02:32	18.26	1.38	0.00	19.84	0.00	25.87	1.58
18:03:02	18.28	1.39	0.00	19.85	0.00	28.14	1.56
18:03:32	18.28	1.41	0.00	19.23	0.00	27.91	1.59
18:04:02	17.99	1.54	0.00	17.44	0.00	28.75	1.61
18:04:32	18.05	1.50	0.00	18.27	0.00	28.59	1.61
18:05:02	18.24	1.40	0.00	19.87	0.00	28.18	1.59
18:05:32	18.29	1.38	0.00	19.53	0.00	25.73	1.56
18:06:02	18.28	1.38	0.00	19.56	0.00	26.69	1.60
18:06:32	18.16	1.47	0.00	18.08	0.00	27.12	1.63
18:07:02	17.93	1.56	0.00	17.27	0.00	26.97	1.55
18:07:32	18.13	1.46	0.00	18.94	0.00	28.38	1.57
18:08:02	18.27	1.39	0.00	19.69	0.00	25.23	1.56
18:08:32	18.29	1.38	0.00	19.61	0.00	26.37	1.60
18:09:02	18.30	1.38	0.00	19.66	0.00	24.80	1.58
18:09:31	18.04	1.51	0.00	17.68	0.00	26.97	1.54
18:10:01	17.93	1.54	0.00	17.52	0.00	27.84	1.55
18:10:31	18.20	1.43	0.00	19.47	0.00	27.69	1.57
18:11:01	18.29	1.38	0.00	19.89	0.00	25.01	1.61
18:11:31	18.29	1.38	0.00	19.84	0.00	24.52	1.58
18:12:01	18.11	1.48	0.00	18.20	0.00	24.68	1.56
18:12:31	17.93	1.55	0.00	17.22	0.00	27.41	1.57
18:13:01	18.10	1.47	0.00	18.51	0.00	28.71	1.56
18:13:31	18.22	1.39	0.00	19.40	0.00	24.09	1.63
18:14:01	18.31	1.37	0.00	19.70	0.00	25.25	1.55
18:14:31	18.26	1.41	0.00	18.78	0.00	24.87	1.56
18:15:01	17.97	1.54	0.00	17.10	0.00	27.10	1.56
18:15:31	17.94	1.56	0.00	17.34	0.00	26.15	1.57

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD - AUGUST 19, 1990

08-19-19902	CO2	CO-1o	NOx	SO2h1	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
18:16:01	18.19	1.42	0.00	19.35	0.00	27.71	1.61
18:16:31	18.29	1.38	0.00	19.95	0.00	23.95	1.57
18:17:01	18.31	1.37	0.00	19.49	0.00	26.47	1.55
18:17:31	18.20	1.44	0.00	18.34	0.00	24.44	1.56
18:18:01	17.95	1.55	0.00	17.28	0.00	27.85	1.58
18:18:31	18.06	1.49	0.00	18.15	0.00	26.45	1.56
18:19:01	18.24	1.39	0.00	19.50	0.00	24.59	1.52
18:19:31	18.30	1.37	0.00	19.57	0.00	25.60	1.56
18:20:01	18.26	1.42	0.00	18.43	0.00	24.93	1.55
18:20:30	17.99	1.54	0.00	16.93	0.00	25.62	1.60
18:21:00	17.93	1.56	0.00	17.04	0.00	27.21	1.57
18:21:30	18.14	1.44	0.00	19.29	0.00	24.76	1.53
18:22:00	18.26	1.38	0.00	20.04	0.00	25.43	1.54
18:22:30	18.30	1.37	0.00	19.87	0.00	25.11	1.57
18:23:00	18.28	1.39	0.00	19.31	0.00	23.77	1.57
18:23:30	17.99	1.53	0.00	17.35	0.00	26.54	1.55
18:24:00	17.95	1.55	0.00	17.20	0.00	24.69	1.54
18:24:30	18.19	1.42	0.00	19.19	0.00	26.43	1.59
18:25:00	18.29	1.37	0.00	19.54	0.00	23.34	1.62
18:25:30	18.33	1.37	0.00	19.54	0.00	23.77	1.60
18:26:00	18.05	1.50	0.00	17.49	0.00	25.31	1.54
18:26:30	17.93	1.56	0.00	16.93	0.00	27.12	1.52
18:27:00	18.02	1.50	0.00	17.93	0.00	24.31	1.57
18:27:30	18.20	1.39	0.00	19.55	0.00	25.06	1.59
18:28:00	18.31	1.37	0.00	19.20	0.00	22.48	1.57
18:28:30	18.30	1.39	0.00	18.92	0.00	24.92	1.54
18:29:00	17.99	1.53	0.00	17.16	0.00	24.00	1.53
18:29:30	17.93	1.57	0.00	17.04	0.00	24.56	1.56
18:30:00	18.16	1.45	0.00	18.27	0.00	25.53	1.58
18:30:30	18.21	1.39	0.00	19.46	0.00	23.38	1.55
18:31:00	18.31	1.37	0.00	19.46	0.00	23.88	1.50
18:31:30	18.27	1.41	0.00	18.66	0.00	24.92	1.52
18:31:59	17.95	1.54	0.00	17.08	0.00	23.61	1.55
18:32:29	17.92	1.57	0.00	17.03	0.00	24.23	1.60
18:32:59	18.13	1.46	0.00	18.69	0.00	25.41	1.56
18:33:29	18.17	1.44	0.00	19.05	0.00	22.54	1.50

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
14:46:20	9.51	7.25	0.00	46.04	7.61	41.94	0.46
14:46:50	9.77	7.05	0.00	48.73	6.84	43.85	0.43
14:47:20	10.04	6.85	0.00	43.20	6.46	45.57	0.37
14:47:50	10.29	6.68	0.00	42.17	6.04	45.28	0.28
14:48:20	10.63	6.39	0.00	41.49	5.34	38.78	0.47
14:48:50	10.79	6.30	0.00	41.40	5.42	14.91	0.37
14:49:20	10.91	6.19	0.00	40.71	5.38	7.03	0.31
14:49:50	11.08	6.08	0.00	40.51	4.39	6.30	0.26
14:50:20	11.24	5.94	0.00	40.59	4.45	4.06	0.37
14:50:50	11.34	5.88	0.00	39.78	2.99	6.76	0.25
14:51:20	11.51	5.75	0.00	40.53	3.07	4.49	0.14
14:51:50	11.64	5.67	0.00	39.76	2.99	4.04	0.21
14:52:20	11.72	5.63	0.00	39.84	1.55	1.80	0.08
14:52:50	11.86	5.39	0.00	42.42	3.67	3.24	0.22
14:53:20	12.45	6.40	60.02	45.31	0.62	3.05	0.20
14:53:50	6.63	10.84	225.00	56.74	9.58	2.54	7.20
14:54:20	4.24	11.88	224.87	58.68	64.04	2.73	38.63
14:54:50	6.13	10.73	224.97	75.89	119.09	3.37	4.61
14:55:20	9.24	8.87	185.08	57.99	102.80	2.48	0.50
14:55:50	11.25	7.31	32.42	37.05	68.14	2.01	0.59
14:56:19	12.98	6.08	4.08	19.24	41.32	2.01	0.20
14:56:49	11.86	6.37	0.71	12.51	29.81	1.72	0.15
14:57:19	11.54	6.24	0.00	8.77	22.60	2.10	0.03
14:57:49	11.90	5.86	0.00	6.17	16.66	2.09	0.12
14:58:19	12.42	5.43	0.00	4.23	13.81	3.59	0.22
14:58:49	12.88	5.08	0.00	2.10	9.96	0.42	0.02
14:59:19	13.88	4.67	0.00	9.94	4.21	2.55	0.00
14:59:49	17.17	1.94	0.00	1.79	0.00	0.90	0.01
15:00:19	20.54	0.38	0.00	0.00	0.00	3.87	0.00
15:00:49	20.86	0.09	0.00	0.00	0.00	1.32	0.00
15:01:19	20.86	0.01	0.00	0.00	0.00	2.43	0.15
15:01:49	20.86	0.00	0.00	0.17	0.00	2.00	0.45
15:02:19	20.86	0.00	0.00	0.00	0.00	0.00	0.40
15:02:49	20.86	0.00	0.00	0.04	0.00	2.89	0.44
15:03:19	20.86	0.02	0.00	0.00	0.00	1.25	0.33
15:03:49	20.86	0.00	0.00	0.00	0.00	1.97	0.37
15:04:19	20.86	0.03	0.00	0.00	0.00	0.73	0.35
15:04:49	20.86	0.00	0.00	0.00	0.00	1.95	0.41
15:05:19	20.86	0.00	0.00	0.00	0.00	0.77	0.46
15:05:49	20.86	0.01	0.00	0.00	0.00	2.07	0.42
15:06:18	20.86	0.00	0.00	0.10	0.00	0.00	0.41
15:06:48	20.86	0.03	0.00	0.00	0.00	3.65	0.50
15:07:18	20.36	0.61	0.00	10.64	0.00	0.46	1.00
15:07:48	17.59	2.15	0.00	24.91	0.00	1.73	0.98
15:08:18	14.63	4.19	0.00	49.77	0.00	1.09	0.99

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-1990 TIME	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	HCl ppmVw	THC ppmCw
15:08:48	12.05	5.44	0.00	54.40	1.13	1.86	1.37
15:09:18	11.67	5.66	0.00	55.09	2.12	1.01	1.10
15:09:48	11.66	5.40	0.00	47.94	1.65	1.32	0.58
15:10:18	5.63	1.87	2.65	3.26	2.54	0.48	28.37
15:10:48	0.84	0.32	0.00	0.80	3.00	0.00	0.76
15:11:18	0.20	0.13	0.00	0.00	2.88	1.38	0.00
15:11:48	0.09	0.00	0.00	0.44	2.64	0.00	0.49
15:12:18	0.07	0.04	0.00	0.00	2.80	43.67	1.53
15:12:48	1.04	3.48	0.00	60.32	2.80	126.61	1.86
15:13:18	5.02	8.99	0.00	89.29	4.12	135.32	1.65
15:14:04	8.70	8.48	0.00	62.54	5.67	135.70	1.43
15:14:34	9.80	7.17	0.00	45.23	4.07	121.65	12.08
15:15:04	9.57	7.38	0.00	45.40	4.15	103.14	10.32
15:15:34	9.81	7.20	0.00	46.79	4.19	94.33	7.85
15:16:04	10.10	7.00	0.00	50.23	4.35	88.17	5.80
15:16:34	10.30	6.77	0.00	51.93	4.19	85.84	4.79
15:17:04	10.42	6.66	0.00	52.28	3.96	87.27	3.89
15:17:34	10.52	6.53	0.00	53.00	3.85	84.99	3.38
15:18:04	13.16	4.73	0.00	55.66	0.00	83.40	3.02
15:18:34	13.81	4.45	0.00	57.20	0.00	71.24	2.73
15:19:29	12.68	5.20	0.00	57.04	0.00	66.85	2.62
15:19:59	11.69	5.63	0.00	54.65	2.70	55.07	2.46
15:20:29	11.70	5.62	0.00	55.29	2.10	51.90	2.36
15:20:59	11.77	5.57	0.00	55.85	2.70	50.21	2.26
15:21:29	11.79	5.53	0.00	55.81	2.14	50.19	2.28
15:21:59	11.88	5.44	0.00	56.77	2.07	48.86	2.31
15:22:29	11.93	5.39	0.00	56.62	0.92	50.53	2.48
15:22:59	12.01	5.32	0.00	56.95	1.10	47.73	2.65
15:23:29	12.09	5.27	0.00	57.70	1.71	51.27	2.86
15:23:58	12.12	5.25	0.00	57.17	0.32	41.09	3.03
15:24:28	12.20	5.20	0.00	56.95	1.83	37.17	3.12
15:24:58	12.27	5.15	0.00	56.86	0.40	35.20	3.11
15:25:28	12.24	5.15	0.00	57.17	1.54	33.12	2.98
15:25:58	12.30	5.12	0.00	57.59	1.13	30.98	2.86
15:26:28	12.34	5.09	0.00	56.79	1.49	40.75	2.78
15:26:58	12.34	5.09	0.00	56.84	1.32	60.02	2.60
15:27:28	12.32	5.06	0.00	56.96	1.34	71.13	2.50
15:27:58	12.40	5.02	0.00	56.75	1.48	67.27	2.41
15:28:28	12.41	5.03	0.00	56.71	1.54	58.06	2.40
15:28:58	12.39	5.02	0.00	56.81	0.97	48.91	2.34
15:29:28	12.42	5.01	0.00	56.99	0.77	44.48	2.28
15:29:58	12.43	4.99	0.00	57.61	0.43	39.69	2.27
15:30:28	12.45	4.98	0.00	57.32	1.16	35.78	2.27
15:30:58	12.48	4.98	0.00	56.77	0.00	33.69	2.26
15:31:28	12.54	4.90	0.00	57.04	0.72	29.89	2.20

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
15:31:58	12.67	4.83	0.00	55.70	0.00	29.52	2.28
15:32:28	12.67	4.82	0.00	56.13	0.00	25.02	2.19
15:32:58	12.64	4.84	0.00	56.61	0.00	24.72	2.12
15:33:28	12.63	4.85	0.00	58.12	0.00	21.96	2.01
15:33:58	12.64	4.85	0.00	58.05	0.26	20.96	1.87
15:34:28	12.66	4.83	0.00	58.50	0.00	15.63	1.80
15:34:57	12.67	4.84	0.00	58.22	0.14	14.95	1.72
15:35:27	12.65	4.85	0.00	57.94	0.00	11.71	1.60
15:35:57	12.64	4.85	0.00	58.18	0.49	10.44	1.57
15:36:27	12.61	4.86	0.00	59.24	0.00	9.21	1.44
15:36:57	12.66	4.81	0.00	60.03	0.00	8.68	1.35
15:37:27	12.72	4.77	0.00	58.81	1.02	7.64	1.22
15:37:57	12.74	4.78	0.00	58.04	0.13	7.01	1.14
15:38:27	12.69	4.82	0.00	58.55	1.08	7.50	0.96
15:38:57	12.68	4.80	0.00	58.61	0.89	6.72	0.91
15:39:27	12.70	4.79	0.00	58.65	0.98	7.37	0.84
15:39:57	12.78	4.75	0.00	57.80	1.35	6.33	0.76
15:40:27	12.74	4.76	0.00	58.30	0.82	6.12	0.73
15:40:57	12.80	4.72	0.00	58.61	1.04	5.14	0.68
15:41:27	12.80	4.69	0.00	58.68	0.00	7.18	0.67
15:41:57	12.78	4.72	0.00	58.85	0.62	6.12	0.59
15:42:27	12.82	4.69	0.00	58.80	0.00	5.96	0.68
15:42:57	12.83	4.69	0.00	58.53	0.42	4.58	0.58
15:43:27	12.82	4.69	0.00	58.54	0.98	7.57	0.57
15:43:57	12.82	4.66	0.00	59.39	0.00	5.45	0.57
15:44:27	12.82	4.68	0.00	60.17	1.02	4.90	0.50
15:44:57	12.86	4.62	0.00	59.16	0.00	4.63	0.55
15:45:27	12.91	4.62	0.00	58.74	0.46	5.91	0.46
15:45:57	12.92	4.61	0.00	58.60	0.00	5.27	0.55
15:46:27	12.91	4.60	0.00	59.38	0.00	5.27	0.52
15:46:56	12.90	4.61	0.00	59.35	0.00	3.92	0.49
15:47:26	12.92	4.58	0.00	59.12	0.00	3.40	0.51
15:47:56	12.89	4.61	0.00	60.64	0.00	5.47	0.48
15:48:26	12.91	4.60	0.00	59.72	0.00	3.06	0.51
15:48:56	12.45	4.88	0.00	55.90	0.53	4.28	0.40
15:49:26	12.54	4.73	0.00	58.53	0.00	4.73	0.42
15:49:56	12.85	4.59	0.00	59.97	0.00	5.46	0.43
15:50:26	12.79	4.73	0.00	61.55	0.00	2.85	0.40
15:50:56	12.55	4.90	0.00	59.31	0.00	4.36	0.51
15:51:26	12.65	4.84	0.00	59.80	0.12	3.66	0.36
15:51:56	12.70	4.74	0.00	59.49	0.00	5.24	0.43
15:52:26	12.76	4.72	0.00	59.58	0.46	3.11	0.35
15:52:56	12.79	4.66	0.00	58.62	0.00	4.39	0.37
15:53:26	12.44	4.88	0.00	55.22	0.02	4.02	0.33
15:53:56	12.26	4.94	0.00	55.61	1.03	3.57	0.29

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-1990 TIME	O2 %V	CO2 %V	CO ppmV	NOx ppmV	SO2 ppmV	HCl ppmVw	THC ppmCw
15:54:26	12.77	4.64	0.00	58.62	0.00	3.82	0.32
15:54:56	12.85	4.63	0.00	58.31	0.70	3.59	0.23
15:55:26	12.87	4.59	0.00	59.44	0.00	5.07	0.28
15:55:56	12.91	4.59	0.00	59.10	0.62	2.86	0.22
15:56:26	12.89	4.62	0.00	58.41	0.22	4.80	0.27
15:56:56	12.22	4.98	0.00	53.88	1.05	3.14	0.22
15:57:26	12.42	4.83	0.00	56.84	0.54	4.78	0.17
15:57:56	12.80	4.64	0.00	59.12	0.00	2.98	0.29
15:58:26	12.87	4.61	0.00	58.78	0.30	4.44	0.17
15:58:56	12.90	4.58	0.00	58.69	0.00	2.70	0.19
15:59:25	12.92	4.58	0.00	58.28	0.42	4.27	0.13
15:59:55	12.39	4.90	0.00	53.91	0.77	3.01	0.17
16:00:25	12.17	4.95	0.00	53.52	1.18	3.80	0.16
16:00:55	12.79	4.65	0.00	57.92	0.25	3.36	0.09
16:01:25	12.84	4.61	0.00	57.75	0.00	4.41	0.13
16:01:55	12.89	4.60	0.00	58.09	0.00	3.32	0.12
16:02:25	12.90	4.58	0.00	58.57	0.00	2.52	0.15
16:02:55	12.61	4.79	0.00	55.29	0.20	5.12	0.09
16:03:25	12.15	4.97	0.00	52.88	0.90	1.83	0.08
16:03:55	12.69	4.64	0.00	57.48	0.00	5.74	0.09
16:04:25	12.89	4.60	0.00	58.43	0.00	1.56	0.04
16:04:55	12.92	4.56	0.00	59.61	0.00	4.36	0.00
16:05:25	12.93	4.57	0.00	58.66	0.00	2.86	0.04
16:05:55	12.51	4.82	0.00	54.35	0.00	3.74	0.00
16:06:25	12.20	4.92	0.00	52.49	0.08	1.71	0.00
16:06:55	12.88	4.54	0.00	57.68	0.00	4.08	0.06
16:07:25	13.02	4.46	0.00	58.83	0.00	1.60	0.00
16:07:55	13.03	4.51	0.00	57.96	0.00	3.02	0.11
16:08:25	12.39	4.85	0.00	52.04	0.00	3.59	0.08
16:08:55	12.13	4.94	0.00	51.69	1.05	2.48	0.02
16:09:25	12.77	4.59	0.00	56.57	0.00	3.37	0.11
16:09:54	12.87	4.54	0.00	56.65	0.00	4.14	0.14
16:10:24	12.89	4.56	0.00	56.72	0.00	3.75	0.12
16:10:54	12.92	4.52	0.00	56.40	0.00	2.52	0.15
16:11:24	12.60	4.76	0.00	54.20	0.54	4.30	0.00
16:11:54	12.06	5.00	0.00	51.50	0.75	1.29	0.06
16:12:24	12.77	4.60	0.00	56.48	0.14	3.43	0.00
16:12:54	12.95	4.51	0.00	57.02	0.00	4.97	0.06
16:13:24	12.96	4.52	0.00	56.15	0.00	3.51	0.02
16:13:54	12.80	4.66	0.00	54.86	0.00	3.53	0.00
16:14:24	12.15	4.99	0.00	50.99	0.75	3.31	0.02
16:14:54	12.55	4.68	0.00	54.18	0.59	3.39	0.01
16:15:24	13.00	4.46	0.00	56.33	0.00	3.66	0.00
16:15:54	13.08	4.43	0.00	55.88	0.00	5.17	0.01
16:16:24	13.06	4.47	0.00	53.57	0.00	1.41	0.04

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmV	ppmCw
16:16:54	12.36	4.88	0.00	48.87	0.00	2.30	0.02
16:17:24	12.11	4.93	0.00	50.21	1.17	2.55	0.00
16:17:54	12.82	4.55	0.00	55.10	0.00	3.83	0.00
16:18:24	13.02	4.46	0.00	56.68	0.00	3.48	0.00
16:18:54	13.01	4.45	0.00	56.18	0.00	4.24	0.04
16:19:24	13.03	4.45	0.00	56.70	0.00	2.43	0.00
16:19:54	12.58	4.76	0.00	51.76	0.26	1.87	0.00
16:20:23	12.16	4.92	0.00	50.35	0.35	2.65	0.00
16:20:53	12.65	4.61	0.00	54.11	0.00	2.64	0.00
16:21:23	13.04	4.41	0.00	57.17	0.00	2.18	0.01
16:21:53	13.12	4.39	0.00	57.06	0.00	1.99	0.00
16:22:23	13.07	4.43	0.00	56.57	0.00	1.90	0.00
16:22:53	12.35	4.87	0.00	50.71	0.76	2.09	0.00
16:23:23	12.19	4.88	0.00	50.02	0.74	3.57	0.00
16:23:53	12.86	4.50	0.00	55.12	0.00	1.38	0.04
16:24:23	13.13	4.39	0.00	57.13	0.00	4.18	0.00
16:24:53	13.14	4.35	0.00	57.31	0.00	3.55	0.00
16:25:23	12.90	4.55	0.00	54.63	0.00	4.47	0.00
16:25:53	12.22	4.86	0.00	49.85	0.00	0.32	0.00
16:26:23	12.38	4.74	0.00	51.00	0.00	3.52	0.00
16:26:53	13.01	4.41	0.00	56.02	0.00	2.56	0.00
16:27:23	13.17	4.33	0.00	56.01	0.00	2.77	0.00
16:27:53	13.20	4.33	0.00	56.74	0.00	3.47	0.00
16:28:23	12.54	4.73	0.00	49.84	0.00	4.02	0.00
16:28:53	12.17	4.90	0.00	48.83	0.64	3.60	0.00
16:29:23	12.76	4.52	0.00	52.26	0.00	2.72	0.00
16:29:53	13.21	4.31	0.00	55.32	0.00	5.40	0.00
16:30:23	13.32	4.25	0.00	55.34	0.00	3.01	0.00
16:30:53	12.67	4.69	0.00	49.20	0.00	3.17	0.00
16:31:22	12.14	4.95	0.00	47.46	0.47	1.07	0.00
16:31:52	12.43	4.71	0.00	50.46	0.00	4.18	0.00
16:32:22	13.08	4.38	0.00	55.79	0.00	1.34	0.00
16:32:52	13.20	4.33	0.00	55.89	0.00	3.38	0.00
16:33:22	13.22	4.32	0.00	55.75	0.00	2.80	0.00
16:33:52	12.65	4.70	0.00	50.65	0.00	3.93	0.00
16:34:22	12.15	4.93	0.00	48.22	0.94	2.90	0.00
16:34:52	12.31	4.77	0.00	50.19	1.22	2.15	0.00
16:35:22	13.04	4.39	0.00	54.39	0.00	3.44	0.00
16:35:52	13.16	4.35	0.00	56.09	0.00	2.85	0.00
16:36:22	13.18	4.34	0.00	56.04	0.00	4.44	0.00
16:36:52	12.81	4.61	0.00	52.54	0.00	1.56	0.00
16:37:22	12.17	4.92	0.00	48.24	0.87	3.07	0.00
16:37:52	12.31	4.75	0.00	49.74	0.01	0.48	0.00
16:38:22	13.09	4.37	0.00	54.56	0.00	3.75	0.00
16:38:52	13.17	4.32	0.00	55.03	0.00	2.19	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	O2	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
16:39:22	13.23	4.31	0.00	55.25	0.00	4.16	0.00
16:39:52	12.79	4.62	0.00	49.99	0.00	1.02	0.00
16:40:21	12.22	4.88	0.00	46.64	0.00	3.19	0.00
16:40:51	12.34	4.76	0.00	48.41	0.28	2.52	0.00
16:41:21	13.02	4.38	0.00	54.12	0.00	2.19	0.00
16:41:51	13.23	4.29	0.00	54.74	0.00	2.68	0.00
16:42:21	13.30	4.30	0.00	54.10	0.00	2.78	0.00
16:42:51	12.36	4.81	0.00	48.08	0.00	3.42	0.00
16:43:21	12.19	4.86	0.00	47.60	0.41	2.51	0.00
16:43:51	12.75	4.52	0.00	51.18	0.00	3.71	0.00
16:44:21	13.21	4.30	0.00	54.70	0.00	1.82	0.00
16:44:51	13.26	4.29	0.00	54.99	0.00	2.59	0.00
16:45:21	13.00	4.48	0.00	51.06	0.00	1.18	0.00
16:45:51	12.34	4.81	0.00	46.46	0.00	2.39	0.00
16:46:21	12.29	4.81	0.00	46.62	0.86	2.66	0.00
16:46:51	12.84	4.47	0.00	50.70	0.00	2.98	0.00
16:47:21	13.21	4.30	0.00	54.86	0.00	3.30	0.00
16:47:51	13.28	4.31	0.00	55.52	0.00	2.38	0.00
16:48:21	12.53	4.74	0.00	48.72	0.17	1.18	0.00
16:48:51	12.19	4.89	0.00	47.12	1.39	2.13	0.00
16:49:21	12.42	4.71	0.00	49.56	0.10	2.55	0.00
16:49:51	13.09	4.35	0.00	55.36	0.00	1.55	0.00
16:50:21	13.26	4.27	0.00	55.25	0.00	2.48	0.00
16:50:51	13.29	4.29	0.00	55.16	0.00	2.35	0.00
16:51:21	12.70	4.64	0.00	50.27	0.00	3.50	0.00
16:51:50	12.18	4.86	0.00	47.71	0.00	1.20	0.00
16:52:20	12.38	4.70	0.00	49.17	0.00	2.70	0.00
16:52:50	13.20	4.24	0.00	54.31	0.00	1.39	0.00
16:53:20	13.29	4.22	0.00	54.56	0.00	2.42	0.00
16:53:50	13.18	4.36	0.00	53.36	0.00	0.99	0.00
16:54:20	12.34	4.80	0.00	47.88	0.00	2.78	0.00
16:54:50	12.21	4.83	0.00	47.41	0.25	2.04	0.00
16:55:20	12.81	4.45	0.00	51.18	0.00	2.95	0.00
16:55:50	13.27	4.22	0.00	55.05	0.00	2.72	0.00
16:56:20	13.31	4.21	0.00	54.71	0.00	1.61	0.00
16:56:50	12.80	4.57	0.00	49.95	0.00	2.57	0.00
16:57:20	12.21	4.84	0.00	47.06	0.00	0.63	0.00
16:57:50	12.45	4.61	0.00	50.17	0.00	4.36	0.00
16:58:20	13.14	4.29	0.00	54.44	0.00	1.92	0.00
16:58:50	13.36	4.15	0.00	54.54	0.00	2.77	0.00
16:59:20	13.12	4.35	0.00	51.93	0.00	1.26	0.00
16:59:50	12.33	4.79	0.00	47.17	0.00	3.21	0.00
17:00:20	12.25	4.78	0.00	47.81	0.00	0.00	0.00
17:00:50	12.85	4.43	0.00	52.36	0.00	3.19	0.00
17:01:20	13.31	4.23	0.00	55.99	0.00	0.98	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmVw	ppmCw
17:01:50	13.33	4.25	0.00	55.96	0.00	3.44	0.00
17:02:19	12.51	4.67	0.00	48.86	0.00	1.07	0.00
17:02:49	12.26	4.79	0.00	46.81	0.00	3.41	0.00
17:03:19	12.61	4.55	0.00	49.31	0.00	1.21	0.00
17:03:49	13.21	4.22	0.00	54.73	0.00	3.15	0.00
17:04:19	13.35	4.18	0.00	55.13	0.00	2.29	0.00
17:04:49	12.69	4.60	0.00	49.46	0.00	0.55	0.00
17:05:19	12.18	4.86	0.00	46.82	0.10	2.05	0.00
17:05:49	12.43	4.65	0.00	49.18	0.00	1.96	0.00
17:06:19	13.16	4.25	0.00	54.35	0.00	3.36	0.00
17:06:49	13.34	4.20	0.00	54.39	0.00	1.69	0.00
17:07:19	13.08	4.35	0.00	51.31	0.00	2.38	0.00
17:07:49	12.32	4.78	0.00	46.48	0.00	1.63	0.00
17:08:19	12.28	4.73	0.00	47.95	0.00	0.98	0.00
17:08:49	12.92	4.38	0.00	52.29	0.00	1.65	0.00
17:09:19	13.33	4.15	0.00	53.83	0.00	2.70	0.00
17:09:49	13.27	4.27	0.00	52.10	0.00	2.42	0.00
17:10:19	12.39	4.72	0.00	46.89	0.00	2.44	0.00
17:10:49	12.26	4.74	0.00	46.74	0.00	2.20	0.00
17:11:18	12.65	4.52	0.00	49.97	0.00	1.29	0.00
17:11:48	13.25	4.18	0.00	53.78	0.00	1.99	0.00
17:12:18	13.36	4.18	0.00	54.51	0.00	0.99	0.00
17:12:48	12.62	4.62	0.00	48.16	0.00	2.61	0.00
17:13:18	12.22	4.81	0.00	46.49	0.00	0.00	0.00
17:13:48	12.33	4.73	0.00	47.29	0.00	3.87	0.00
17:14:18	13.04	4.28	0.00	52.26	0.00	0.45	0.00
17:14:48	13.37	4.18	0.00	54.20	0.00	2.09	0.00
17:15:18	13.18	4.29	0.00	52.19	0.00	1.05	0.00
17:15:48	12.35	4.77	0.00	46.05	0.00	3.58	0.00
17:16:18	12.28	4.76	0.00	46.26	0.00	0.44	0.00
17:16:48	12.64	4.51	0.00	49.22	0.00	3.37	0.00
17:17:18	13.26	4.21	0.00	52.70	0.00	1.31	0.00
17:17:48	13.38	4.14	0.00	53.30	0.00	2.37	0.00
17:18:18	12.78	4.57	0.00	47.32	0.00	0.95	0.00
17:18:48	12.32	4.75	0.00	45.00	0.00	1.25	0.00
17:19:18	12.42	4.65	0.00	47.56	0.00	2.09	0.00
17:19:47	13.11	4.26	0.00	52.16	0.00	1.38	0.00
17:20:17	13.34	4.18	0.00	53.44	0.00	3.00	0.00
17:20:47	13.07	4.39	0.00	50.07	0.00	0.61	0.00
17:21:17	12.32	4.73	0.00	45.84	0.00	2.27	0.00
17:21:47	12.31	4.76	0.00	46.53	0.00	1.06	0.00
17:22:17	12.73	4.47	0.00	50.07	0.00	1.83	0.00
17:22:47	13.29	4.23	0.00	54.37	0.00	1.73	0.00
17:23:17	13.34	4.18	0.00	54.21	0.00	1.37	0.00
17:23:47	12.79	4.52	0.00	48.75	0.00	0.73	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:24:17	12.27	4.76	0.00	45.82	0.00	0.43	0.00
17:24:47	12.40	4.67	0.00	48.22	0.00	1.11	0.00
17:25:17	13.05	4.31	0.00	51.53	0.00	1.52	0.00
17:25:47	13.37	4.15	0.00	53.28	0.00	2.21	0.00
17:26:17	13.21	4.29	0.00	52.36	0.00	1.00	0.00
17:26:47	12.39	4.74	0.00	45.89	0.00	2.77	0.00
17:27:17	12.29	4.72	0.00	45.56	0.00	0.81	0.00
17:27:47	12.65	4.53	0.00	49.20	0.00	3.26	0.00
17:28:17	13.26	4.18	0.00	53.53	0.00	0.94	0.00
17:28:47	13.40	4.15	0.00	52.63	0.00	0.59	0.00
17:29:16	12.67	4.60	0.00	47.43	0.00	1.81	0.00
17:29:46	12.31	4.75	0.00	44.93	0.00	3.07	0.00
17:30:16	12.42	4.64	0.00	48.22	0.00	0.29	0.00
17:30:46	13.10	4.25	0.00	52.97	0.00	2.74	0.00
17:31:16	13.36	4.16	0.00	53.89	0.00	3.27	0.00
17:31:46	13.13	4.33	0.00	50.24	0.00	0.51	0.00
17:32:16	12.37	4.74	0.00	45.61	0.00	0.64	0.00
17:32:46	12.34	4.69	0.00	47.16	0.00	0.36	0.00
17:33:16	12.68	4.49	0.00	49.01	0.00	2.37	0.00
17:33:46	13.32	4.16	0.00	52.26	0.00	1.61	0.00
17:34:16	13.37	4.18	0.00	52.30	0.00	2.87	0.00
17:34:46	12.54	4.66	0.00	45.69	0.00	0.82	0.00
17:35:16	12.32	4.73	0.00	45.20	0.00	2.64	0.00
17:35:46	12.45	4.66	0.00	46.86	0.00	1.06	0.00
17:36:16	13.10	4.25	0.00	51.80	0.00	1.69	0.00
17:36:46	13.40	4.12	0.00	52.98	0.00	2.54	0.00
17:37:16	13.06	4.35	0.00	47.97	0.00	2.46	0.00
17:37:46	12.53	4.62	0.00	43.96	0.00	2.88	0.00
17:38:16	12.47	4.66	0.00	44.36	0.00	0.18	0.00
17:38:46	12.56	4.57	0.00	47.67	0.00	2.41	0.00
17:39:15	13.00	4.31	0.00	49.73	0.00	1.51	0.00
17:39:45	13.44	4.09	0.00	53.00	0.00	3.67	0.00
17:40:15	12.95	4.43	0.00	48.28	0.00	0.82	0.00
17:40:45	12.41	4.70	0.00	44.60	0.00	1.87	0.00
17:41:15	12.40	4.68	0.00	46.56	0.00	0.00	0.00
17:41:45	12.80	4.40	0.00	49.11	0.00	2.10	0.00
17:42:15	13.38	4.08	0.00	53.34	0.00	0.23	0.00
17:42:45	13.28	4.26	0.00	49.75	0.00	2.38	0.00
17:43:15	12.46	4.68	0.00	45.69	0.00	2.19	0.00
17:43:45	12.29	4.75	0.00	44.91	0.00	1.96	0.00
17:44:15	12.47	4.61	0.00	47.56	0.00	0.09	0.00
17:44:45	13.13	4.24	0.00	51.93	0.00	0.90	0.00
17:45:15	13.40	4.13	0.00	52.94	0.00	2.00	0.00
17:45:45	13.08	4.36	0.00	49.92	0.00	0.82	0.00
17:46:15	12.41	4.71	0.00	44.91	0.00	1.61	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:46:45	12.38	4.69	0.00	45.78	0.00	0.95	0.00
17:47:15	12.73	4.44	0.00	49.35	0.00	3.42	0.00
17:47:45	13.30	4.16	0.00	52.97	0.00	1.04	0.00
17:48:15	13.38	4.18	0.00	51.78	0.00	2.01	0.00
17:48:45	12.51	4.68	0.00	45.06	0.00	1.64	0.00
17:49:15	12.31	4.72	0.00	44.59	0.00	2.64	0.00
17:49:45	12.42	4.65	0.00	46.36	0.00	1.80	0.00
17:50:14	12.93	4.34	0.00	49.22	0.00	3.49	0.00
17:50:44	13.38	4.11	0.00	52.13	0.00	1.05	0.00
17:51:14	13.24	4.27	0.00	50.45	0.00	1.00	0.00
17:51:44	12.46	4.66	0.00	45.38	0.00	0.71	0.00
17:52:14	12.40	4.68	0.00	44.63	0.00	0.96	0.00
17:52:44	12.58	4.56	0.00	46.92	0.00	1.78	0.00
17:53:14	12.78	4.43	0.00	47.52	0.00	0.87	0.00
17:53:44	13.25	4.15	0.00	51.75	0.00	4.11	0.00
17:54:14	13.31	4.21	0.00	50.04	0.00	0.22	0.00
17:54:44	12.53	4.66	0.00	44.18	0.00	2.22	0.00
17:55:14	12.40	4.68	0.00	44.22	0.00	2.32	0.00
17:55:44	12.51	4.62	0.00	46.25	0.00	2.27	0.00
17:56:14	12.82	4.38	0.00	47.56	0.00	0.00	0.00
17:56:44	13.36	4.11	0.00	50.87	0.00	2.75	0.00
17:57:14	13.21	4.23	0.00	49.50	0.00	0.00	0.00
17:57:44	12.45	4.67	0.00	44.80	0.00	1.27	0.00
17:58:14	12.37	4.69	0.00	44.11	0.00	0.00	0.00
17:58:44	12.55	4.57	0.00	46.70	0.00	0.48	0.00
17:59:14	13.12	4.25	0.00	49.57	0.00	0.75	0.00
17:59:44	13.46	4.07	0.00	51.85	0.00	2.58	0.00
18:00:14	12.79	4.53	0.00	46.10	0.00	1.97	0.00
18:00:44	12.41	4.68	0.00	43.72	0.00	0.89	0.00
18:01:14	12.39	4.67	0.00	45.57	0.00	2.33	0.00
18:01:44	12.78	4.43	0.00	47.13	0.00	0.75	0.00
18:02:14	13.37	4.11	0.00	50.32	0.00	1.96	0.00
18:02:43	13.34	4.21	0.00	48.52	0.00	0.04	0.00
18:03:13	12.54	4.63	0.00	44.41	0.00	2.34	0.00
18:03:43	12.41	4.69	0.00	44.08	0.00	1.18	0.00
18:04:13	12.48	4.64	0.00	45.60	0.00	1.69	0.00
18:04:43	12.69	4.48	0.00	46.88	0.00	1.26	0.00
18:05:13	13.16	4.24	0.00	49.01	0.00	3.41	0.00
18:05:43	13.46	4.11	0.00	50.08	0.00	1.52	0.00
18:06:13	12.65	4.59	0.00	44.66	0.00	2.25	0.00
18:06:43	12.46	4.66	0.00	43.00	0.00	1.13	0.00
18:07:13	12.49	4.63	0.00	45.19	0.00	1.39	0.00
18:07:43	12.84	4.38	0.00	47.37	0.00	2.13	0.00
18:08:13	13.42	4.08	0.00	51.34	0.00	2.26	0.00
18:08:43	13.11	4.35	0.00	47.50	0.00	1.75	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
18:09:13	12.47	4.64	0.00	43.51	0.00	0.71	0.00
18:09:43	12.47	4.66	0.00	43.26	0.00	2.35	0.00
18:10:13	12.53	4.63	0.00	45.21	0.00	1.71	0.00
18:10:43	12.60	4.58	0.00	46.14	0.00	2.93	0.00
18:11:13	12.87	4.40	0.00	46.19	0.00	0.89	0.00
18:11:43	13.26	4.19	0.00	48.36	0.00	1.87	0.00
18:12:12	13.25	4.25	0.00	48.54	0.00	1.65	0.00
18:12:42	12.55	4.64	0.00	43.70	0.00	1.15	0.00
18:13:12	12.44	4.68	0.00	43.00	0.00	2.08	0.00
18:13:42	12.48	4.60	0.00	45.81	0.00	1.97	0.00
18:14:12	13.07	4.26	0.00	47.11	0.00	1.27	0.00
18:14:42	13.42	4.09	0.00	49.87	0.00	0.02	0.00
18:15:12	12.87	4.48	0.00	45.72	0.00	1.18	0.00
18:15:42	12.41	4.67	0.00	43.38	0.00	0.00	0.00
18:16:12	12.41	4.66	0.00	44.37	0.00	1.12	0.00
18:16:42	12.55	4.59	0.00	45.47	0.00	0.00	0.00
18:17:12	12.66	4.55	0.00	45.62	0.00	1.17	0.00
18:17:42	12.89	4.42	0.00	46.39	0.00	2.31	0.00
18:18:12	13.35	4.11	0.00	49.26	0.00	2.75	0.00
18:18:42	13.06	4.37	0.00	46.70	0.00	0.48	0.00
18:19:12	12.48	4.69	0.00	42.71	0.00	2.83	0.00
18:19:42	12.43	4.65	0.00	42.51	0.00	0.00	0.00
18:20:12	12.55	4.59	0.00	45.21	0.00	2.01	0.00
18:20:42	12.99	4.29	0.00	47.50	0.00	0.31	0.00
18:21:12	13.46	4.07	0.00	50.82	0.00	2.47	0.00
18:21:42	12.40	4.85	0.00	43.57	0.00	1.11	0.00
18:22:12	11.12	5.37	0.00	41.74	0.73	2.52	0.00
18:22:42	12.39	4.65	0.00	45.72	0.00	0.36	0.00
18:23:12	13.06	4.29	0.00	48.42	0.00	2.97	0.00
18:23:42	13.40	4.14	0.00	50.78	0.00	1.14	0.00
18:24:12	12.64	4.58	0.00	44.27	0.00	2.68	0.00
18:24:42	12.42	4.68	0.00	43.31	0.00	0.88	0.00
18:25:11	12.43	4.68	0.00	44.68	0.00	1.40	0.00
18:25:41	12.69	4.48	0.00	46.98	0.00	0.80	0.00
18:26:11	13.28	4.18	0.00	49.58	0.00	1.74	0.00
18:26:41	13.29	4.21	0.00	49.10	0.00	2.69	0.00
18:27:11	12.48	4.66	0.00	44.16	0.00	2.01	0.00
18:27:41	12.40	4.71	0.00	42.88	0.00	1.32	0.00
18:28:11	12.44	4.66	0.00	44.98	0.00	1.33	0.00
18:28:41	12.57	4.62	0.00	45.51	0.00	2.71	0.00
18:29:11	12.72	4.48	0.00	47.06	0.00	1.66	0.00
18:29:41	13.27	4.17	0.00	50.10	0.00	2.11	0.00
18:30:11	12.71	4.64	0.00	44.73	0.00	0.00	0.00
18:30:41	11.02	5.46	0.00	41.92	1.31	1.15	0.00
18:31:11	12.06	4.86	0.00	44.83	0.00	0.34	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
18:31:41	12.74	4.42	0.00	47.62	0.00	1.80	0.00
18:32:11	13.36	4.11	0.00	50.33	0.00	0.00	0.00
18:32:41	13.19	4.29	0.00	47.92	0.00	2.30	0.00
18:33:11	12.54	4.64	0.00	43.27	0.00	0.00	0.00
18:33:41	12.46	4.66	0.00	43.51	0.00	3.24	0.00
18:34:11	12.54	4.57	0.00	46.02	0.00	0.00	0.00
18:34:41	12.73	4.48	0.00	46.49	0.00	1.31	0.00
18:35:11	13.14	4.19	0.00	49.28	0.00	0.00	0.00
18:35:40	13.36	4.19	0.00	48.43	0.00	1.72	0.00
18:36:10	12.67	4.55	0.00	44.45	0.00	1.69	0.00
18:36:40	12.48	4.60	0.00	42.12	0.00	1.62	0.00
18:37:10	11.61	5.27	0.00	40.59	0.00	1.85	0.00
18:37:40	11.57	5.03	0.00	45.06	0.00	1.44	0.00
18:38:10	13.14	4.22	0.00	49.91	0.00	1.11	0.00
18:38:40	13.42	4.07	0.00	50.96	0.00	1.99	0.00
18:39:10	13.04	4.39	0.00	46.98	0.00	2.44	0.00
18:39:40	12.49	4.64	0.00	43.16	0.00	1.84	0.00
18:40:10	12.38	4.68	0.00	43.79	0.00	1.88	0.00
18:40:40	12.55	4.59	0.00	45.61	0.00	0.82	0.00
18:41:10	12.78	4.45	0.00	45.97	0.00	2.68	0.00
18:41:40	13.23	4.19	0.00	48.12	0.00	0.49	0.00
18:42:10	13.30	4.22	0.00	47.54	0.00	2.19	0.00
18:42:40	12.51	4.66	0.00	42.90	0.00	0.00	0.00
18:43:10	12.28	4.88	0.00	40.56	0.00	3.21	0.00
18:43:40	10.92	5.48	0.00	42.14	1.71	0.13	0.00
18:44:10	12.67	4.44	0.00	48.17	0.00	0.80	0.00
18:44:40	13.45	4.05	0.00	49.45	0.00	0.00	0.00
18:45:10	13.32	4.22	0.00	47.90	0.00	1.38	0.00
18:45:40	12.56	4.62	0.00	42.28	0.00	0.59	0.00
18:46:10	12.47	4.67	0.00	42.61	0.00	1.79	0.00
18:46:39	12.47	4.61	0.00	44.77	0.00	1.05	0.00
18:47:09	12.57	4.61	0.00	44.99	0.00	1.36	0.00
18:47:39	12.65	4.53	0.00	45.59	0.00	2.28	0.00
18:48:09	12.76	4.48	0.00	45.98	0.00	0.44	0.00
18:48:39	13.16	4.25	0.00	46.16	0.00	3.47	0.00
18:49:09	11.26	5.43	0.00	40.33	0.00	0.84	0.00
18:49:39	11.53	5.13	0.00	42.98	0.19	2.20	0.00
18:50:09	12.25	4.71	0.00	44.18	0.00	0.51	0.00
18:50:39	12.36	4.72	0.00	44.00	0.00	1.91	0.00
18:51:09	12.56	4.57	0.00	45.19	0.00	0.05	0.00
18:51:39	13.20	4.21	0.00	48.51	0.00	2.46	0.00
18:52:09	13.47	4.07	0.00	49.82	0.00	0.77	0.00
18:52:39	12.77	4.50	0.00	44.72	0.00	1.21	0.00
18:53:09	12.48	4.65	0.00	42.05	0.00	3.14	0.00
18:53:39	12.45	4.63	0.00	43.63	0.00	1.15	0.00

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
18:54:09	12.78	4.55	0.00	44.40	0.00	1.99	0.00
18:54:39	10.82	5.62	0.00	40.82	1.03	1.20	0.00
18:55:09	11.95	4.81	0.00	45.27	0.00	3.36	0.00
18:55:39	13.26	4.14	0.00	49.72	0.00	0.00	0.00
18:56:09	13.47	4.06	0.00	49.49	0.00	2.23	0.00
18:56:39	13.05	4.35	0.00	46.09	0.00	0.00	0.00
18:57:09	12.51	4.61	0.00	41.80	0.00	1.39	0.00
18:57:38	12.42	4.67	0.00	42.97	0.00	0.00	0.00
18:58:08	12.55	4.60	0.00	45.19	0.00	2.07	0.00
18:58:38	12.72	4.49	0.00	46.31	0.00	0.09	0.00
18:59:08	13.14	4.21	0.00	47.17	0.00	1.40	0.00
18:59:38	11.76	5.26	0.00	40.73	0.00	0.86	0.00
19:00:08	11.34	5.23	0.00	42.17	0.99	0.46	0.00
19:00:38	12.17	4.80	0.00	43.40	0.00	1.79	0.00
19:01:08	12.33	4.72	0.00	44.01	0.00	2.30	0.00
19:01:38	12.73	4.49	0.00	46.03	0.00	2.56	0.00
19:02:08	13.92	3.54	0.00	38.36	0.00	0.88	0.00
19:02:38	19.63	0.56	0.00	3.29	0.00	2.09	0.00
19:03:08	20.33	0.28	0.00	1.89	0.00	0.00	0.00
19:03:38	20.68	0.31	0.00	1.63	0.00	1.84	0.00
19:04:08	20.76	0.24	0.00	1.79	0.00	0.00	0.00
19:04:38	20.77	0.23	0.00	2.11	0.00	2.65	0.00
19:05:08	20.78	0.27	0.00	1.57	0.00	1.44	0.00
19:05:38	20.83	0.23	0.00	1.45	0.00	2.81	0.00
19:06:08	20.80	0.28	0.95	1.48	0.00	0.00	0.00
19:06:38	20.82	0.20	3.13	1.40	0.00	2.42	0.00
19:07:08	20.79	0.27	9.47	1.25	0.00	3.24	0.00
19:07:38	20.82	0.23	17.27	1.19	0.00	1.71	0.00
19:08:08	20.83	0.24	28.12	0.93	0.00	1.73	0.00
19:08:38	20.85	0.24	38.08	0.91	0.00	1.85	0.00
19:09:08	20.85	0.27	53.85	0.65	0.00	2.19	0.00
19:09:37	20.85	0.25	66.68	0.72	0.00	2.08	0.00
19:10:07	20.84	0.27	81.43	0.53	0.00	2.20	0.00
19:10:37	20.83	0.23	95.71	0.91	0.00	1.17	0.00
19:11:07	20.84	0.25	108.41	0.87	0.00	3.29	0.00
19:11:37	20.84	0.22	116.51	1.42	0.00	1.67	0.00
19:12:07	20.81	0.20	127.55	1.46	0.00	2.39	0.00
19:12:37	20.84	0.21	137.64	1.20	0.00	1.49	0.30
19:13:07	20.84	0.23	145.90	1.10	0.00	2.01	0.24
19:13:37	20.81	0.26	157.70	0.24	0.00	0.21	0.85
19:14:07	20.85	0.28	166.30	0.26	0.00	3.31	1.00
19:14:37	20.85	0.24	171.46	0.58	0.00	0.00	1.45
19:15:07	20.85	0.23	176.70	0.88	0.00	1.46	1.64
19:15:37	20.85	0.26	180.11	0.48	0.00	0.27	1.87
19:16:07	20.84	0.27	189.80	0.32	0.00	1.95	2.29

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	O2	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
19:16:37	20.84	0.26	192.40	0.45	0.00	0.00	2.71
19:17:07	20.86	0.24	199.66	0.56	0.00	1.05	3.28
19:17:37	20.85	0.27	205.45	0.51	0.00	0.63	3.60
19:18:07	20.85	0.25	211.57	0.58	0.00	1.87	4.40
19:18:37	20.85	0.24	213.25	0.65	0.00	1.52	4.79
19:19:06	20.85	0.25	215.32	0.61	0.00	1.39	5.35
19:19:36	20.85	0.23	219.37	0.94	0.00	2.27	5.60
19:20:06	20.84	0.27	223.95	0.38	0.00	1.56	5.96
19:20:36	20.85	0.28	225.23	0.50	0.00	2.20	6.75
19:21:06	20.85	0.27	224.64	0.37	0.00	2.55	7.27
19:21:36	20.85	0.27	225.22	0.41	0.00	2.13	7.72
19:22:06	20.85	0.29	225.46	0.34	0.00	1.64	8.43
19:22:36	20.86	0.27	225.87	0.36	0.00	1.75	9.28
19:23:06	20.86	0.27	225.54	0.36	0.00	1.14	9.28
19:23:36	20.85	0.24	224.73	0.72	0.00	2.97	9.49
19:24:06	20.85	0.23	224.80	0.75	0.00	0.67	10.83
19:24:36	20.84	0.24	224.63	0.71	0.00	3.77	11.18
19:25:06	20.85	0.25	224.87	0.63	0.00	1.13	11.82
19:25:36	20.84	0.26	225.04	0.29	0.00	2.31	11.73
19:26:06	20.85	0.25	224.95	0.49	0.00	0.00	12.83
19:26:36	20.85	0.25	224.76	0.52	0.00	2.48	13.23
19:27:06	20.85	0.28	225.43	0.17	0.00	0.00	13.45
19:27:35	20.85	0.25	224.79	0.53	0.00	2.46	13.75
19:28:05	20.85	0.27	225.17	0.24	0.00	1.19	14.16
19:28:35	20.85	0.28	225.39	0.25	0.00	1.75	14.15
19:29:05	20.85	0.22	224.51	0.83	0.00	1.23	14.45
19:29:35	20.85	0.24	224.90	0.54	0.00	2.87	14.47
19:30:05	20.85	0.25	225.00	0.33	0.00	1.76	15.00
19:30:35	20.85	0.25	225.17	0.33	0.00	0.34	15.89
19:31:05	20.86	0.23	224.98	0.40	0.00	0.45	16.48
19:31:35	20.85	0.23	224.78	0.32	0.00	0.59	16.80
19:32:05	20.85	0.26	225.12	0.42	0.00	1.26	17.00
19:32:35	20.85	0.18	224.05	0.51	0.00	1.34	16.76
19:33:05	20.85	0.23	224.84	0.40	0.00	2.39	17.23
19:33:35	20.85	0.26	225.10	0.33	0.00	0.73	17.70
19:34:05	20.85	0.22	224.80	0.27	0.00	1.30	17.88
19:34:35	20.86	0.25	225.21	0.20	0.00	2.63	18.47
19:35:05	20.85	0.22	224.73	0.35	0.00	2.14	18.75
19:35:35	20.86	0.21	224.66	0.71	0.00	1.52	19.44
19:36:05	20.85	0.21	224.47	0.46	0.00	2.22	19.64
19:36:35	20.85	0.25	225.19	0.28	0.00	0.63	19.88
19:37:05	20.85	0.28	225.59	0.16	0.00	2.37	20.19
19:37:35	20.85	0.21	224.51	0.23	0.00	0.02	20.19
19:38:05	20.85	0.28	225.79	0.00	0.00	1.91	20.02
19:38:34	20.85	0.21	224.56	0.28	0.00	0.17	20.16

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-1990 O2	CO2	CO	NOx	SO2	HCl	THC
TIME %V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
19:39:04	20.86	0.26	225.30	0.23	0.00	2.47	21.15
19:39:34	20.85	0.23	224.56	0.35	0.00	0.00	20.79
19:40:04	20.85	0.22	224.55	0.40	0.00	2.03	20.95
19:40:34	20.85	0.23	224.50	0.46	0.00	1.68	21.50
19:41:04	20.85	0.25	225.18	0.17	0.00	0.02	20.95
19:41:34	20.85	0.21	224.53	0.42	0.00	1.99	21.16
19:42:04	20.85	0.24	225.12	0.17	0.00	1.88	21.24
19:42:34	20.85	0.26	225.31	0.24	0.00	1.61	21.79
19:43:04	20.85	0.21	224.50	0.47	0.00	1.23	21.76
19:43:34	20.85	0.24	225.00	0.18	0.00	2.31	21.83
19:44:04	20.85	0.23	224.76	0.20	0.00	0.84	21.92
19:44:34	20.85	0.25	225.23	0.01	0.00	2.18	22.36
19:45:04	20.85	0.25	224.93	0.00	0.00	1.18	22.08
19:45:34	20.86	0.27	225.58	0.00	0.00	1.26	22.86
19:46:04	20.85	0.28	225.79	0.00	0.00	0.00	22.77
19:46:34	20.85	0.26	225.43	0.00	0.00	2.20	23.50
19:47:04	20.85	0.24	225.00	0.00	0.00	0.58	23.20
19:47:34	20.85	0.21	224.42	0.22	0.00	0.64	23.19
19:48:04	20.85	0.21	224.68	0.34	0.00	0.00	22.94
19:48:34	20.85	0.23	224.86	0.12	0.00	2.10	23.01
19:49:03	20.85	0.20	224.32	0.27	0.00	0.35	23.40
19:49:33	20.85	0.25	225.06	0.00	0.00	0.72	23.34
19:50:03	20.85	0.22	224.79	0.07	0.00	2.47	23.37
19:50:33	20.85	0.22	224.55	0.31	0.00	1.55	23.03
19:51:03	20.85	0.25	224.98	0.05	0.00	0.29	23.65
19:51:33	20.85	0.22	224.75	0.11	0.00	0.00	23.89

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
14:30:23	11.11	11.33	5503.79	110.04	62.60	1559.30	1.92
14:30:53	2.81	13.43	30902.70	101.56	993.98	863.35	2.00
14:31:23	0.00	14.94	423.39	129.32	1263.26	620.43	156.43
14:31:53	0.64	15.29	498.57	149.85	671.00	1417.63	336.63
14:32:23	0.89	14.00	498.33	162.02	288.61	2218.64	43.79
14:32:53	2.94	12.31	498.10	154.11	142.75	2745.23	22.44
14:33:36	4.76	11.20	487.96	153.21	60.36	3131.02	9.45
14:34:06	7.21	10.05	35.33	152.56	24.01	2614.51	5.44
14:34:36	7.92	9.50	6.91	145.18	15.39	2405.18	4.43
14:35:06	8.61	8.94	4.98	137.03	10.21	2299.02	3.94
14:35:36	9.33	8.38	4.03	125.99	6.45	2261.87	3.53
14:36:05	10.00	8.03	4.52	118.31	3.73	2175.60	3.10
14:36:35	10.47	7.69	4.73	105.73	1.38	2136.60	2.77
14:37:05	10.94	7.36	5.66	97.70	0.00	2093.14	2.64
14:37:35	11.33	7.10	7.47	92.45	0.00	2017.19	2.63
14:38:05	11.61	6.96	9.84	89.98	0.00	1870.49	2.46
14:38:35	11.82	6.82	11.50	85.38	0.00	1758.56	2.51
14:39:05	11.95	6.68	15.60	82.10	0.00	1656.06	2.13
14:39:35	12.13	6.54	20.65	77.11	0.00	1607.28	2.52
14:40:05	12.33	6.41	29.85	72.69	0.00	1551.30	1.99
14:40:35	12.48	6.34	43.55	70.58	0.00	1516.02	1.97
14:41:05	12.56	6.26	59.68	67.49	0.00	1493.93	1.93
14:41:35	12.64	6.28	73.82	66.94	0.00	1452.98	1.89
14:42:05	12.60	5.63	70.69	54.16	0.00	1387.36	2.00
14:42:35	13.46	5.63	39.62	56.41	0.00	1311.24	1.92
14:43:05	13.36	6.26	63.50	49.72	0.00	1207.51	1.86
14:43:35	12.24	7.48	51.71	52.16	0.00	1115.70	1.80
14:44:05	10.37	6.05	33.17	46.72	0.00	1070.87	2.06
14:44:35	12.48	5.52	69.60	46.19	0.00	1020.03	1.79
14:45:05	13.40	6.07	130.52	50.94	0.00	1015.30	1.73
14:45:34	12.19	7.41	64.32	53.14	0.00	999.52	1.59
14:46:04	9.95	5.61	45.79	39.41	0.00	944.58	1.85
14:46:34	12.44	5.02	103.42	37.10	0.00	872.52	1.67
14:47:04	13.74	6.52	126.25	48.31	0.00	823.26	1.77
14:47:34	11.19	7.08	30.62	48.21	0.00	811.13	1.83
14:48:04	10.12	5.44	31.77	36.04	0.00	763.05	1.72
14:48:34	12.86	4.88	92.65	35.63	0.00	681.09	1.58
14:49:04	13.65	6.63	72.54	46.92	0.00	640.43	1.47
14:49:34	10.98	6.76	15.10	44.56	0.00	630.34	2.03
14:50:04	10.57	4.88	34.34	32.27	0.00	627.79	1.65
14:50:34	13.50	5.00	65.11	39.25	0.00	615.99	1.38
14:51:04	13.37	6.44	25.72	49.36	0.00	596.93	1.67
14:51:34	11.03	6.21	6.44	44.76	0.00	572.63	1.80
14:52:04	11.20	4.27	12.18	30.36	0.00	581.63	1.43
14:52:34	14.25	5.02	25.48	43.19	0.00	572.82	1.40

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-1990	O2	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
14:53:04	13.19	6.21	11.30	50.03	0.00	537.88	1.33
14:53:34	11.25	5.81	4.57	43.18	0.00	474.92	1.60
14:54:04	11.67	3.89	9.55	28.55	0.00	493.68	1.46
14:54:34	14.75	5.03	17.66	45.72	0.00	520.76	1.34
14:55:04	13.08	6.03	6.99	51.60	0.00	467.11	1.32
14:55:33	11.44	5.65	3.15	44.72	0.00	443.61	1.43
14:56:03	11.83	3.66	7.40	28.32	0.00	484.93	1.33
14:56:33	14.98	4.85	14.99	46.98	0.00	516.19	1.28
14:57:03	13.29	5.81	5.29	52.27	0.00	455.73	1.37
14:57:33	11.66	5.40	3.68	44.31	0.00	425.97	1.34
14:58:03	12.05	3.40	8.46	27.46	0.00	465.07	1.50
14:58:33	15.24	4.80	15.82	48.09	0.00	504.28	1.21
14:59:03	13.34	5.75	4.85	52.71	0.00	421.74	1.28
14:59:33	11.74	5.30	3.64	44.22	0.00	391.36	1.29
15:00:03	12.14	3.32	8.44	27.59	0.00	425.54	1.32
15:00:33	15.36	4.70	14.38	49.06	0.00	452.01	0.91
15:01:03	13.44	5.64	5.03	53.38	0.00	386.36	1.18
15:01:33	11.90	5.28	2.66	45.76	0.00	361.71	1.03
15:02:03	12.14	3.27	8.76	27.11	0.00	392.93	1.14
15:02:33	15.40	4.53	16.98	48.48	0.00	431.37	1.11
15:03:03	13.66	5.55	6.33	53.14	0.00	374.57	1.60
15:03:33	12.01	5.33	2.47	47.67	0.00	358.51	1.05
15:04:03	11.97	3.30	9.60	25.72	0.00	384.95	1.25
15:04:33	15.30	4.22	17.90	45.99	0.00	429.91	0.98
15:05:03	14.20	5.30	6.87	51.95	0.00	371.77	1.27
15:05:32	12.42	5.51	2.96	52.78	0.00	345.06	0.94
15:06:02	11.84	4.19	5.32	33.15	0.00	339.41	1.02
15:06:32	13.66	3.29	15.38	33.20	0.00	395.13	1.01
15:07:02	15.43	4.95	11.77	50.72	0.00	376.82	1.09
15:07:32	13.03	5.42	3.77	52.85	0.00	334.84	1.22
15:08:02	12.08	5.22	3.02	48.16	0.00	327.22	0.90
15:08:32	12.04	3.17	9.40	23.97	0.00	356.02	1.14
15:09:02	15.36	4.12	18.37	45.24	0.00	394.58	1.00
15:09:32	14.30	5.24	6.44	51.03	0.00	354.70	1.41
15:10:02	12.53	5.42	2.58	52.58	0.00	333.63	0.91
15:10:32	11.92	4.60	4.38	38.17	0.00	323.71	1.07
15:11:02	12.92	3.00	14.76	27.49	0.00	360.76	0.73
15:11:32	15.69	4.67	16.46	49.58	0.00	362.11	0.71
15:12:02	13.50	5.26	4.60	51.73	0.00	318.94	1.65
15:12:32	12.33	5.35	3.07	52.24	0.00	303.74	0.89
15:13:02	11.95	3.79	5.47	28.58	0.00	310.05	0.72
15:13:32	14.13	3.32	20.31	35.66	0.00	348.32	0.83
15:14:01	15.39	4.94	11.21	50.73	0.00	330.37	0.95
15:14:50	13.06	5.24	3.53	52.34	0.00	302.35	1.62
15:15:20	12.04	4.17	5.50	36.53	0.00	301.01	0.90

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmVw	ppmCw
15:15:50	13.87	3.32	20.79	34.26	0.00	337.54	0.97
15:16:20	15.41	4.77	13.12	50.39	0.00	324.29	0.87
15:16:50	13.33	5.18	3.87	52.17	0.00	287.82	1.52
15:17:20	12.40	5.23	2.75	51.35	0.00	278.75	0.76
15:17:51	12.08	3.79	4.81	28.53	0.00	273.75	0.99
15:18:21	14.92	3.60	23.22	39.86	0.00	314.98	0.89
15:18:51	15.13	4.92	8.33	51.11	0.00	284.30	0.81
15:19:21	12.95	5.25	3.55	51.92	0.00	261.54	1.63
15:19:51	12.24	4.85	3.03	45.52	0.00	262.19	0.81
15:20:21	12.41	2.78	12.87	22.47	0.00	280.72	0.74
15:20:51	15.79	4.10	21.62	47.45	0.00	307.34	0.73
15:21:21	14.34	4.94	5.56	51.95	0.00	274.35	1.85
15:21:51	12.86	5.10	3.32	52.81	0.00	266.89	0.88
15:22:21	12.36	4.95	3.66	48.94	0.00	260.16	0.96
15:22:51	12.31	2.87	11.91	22.01	0.00	275.12	0.89
15:23:21	15.61	3.87	22.63	45.74	0.00	286.91	0.68
15:23:51	14.67	4.94	6.96	51.74	0.00	262.52	1.69
15:24:21	12.97	5.04	3.15	53.58	0.00	245.85	0.86
15:24:50	12.39	5.02	3.30	50.97	0.00	248.06	0.88
15:25:20	12.27	2.90	10.01	22.91	0.00	252.34	0.56
15:25:50	15.36	3.67	24.87	43.45	0.00	272.36	0.88
15:26:20	14.96	4.83	7.06	51.55	0.00	247.23	1.61
15:26:50	13.13	5.05	3.47	53.03	0.00	237.99	1.29
15:27:20	12.47	5.06	3.62	53.01	0.00	239.31	0.89
15:27:50	12.25	3.28	8.41	25.54	0.00	245.13	0.66
15:28:20	14.63	3.31	25.51	38.04	0.00	267.35	0.89
15:28:50	15.53	4.68	10.63	51.21	0.00	251.55	0.96
15:29:20	13.36	4.99	3.70	52.36	0.00	236.94	2.29
15:29:50	12.61	5.01	2.80	53.02	0.00	229.63	0.66
15:30:20	12.38	4.08	5.25	35.27	0.00	230.32	0.83
15:30:50	13.49	2.75	22.39	29.02	0.00	246.02	0.64
15:31:20	16.02	4.45	17.10	50.06	0.00	238.16	0.83
15:31:50	13.84	4.84	4.08	52.57	0.00	218.77	3.03
15:32:20	12.81	4.97	3.34	52.79	0.00	217.96	0.85
15:32:50	12.49	4.83	3.34	49.45	0.00	217.81	0.70
15:33:20	12.44	2.70	13.17	20.67	0.00	229.40	0.58
15:33:50	15.65	3.72	25.94	43.90	0.00	236.87	0.78
15:34:19	14.97	4.75	7.10	50.71	0.00	225.60	2.37
15:34:49	13.17	4.95	3.20	51.10	0.00	218.37	1.12
15:35:19	12.57	4.93	3.07	51.92	0.00	212.96	0.85
15:35:49	12.40	3.36	8.90	25.31	0.00	216.13	0.85
15:36:19	14.44	3.02	28.22	35.66	0.00	227.77	0.47
15:36:49	15.85	4.50	11.60	50.23	0.00	218.01	1.12
15:37:19	13.65	4.78	2.73	51.32	0.00	208.10	2.69
15:37:49	12.90	4.86	3.21	52.05	0.00	202.42	0.73

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmCw
15:38:19	12.63	4.78	3.05	49.74	0.00	207.96	0.76
15:38:49	12.55	2.67	14.34	19.94	0.00	211.29	0.62
15:39:19	15.67	3.59	28.57	43.47	0.00	218.07	0.86
15:39:49	15.15	4.63	6.56	50.42	0.00	206.67	3.05
15:40:19	13.41	4.85	3.63	51.51	0.00	205.71	1.14
15:40:49	12.80	4.86	2.30	51.96	0.00	207.66	0.61
15:41:19	12.60	4.58	3.36	45.25	0.00	204.47	0.84
15:41:49	12.78	2.49	19.35	20.28	0.00	204.20	0.60
15:42:19	16.14	3.85	26.91	46.47	0.00	208.55	0.77
15:42:49	14.70	4.64	5.09	50.61	0.00	197.21	3.89
15:43:19	13.35	4.77	3.15	51.90	0.00	193.30	0.80
15:43:49	12.85	4.82	2.98	52.53	0.00	193.20	0.73
15:44:19	12.64	4.64	3.16	48.68	0.00	193.05	0.65
15:44:48	12.65	2.56	17.03	19.32	0.00	199.70	0.76
15:45:18	15.89	3.66	30.06	45.44	0.00	195.90	0.68
15:45:48	15.01	4.56	5.86	51.07	0.00	192.20	3.86
15:46:18	13.45	4.70	2.78	52.38	0.00	187.06	0.51
15:46:48	12.94	4.78	3.36	51.83	0.00	187.87	0.77
15:47:18	12.71	4.72	3.46	51.18	0.00	179.91	0.53
15:47:48	12.65	2.75	15.17	19.62	0.00	187.62	0.70
15:48:18	15.42	3.39	31.98	42.45	0.00	180.99	0.50
15:48:48	15.45	4.50	7.54	50.93	0.00	176.32	3.19
15:49:18	13.57	4.70	2.81	51.61	0.00	173.33	1.85
15:49:48	12.96	4.74	3.23	52.37	0.00	175.89	0.58
15:50:18	12.75	4.76	3.43	51.95	0.00	175.94	0.69
15:50:48	12.66	2.90	12.50	21.87	0.00	177.25	0.52
15:51:18	15.01	3.14	35.03	38.57	0.00	171.91	0.74
15:51:48	15.78	4.40	9.37	50.53	0.00	167.93	2.20
15:52:18	13.73	4.67	3.32	51.06	0.00	166.73	3.72
15:52:48	13.05	4.66	2.83	51.97	0.00	166.42	0.54
15:53:18	12.82	4.72	3.82	52.51	0.00	168.19	0.73
15:53:48	12.75	3.82	5.85	35.18	0.00	168.09	0.65
15:54:18	13.70	2.49	33.65	27.24	0.00	166.81	0.49
15:54:48	16.31	4.12	18.05	49.49	0.00	157.03	0.51
15:55:18	14.27	4.57	4.10	51.14	0.00	161.81	5.37
15:55:48	13.27	4.68	3.30	51.89	0.00	165.16	0.72
15:56:17	12.92	4.65	3.26	51.87	0.00	168.92	0.69
15:56:47	12.78	4.71	3.21	52.29	0.00	165.86	0.63
15:57:17	12.77	3.00	13.17	22.92	0.00	161.86	0.50
15:57:47	14.84	3.07	38.39	36.85	0.00	152.73	0.61
15:58:17	15.88	4.39	10.64	49.08	0.00	152.94	2.33
15:58:47	13.75	4.69	3.61	49.59	0.00	157.16	4.15
15:59:17	13.06	4.73	2.94	50.90	0.00	156.11	0.74
15:59:47	12.75	4.73	3.48	51.03	0.00	156.50	0.50
16:00:17	12.67	3.39	9.74	27.09	0.00	158.12	0.64

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmCw
16:00:47	14.26	2.70	37.94	31.62	0.00	149.70	0.40
16:01:17	16.19	4.27	14.32	49.33	0.00	148.93	1.02
16:01:47	14.06	4.56	2.96	50.32	0.00	152.57	5.53
16:02:17	13.23	4.65	3.34	51.25	0.00	154.40	0.65
16:02:47	12.94	4.65	3.17	52.30	0.00	149.50	0.52
16:03:17	12.81	4.69	3.51	51.30	0.00	151.89	0.73
16:03:47	12.77	2.71	17.01	19.17	0.00	146.74	0.41
16:04:17	15.31	3.25	38.38	41.39	0.00	135.12	0.72
16:05:00	16.03	4.31	10.41	50.31	0.00	133.12	1.22
16:05:30	13.40	4.63	3.48	51.05	0.00	140.98	0.96
16:06:00	13.01	4.62	3.29	51.75	0.00	137.04	0.64
16:06:30	12.89	4.66	4.22	51.81	0.00	130.88	0.77
16:07:00	12.86	4.13	4.40	40.90	0.00	126.61	0.43
16:07:29	13.31	2.35	37.62	21.82	0.00	124.47	0.81
16:07:59	16.40	3.98	28.66	48.14	0.00	122.73	0.58
16:08:29	14.60	4.52	4.38	50.66	0.00	120.17	6.59
16:08:59	13.44	4.61	3.19	51.29	0.00	122.40	0.66
16:09:29	13.06	4.63	2.93	51.67	0.00	116.90	0.67
16:09:59	12.89	4.66	3.52	51.57	0.00	114.08	0.84
16:10:29	12.78	4.15	4.34	38.54	0.00	107.83	0.82
16:10:59	13.21	2.34	39.33	21.42	0.00	106.29	0.76
16:11:29	16.38	3.97	27.88	47.20	0.00	99.66	0.86
16:11:59	14.50	4.56	4.50	50.34	0.00	96.57	7.35
16:12:29	13.35	4.60	3.25	51.25	0.00	89.51	0.93
16:12:59	12.96	4.70	3.73	50.72	0.00	89.17	0.90
16:13:29	12.82	4.62	3.16	50.59	0.00	82.48	0.76
16:13:59	12.77	4.58	3.88	48.40	0.00	84.64	0.89
16:14:29	12.75	2.46	24.47	17.31	0.00	80.84	0.55
16:14:59	15.69	3.50	40.01	42.05	0.00	79.95	0.69
16:15:30	15.82	4.43	8.90	47.73	0.00	77.48	2.14
16:16:00	13.65	4.68	3.33	49.25	0.00	76.23	1.12
16:16:30	12.91	4.69	3.10	49.50	0.00	72.93	0.79
16:17:00	12.73	4.69	3.04	50.06	0.00	68.84	0.74
16:17:30	12.65	3.67	8.41	31.27	0.00	69.04	0.71
16:18:00	13.80	2.39	45.94	27.72	0.00	68.30	0.44
16:18:30	16.33	4.13	20.79	48.08	0.00	65.28	1.17
16:19:00	14.30	4.49	3.95	49.51	0.00	59.68	8.13
16:19:30	13.30	4.58	3.07	50.01	0.00	59.91	0.89
16:20:00	12.98	4.54	3.02	51.12	0.00	56.14	0.52
16:20:30	12.87	4.60	3.26	50.81	0.00	56.89	0.76
16:21:00	12.79	4.41	3.19	47.17	0.00	52.34	0.63
16:21:30	12.80	2.29	32.75	16.90	0.00	54.22	0.62
16:22:00	16.04	3.54	47.30	43.73	0.00	51.07	0.51
16:22:30	15.14	4.42	6.22	48.19	0.00	52.79	9.00
16:23:00	13.58	4.57	3.28	48.97	0.00	48.28	0.92

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-1990 O2	CO2	CO	NOx	SO2	HCl	THC
TIME %V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
16:23:29	13.00	4.57	3.15	49.74	0.00	47.93	0.79
16:23:59	12.82	4.60	3.68	49.95	0.00	46.04	0.89
16:24:29	12.75	3.96	4.22	38.23	0.00	46.43	0.43
16:24:59	13.31	2.17	56.20	20.96	0.00	41.93	1.08
16:25:29	16.51	3.82	38.06	46.96	0.00	44.34	0.96
16:25:59	14.67	4.44	5.01	49.76	0.00	40.30	9.85
16:26:29	13.43	4.45	2.94	51.47	0.00	38.82	0.57
16:26:59	13.10	4.54	3.65	51.41	0.00	40.12	0.96
16:27:29	12.92	4.45	3.17	51.20	0.00	38.58	0.66
16:27:59	12.87	4.35	3.10	47.76	0.00	38.28	0.71
16:28:29	12.88	2.22	38.68	15.88	0.00	36.47	0.81
16:28:59	16.01	3.28	59.99	44.80	0.00	33.93	0.79
16:29:29	15.42	4.28	9.31	49.89	0.00	36.78	9.83
16:29:59	13.81	4.37	3.16	51.18	0.00	32.72	0.91
16:30:29	13.24	4.45	3.16	51.68	0.00	32.97	0.90
16:30:59	13.05	4.41	3.23	53.17	0.00	31.01	0.59
16:31:29	12.97	4.47	3.77	51.78	0.00	32.26	0.98
16:31:59	12.95	4.25	2.58	47.66	0.00	31.09	0.60
16:32:29	12.94	2.17	50.39	16.03	0.00	30.98	0.84
16:32:59	16.16	3.36	70.71	44.94	0.00	30.15	0.60
16:33:42	15.39	4.23	8.84	49.34	0.00	29.43	10.97
16:34:12	13.51	4.37	3.27	50.60	0.00	28.89	0.87
16:34:42	13.17	4.42	3.15	50.49	0.00	29.63	0.95
16:35:12	13.04	4.38	3.34	51.83	0.00	27.18	0.63
16:35:42	13.02	4.39	3.16	50.97	0.00	25.15	0.81
16:36:12	13.01	2.57	33.08	18.61	0.00	26.90	0.55
16:36:42	15.20	2.85	93.02	37.73	0.00	23.37	0.88
16:37:12	16.13	4.12	19.25	49.03	0.00	24.87	6.86
16:37:42	14.11	4.33	2.81	50.37	0.00	22.90	4.97
16:38:11	13.43	4.36	3.07	50.61	0.00	27.43	0.84
16:38:41	13.17	4.37	3.02	50.89	0.00	23.41	0.66
16:39:11	13.05	4.43	4.14	50.85	0.00	23.84	0.98
16:39:41	13.00	4.37	3.23	51.39	0.00	23.30	0.61
16:40:11	13.00	2.60	34.98	18.49	0.00	23.92	0.93
16:40:41	15.18	2.83	104.63	37.80	0.00	21.96	0.82
16:41:11	16.16	4.07	20.98	48.86	0.00	21.98	6.66
16:41:41	14.15	4.31	3.29	49.28	0.00	21.60	5.14
16:42:11	13.46	4.39	3.85	49.91	0.00	21.61	1.05
16:42:41	13.20	4.36	2.81	50.65	0.00	22.70	0.89
16:43:11	13.12	4.38	3.49	50.76	0.00	23.90	0.89
16:43:41	13.08	4.38	4.51	50.55	0.00	21.62	1.01
16:44:11	13.10	3.59	10.41	33.59	0.00	21.54	0.98
16:44:41	13.84	2.13	111.99	23.75	0.00	21.95	1.13
16:45:11	16.63	3.80	58.75	47.32	0.00	19.73	1.66
16:45:41	14.69	4.22	4.19	49.91	0.00	19.70	10.82

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
16:46:11	13.61	4.31	2.67	50.23	0.00	18.95	0.85
16:46:41	13.32	4.31	3.40	50.36	0.00	19.80	0.95
16:47:11	13.21	4.30	3.22	51.79	0.00	15.85	0.78
16:47:41	13.14	4.34	3.39	50.35	0.00	21.06	0.86
16:48:11	13.13	4.30	3.52	51.86	0.00	15.56	0.55
16:48:41	13.12	3.57	10.71	34.98	0.00	20.86	0.82
16:49:11	13.85	2.12	123.32	24.77	0.00	15.78	0.50
16:49:41	16.66	3.81	65.63	47.10	0.00	19.48	1.66
16:50:11	14.69	4.25	5.14	50.02	0.00	14.89	10.38
16:50:40	13.63	4.29	3.41	50.72	0.00	16.34	1.06
16:51:10	13.29	4.33	3.85	50.76	0.00	16.47	0.96
16:51:40	13.17	4.29	2.49	51.21	0.00	17.50	0.66
16:52:10	13.15	4.35	4.13	50.62	0.00	17.11	0.93
16:52:40	13.13	4.33	3.70	51.82	0.00	16.36	0.89
16:53:10	13.12	2.74	41.10	20.26	0.00	18.90	1.11
16:53:40	15.02	2.67	150.37	37.03	0.00	20.73	1.00
16:54:10	16.35	3.99	30.58	50.44	0.00	17.94	7.27
16:54:52	14.33	4.22	3.74	51.19	0.00	17.28	6.08
16:55:22	13.49	4.30	4.41	51.31	0.00	15.47	0.99
16:55:52	13.32	4.29	3.36	52.00	0.00	15.41	0.83
16:56:22	13.28	4.31	4.46	52.36	0.00	19.59	0.82
16:56:52	13.27	4.27	2.79	52.06	0.00	16.57	0.86
16:57:22	13.24	4.31	3.78	52.23	0.00	16.47	0.86
16:57:52	13.23	4.08	3.24	48.49	0.00	13.44	0.63
16:58:22	13.25	2.00	84.35	15.98	0.00	16.16	0.70
16:58:51	16.31	3.25	130.68	45.69	0.00	15.51	0.84
16:59:21	15.54	4.10	14.51	50.62	0.00	18.08	12.37
16:59:51	14.04	4.24	3.65	51.43	0.00	16.76	1.14
17:00:21	13.53	4.24	2.77	51.88	0.00	16.15	0.91
17:00:51	13.34	4.31	4.51	51.15	0.00	16.71	0.96
17:01:21	13.23	4.25	2.79	51.06	0.00	16.11	0.75
17:01:51	13.23	4.30	3.94	51.10	0.00	16.87	0.97
17:02:21	13.22	4.21	2.80	53.36	0.00	13.20	0.65
17:02:51	13.24	3.70	8.25	39.31	0.00	14.13	0.86
17:03:21	13.69	1.94	129.78	21.69	0.00	13.53	0.66
17:03:51	16.76	3.61	87.88	48.34	0.00	15.37	1.67
17:04:21	15.02	4.08	6.28	51.37	0.00	13.67	12.40
17:04:51	13.92	4.18	3.43	51.91	0.00	15.33	1.13
17:05:21	13.52	4.17	3.25	51.74	0.00	14.08	1.02
17:05:51	13.42	4.18	3.39	52.56	0.00	19.92	1.03
17:06:21	13.37	4.21	3.97	52.56	0.00	13.48	0.97
17:06:51	13.35	4.18	2.81	52.27	0.00	16.27	0.99
17:07:21	13.32	4.20	3.55	52.08	0.00	14.25	0.94
17:07:51	13.34	4.15	2.77	52.14	0.00	17.89	0.98
17:08:21	13.34	4.18	3.52	52.70	0.00	15.29	0.99

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-1990		CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:08:50	13.34	2.44	49.67	19.31	0.00	16.02	0.79
17:09:20	15.27	2.72	162.89	39.07	0.00	16.06	1.08
17:09:50	16.35	3.91	28.92	50.98	0.00	16.04	9.28
17:10:20	14.37	4.14	3.49	51.07	0.00	14.18	5.47
17:10:50	13.73	4.16	2.75	52.74	0.00	16.36	0.97
17:11:20	13.44	4.18	3.59	51.22	0.00	15.46	1.14
17:11:50	13.39	4.18	3.94	51.91	0.00	15.42	1.05
17:12:20	13.38	4.18	3.32	51.73	0.00	16.72	1.14
17:12:50	13.39	4.18	4.24	52.50	0.00	14.35	1.04
17:13:20	13.36	4.14	2.57	52.67	0.00	17.68	0.90
17:13:50	13.36	4.16	3.84	52.83	0.00	17.32	1.01
17:14:20	13.41	3.27	15.25	33.58	0.00	17.76	0.95
17:14:50	14.21	2.08	176.11	26.22	0.00	17.34	1.16
17:15:20	16.79	3.65	75.04	49.49	0.00	19.41	3.65
17:15:50	14.92	4.06	4.98	51.04	0.00	19.87	13.40
17:16:20	13.94	4.10	2.55	50.99	0.00	17.91	1.19
17:16:50	13.59	4.15	3.50	51.55	0.00	19.90	1.11
17:17:20	13.45	4.11	3.28	52.03	0.00	19.83	1.06
17:17:49	13.42	4.15	3.93	51.50	0.00	17.95	1.02
17:18:19	13.43	4.14	3.50	51.99	0.00	21.31	0.92
17:18:49	13.41	4.16	3.86	51.78	0.00	18.40	1.07
17:19:19	13.41	4.14	3.89	51.30	0.00	20.18	1.15
17:19:49	13.43	4.03	3.34	48.43	0.00	16.65	1.02
17:20:19	13.43	1.97	102.54	14.94	0.00	19.93	1.02
17:20:49	16.20	3.06	168.46	44.94	0.00	16.15	0.91
17:21:19	15.86	3.95	17.60	49.80	0.00	15.35	17.35
17:21:49	14.29	4.08	3.33	49.92	0.00	16.36	1.54
17:22:19	13.71	4.15	3.89	50.45	0.00	15.82	1.15
17:22:49	13.51	4.11	3.16	50.63	0.00	17.49	1.01
17:23:19	13.44	4.14	4.05	50.74	0.00	17.90	1.12
17:23:49	13.43	4.11	3.59	50.58	0.00	13.60	0.98
17:24:19	13.43	4.16	3.73	50.74	0.00	16.84	1.00
17:24:49	13.43	4.09	3.42	50.31	0.00	16.30	0.94
17:25:19	13.43	4.14	3.67	50.64	0.00	16.93	0.96
17:25:49	13.43	4.02	3.60	46.94	0.00	19.94	1.00
17:26:19	13.43	1.75	124.22	12.68	0.00	16.95	1.04
17:26:49	16.15	3.07	166.25	43.12	0.00	16.96	1.13
17:27:19	15.90	3.95	16.33	48.52	0.00	15.05	20.72
17:27:49	14.31	4.09	3.94	48.60	0.00	18.12	1.43
17:28:19	13.73	4.12	3.47	50.08	0.00	13.85	1.10
17:28:49	13.55	4.15	4.05	48.98	0.00	16.72	1.08
17:29:18	13.43	4.13	3.75	49.96	0.00	14.03	1.09
17:29:48	13.42	4.16	3.97	50.25	0.00	16.76	0.96
17:30:18	13.43	4.12	3.56	49.96	0.00	13.12	1.13
17:30:48	13.43	4.15	4.22	50.47	0.00	15.69	1.14

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:31:18	13.43	4.12	3.40	50.67	0.00	12.47	0.94
17:31:48	13.43	3.28	20.23	30.99	0.00	15.18	1.04
17:32:18	14.18	1.96	208.12	24.88	0.00	16.73	0.89
17:32:48	16.83	3.61	83.17	46.71	0.00	14.28	7.70
17:33:18	14.99	4.00	4.70	48.82	0.00	15.75	17.85
17:33:48	14.02	4.06	3.43	49.87	0.00	16.70	1.27
17:34:18	13.66	4.07	3.16	49.36	0.00	16.55	1.14
17:34:48	13.54	4.07	3.00	49.74	0.00	13.09	1.17
17:35:18	13.48	4.07	2.53	49.73	0.00	15.16	0.99
17:35:48	13.47	4.05	2.97	49.59	0.00	13.27	0.93
17:36:18	13.51	4.08	3.07	49.73	0.00	15.97	1.14
17:36:48	13.49	4.07	3.16	49.46	0.00	14.83	1.11
17:37:18	13.43	4.06	3.24	49.77	0.00	16.00	1.11
17:37:48	13.47	4.05	2.64	50.26	0.00	12.84	1.11
17:38:18	13.49	3.95	3.67	45.82	0.00	16.37	0.90
17:38:47	13.51	1.82	135.86	14.46	0.00	15.59	0.85
17:39:17	16.44	3.15	169.81	43.92	0.00	13.46	1.92
17:39:47	15.76	3.88	14.97	48.88	0.00	14.41	25.42
17:40:17	14.33	4.02	3.27	48.96	0.00	14.91	1.57
17:40:47	13.81	4.01	3.35	49.44	0.00	13.15	1.18
17:41:17	13.64	4.03	3.25	49.62	0.00	14.54	1.07
17:41:47	13.59	4.05	3.49	49.99	0.00	13.65	1.10
17:42:17	13.55	4.03	3.16	49.90	0.00	14.45	1.11
17:42:47	13.52	4.02	2.95	49.77	0.00	13.74	1.17
17:43:17	13.55	4.00	3.14	51.15	0.00	14.98	0.99
17:43:47	13.53	4.04	3.14	50.06	0.00	16.77	1.11
17:44:17	13.53	4.01	2.97	49.78	0.00	14.77	0.82
17:44:47	13.53	4.04	3.16	49.91	0.00	16.88	1.04
17:45:17	13.55	3.99	3.23	50.57	0.00	14.04	0.92
17:45:47	13.53	3.69	6.42	40.69	0.00	16.17	1.02
17:46:17	13.71	1.61	194.07	18.16	0.00	13.60	1.04
17:46:47	16.88	3.28	139.73	44.71	0.00	16.84	3.08
17:47:17	15.47	3.88	10.34	48.49	0.00	14.13	23.63
17:47:47	14.28	4.00	3.37	49.02	0.00	15.62	1.43
17:48:16	13.81	4.01	3.63	48.61	0.00	16.03	1.26
17:48:46	13.63	4.04	3.60	47.89	0.00	16.75	1.14
17:49:16	13.60	4.02	3.23	49.30	0.00	14.02	1.02
17:49:46	13.55	4.00	3.37	49.19	0.00	16.50	1.18
17:50:16	13.56	4.02	3.35	49.75	0.00	15.39	1.15
17:50:46	13.56	3.99	3.62	49.80	0.00	15.44	0.99
17:51:16	13.58	4.01	3.40	49.55	0.00	13.04	1.23
17:51:46	13.59	3.98	3.26	49.68	0.00	14.92	0.99
17:52:16	13.56	4.03	4.02	49.70	0.00	16.41	1.14
17:52:46	13.57	3.98	3.14	50.21	0.00	13.04	0.96
17:53:16	13.57	3.57	9.48	37.69	0.00	15.61	1.06

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING
CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-1990Z	O2	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:53:46	13.80	1.71	175.31	18.75	0.00	13.37	0.96
17:54:16	16.97	3.34	123.40	45.79	0.00	14.67	3.60
17:54:46	15.37	3.89	8.69	48.24	0.00	12.63	23.12
17:55:16	14.26	3.97	3.55	48.99	0.00	15.52	1.43
17:55:46	13.82	3.98	3.05	48.30	0.00	12.57	1.13
17:56:16	13.64	4.00	3.55	49.38	0.00	14.09	1.17
17:56:46	13.62	4.01	3.94	49.75	0.00	13.01	1.24
17:57:16	13.59	3.99	3.57	49.25	0.00	15.10	1.09
17:57:45	13.58	4.01	3.19	49.18	0.00	14.74	1.13
17:58:15	13.56	3.98	3.49	49.06	0.00	14.54	1.02
17:58:45	13.58	4.01	4.22	49.26	0.00	14.80	1.14
17:59:15	13.59	3.97	3.76	49.15	0.00	15.86	1.04
17:59:45	13.60	3.99	3.77	49.73	0.00	14.90	1.08
18:00:15	13.63	3.95	3.49	50.48	0.00	13.46	0.98
18:00:45	13.62	3.97	2.77	50.02	0.00	13.68	0.94
18:01:15	13.62	3.94	3.47	49.90	0.00	14.32	1.14
18:01:45	13.62	3.97	3.15	49.90	0.00	12.75	0.96
18:02:15	13.63	3.97	3.78	48.54	0.00	12.92	1.13
18:02:45	13.64	2.11	84.66	14.40	0.00	16.25	1.19
18:03:15	15.62	2.66	204.48	38.63	0.00	15.21	1.15
18:03:45	16.50	3.72	31.94	46.59	0.00	13.30	24.38
18:04:15	14.66	3.90	4.24	47.72	0.00	13.21	2.88
18:04:45	14.01	3.95	3.75	47.62	0.00	13.01	1.17
18:05:15	13.81	3.96	3.94	48.32	0.00	12.72	1.04
18:05:45	13.71	3.96	3.87	47.93	0.00	12.84	1.07
18:06:15	13.67	3.97	3.76	48.28	0.00	12.65	1.01
18:06:45	13.65	3.93	3.34	48.53	0.00	15.69	1.04
18:07:15	13.64	3.96	3.84	48.33	0.00	13.99	1.22
18:07:45	13.66	3.92	3.39	49.10	0.00	13.08	1.07
18:08:15	13.68	3.95	3.50	48.33	0.00	16.31	1.07
18:08:45	13.68	3.93	2.76	48.43	0.00	12.72	1.10
18:09:15	13.65	3.93	3.57	48.75	0.00	12.83	1.07
18:09:45	13.67	3.93	3.30	48.72	0.00	13.92	1.05
18:10:14	13.68	3.97	4.01	49.06	0.00	11.45	1.14
18:10:44	13.67	3.95	3.21	48.78	0.00	13.64	1.01
18:11:14	13.66	3.94	3.98	47.95	0.00	12.06	1.17
18:11:44	13.65	3.94	3.82	49.07	0.00	12.78	0.99
18:12:14	13.67	3.93	3.71	48.56	0.00	14.83	1.08
18:12:44	13.69	3.93	4.02	48.24	0.00	14.91	1.04
18:13:14	13.70	3.93	3.56	48.59	0.00	13.52	1.12
18:13:44	13.68	3.95	3.99	48.83	0.00	16.05	0.94
18:14:14	13.68	3.94	3.47	48.50	0.00	14.61	1.03
18:14:44	13.68	3.94	3.82	49.00	0.00	13.73	1.05
18:15:14	13.68	3.81	4.03	44.11	0.00	14.73	1.00
18:15:44	13.69	1.71	140.53	13.45	0.00	12.24	1.18

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 28, 1990

08-28-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
18:16:14	16.41	3.00	192.15	41.98	0.00	14.63	1.62
18:16:44	16.01	3.77	19.03	46.73	0.00	12.55	33.35
18:17:14	14.52	3.89	3.34	46.83	0.00	15.36	1.41
18:17:44	13.99	3.93	4.30	47.75	0.00	13.69	1.23
18:18:14	13.82	3.94	3.51	47.81	0.00	14.16	1.16
18:18:44	13.72	3.94	3.39	47.40	0.00	11.84	1.20
18:19:14	13.68	3.98	4.06	48.05	0.00	16.20	1.06
18:19:44	13.67	3.94	3.50	47.63	0.00	15.72	1.06
18:20:13	13.67	3.62	4.37	39.86	0.00	16.06	0.91
18:20:43	13.78	1.57	45.20	10.86	0.00	13.98	1.33
18:21:13	16.87	0.89	119.84	9.74	0.00	16.43	1.13
18:21:43	18.69	0.79	240.38	9.31	0.00	10.62	1.31
18:22:13	19.36	0.76	353.25	9.13	0.00	13.00	1.18
18:22:43	19.61	0.74	430.51	8.90	0.00	13.60	1.87
18:23:13	19.69	0.74	480.14	8.92	0.00	13.64	3.01
18:23:43	19.74	0.70	497.97	8.74	0.00	13.08	4.87
18:24:13	19.76	0.72	499.04	8.22	0.00	20.92	7.84
18:24:43	19.76	0.73	498.66	8.18	0.00	30.46	11.15
18:25:13	19.75	0.72	498.63	8.26	0.00	33.47	14.05
18:25:43	19.77	0.71	498.88	7.96	0.00	36.23	16.91
18:26:13	19.77	0.71	499.23	7.54	0.00	36.94	20.95
18:26:43	19.79	0.70	498.67	7.91	0.00	35.72	23.20
18:27:13	19.80	0.71	499.34	7.17	0.00	36.19	26.83
18:27:43	19.81	0.69	498.49	7.71	0.00	36.30	29.65
18:28:13	19.81	0.72	499.06	7.24	0.00	34.07	35.62
18:28:43	19.80	0.70	499.18	7.15	0.00	37.05	37.44
18:29:13	19.81	0.70	499.01	7.04	0.00	34.76	37.36
18:29:42	19.80	0.71	499.31	6.95	0.00	36.09	41.77
18:30:12	19.80	0.70	498.68	7.16	0.00	33.80	53.32
18:30:42	19.83	0.68	499.20	6.73	0.00	35.02	56.47
18:31:12	19.84	0.68	498.63	7.03	0.00	34.95	66.76
18:31:42	19.84	0.68	499.66	6.82	0.00	35.51	75.31
18:32:12	19.84	0.68	499.02	6.90	0.00	33.91	75.19
18:32:42	19.84	0.71	500.22	6.59	0.00	36.02	80.25
18:33:12	19.84	0.65	498.75	6.45	0.00	34.89	91.97
18:33:42	19.85	0.65	498.63	6.47	0.00	33.37	93.03
18:34:12	19.85	0.64	498.45	6.58	0.00	33.28	90.76
18:34:42	19.85	0.66	498.83	6.15	0.00	32.19	100.14
18:35:12	19.86	0.62	497.93	6.94	0.00	35.74	101.12
18:35:42	19.72	0.68	500.15	6.58	0.00	46.96	104.24
18:36:12	19.03	0.49	501.32	4.48	0.00	48.44	109.16
18:36:42	18.92	0.09	427.98	2.01	0.00	43.07	115.13



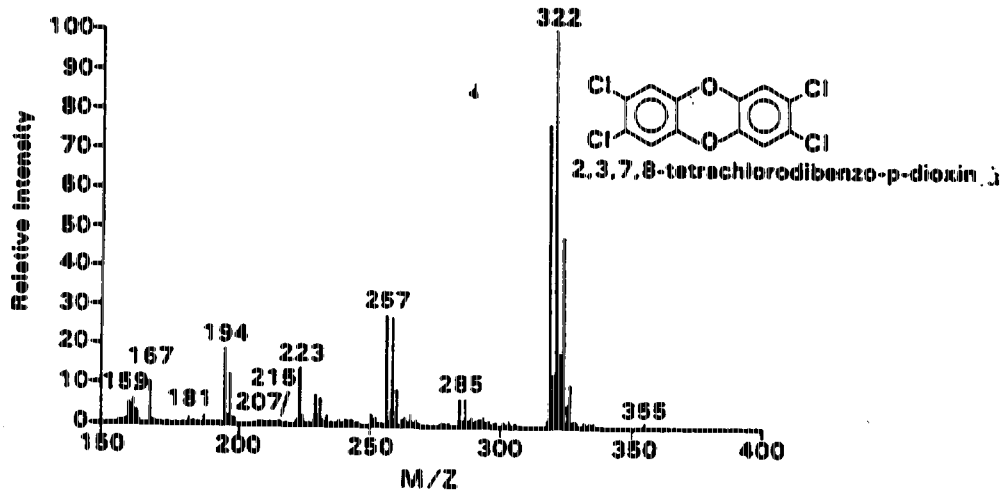


TRIANGLE LABORATORIES, INC.

POLYCHLORINATED DIBENZODIOXINS AND DIBENZOFURANS

DATA USER MANUAL

Triangle Laboratories
Analytical Methodology,
Data Quality Objectives,
Deliverables,
Data Package Assembly Description
&
Examples of Calculations



3.3 Sample Data

For each sample analyzed, a "sample data pack" is provided, which consists of:

3.3.1 Sample Data Summary Topsheet and Data Qualifiers

A Sample Data Summary Top Sheet (Figure 2), which summarizes the analyte concentrations, specific congener retention times, ion-abundance ratios and percent recoveries, analyst initials, date of analysis, TLI project number, Client identification, Client Sample identification, GC/MS file name, and continuing calibration file name. The terminology of the symbols used on the header of this reporting form (e.g., EMPC, ppt...) are given below.

On the Sample Data Summary Topsheets, the concentrations of the analytes are given either in parts per quadrillion (ppq), parts per trillion (ppt) or parts per billion (ppb). Absolute amounts (in pg or ng) are reported for "A" and "AA" sample types.

"RT" is the gas chromatographic retention time in minutes and seconds,

"number" is the number of GC peaks identified as PCDD/PCDF isomers in the totals reported for each homologous series,

"ratio" is the integrated ion-abundance ratio as shown in Table 7,

"DL" is the detection limit for samples presenting an analyte response that is less than 2.5 times the background level,

"EMPC", representing the estimated maximum possible concentration, is reported for GC/MS signals eluting within the PCDD/PCDF retention time windows established with the daily GC performance analysis, and which are characterized by a signal-to-noise ratio in excess of 2.5:1 but do not meet all of the qualitative identification criteria listed in Section 2.5. The "EMPC" is calculated by using the same expression used for reporting the identified analyte concentrations. The "DL" and "EMPC" are both reported in the same units used to report detected analytes.

"Flags" are used to warn the Data User of specific peculiarities associated with the results of a particular sample. For reporting results, the following specific data qualifiers are used:

S *This qualifier indicates that the response of a specific PCDD/PCDF isomer has exceeded the normal dynamic range of the mass spectrometer detection system. The corresponding signal is saturated and the reported analyte concentration*

is a "minimum estimate" regardless of whether or not the ion-abundance ratio or the retention time criteria are met. When the S qualifier is associated with the reporting of "totals", its use is to warn the Data User of the existence of one (not necessarily from a specific isomer) or more saturated signals for a given class of compounds.

I *This flag identifies a labeled compound (e.g., internal standard) for which the retention time criterion was not met due to the possible presence of coeluting interferences. The concentration of unlabeled analytes (computed relatively to the labeled standard in question) may be underestimated while the percent recoveries of the flagged labeled standard may be higher than reality.*

Note that this qualifier may also be used if several unexpected signals are found to elute in the vicinity of the labeled standards even though the former's identification criteria are met.

Q *A "Q" qualifier is used to warn the Data User of the existence of a "quantitative interference" as defined in Section 5.1.2.4.1 of Triangle Laboratories User Manual. The reported concentrations and percent recoveries may be questionable.*

A *When an "A" data qualifier is used in conjunction with the "Q" data qualifier, the results reported have been adjusted to reflect the change of sensitivity observed on the QC SICPs (Section 5). This will only apply to percent recoveries of labeled compounds when a quantitative interference is detected.*

N *Carbon-labeled internal standard characterized by a signal-to-noise ratio of less than 10:1 will be flagged by using the qualifier "N".*

R *This flag will be used to indicate that the results reported for the analytes (e.g., 1,2,3,7,8-PeCDD and total PeCDD) quantified relative to a specific internal standard (e.g., $^{13}C_{12}$-1,2,3,7,8-PeCDD) are rejected due to failure to achieve adequate recoveries (i.e., below QC limits) concomitantly with a low signal-to-noise ratio (S/N < 10:1) for the internal standard and associated specific analyte (Figure 13). In such cases, Triangle Labs recommends that the sample extraction and analysis be repeated to verify that no matrix effect is responsible for the observation(s).*

V *A "V" flag indicates that the analytical results reported for the associated analytes are considered valid even though the percent recoveries of the internal standard are below the QC limits. Thus, Triangle Labs considers that a re-extraction of the sample is not warranted. Please refer to Section 5.1.3.4.1 for additional explanations.*

B *This flag is used when the analyte is found in the associated laboratory method blank sample as well as in the field sample. The flag is to warn the Data User of the possible/probable blank contamination.*

L *This flag identifies detected analytes for which the reported concentrations are below the working calibration curve of the GC/MS system.*

E *This data qualifier is used to warn the Data User of the presence of signals in the polychlorinated diphenylether channels that may interfere with the determination of polychlorinated dibenzofurans.*

RO *Internal standards for which the ion-abundance ratio is measured outside the acceptable range are flagged with "RO" to indicate the possibility of the presence of a coeluting interference.*

PR *The presence of "poorly resolved" GC peaks is flagged by using the PR data qualifier. This will normally be used for specific analytes only.*

X *Other specific flags and footnotes may be required to properly define the results. If used, they will be fully described in the Case Narrative. If more than one is necessary, a different letter (e.g., Y, Z..) will be used.*

3.3.2 "Raw Data" and "Matched Peaks" Files

A set of dBase-generated pages ("Raw Data" file; Figure 6) reporting the mass of the ions monitored, their corresponding area measurements and retention times for all the GC/MS peaks recorded within the appropriate retention time windows is provided following the Sample Data Summary Sheet. The data can be used by the Data User during the audit to recalculate the results reported on the Sample Data Summary Top Sheet. Additionally, the "Matched Peaks" file (Figure 7) summarizes the ion- abundance ratios ("RATIO") and relative retention times ("REL_RT") of the GC/MS signals. Note that under the header "M_Z" of the "Matched Peaks" file are represented the low-mass ions used in the computation of the ratios (e.g., M/Z 316 = m/z 316/ m/z 318; the values originate from the corresponding m/z's with the correct retention time from the "Raw Data" file). The results from the computation of the ion-abundance ratios ("MATCH RAT") and relative retention times ("MATCH RT") are compared to tolerance windows (as stipulated in Section 2.5) and a true "T" or false "F" statement is printed depending on the outcome of the computation and the acceptable values.

TRIANGLE LABORATORIES, INC.
801-10 CAPITOLA DRIVE
RESEARCH TRIANGLE PARK, NC 27713

Phone: (919) 544-5729
Fax: (919) 544-5491

DATE :	* 17 OCTOBER 1990
CLIENT ID :	* RADIAN CORPORATION
P.O. NUMBER :	* S106087
TLI PROJECT No. :	* 16402M

CASE NARRATIVE
MODEL 8290X

ANALYSIS OF SAMPLES FOR THE PRESENCE OF

POLYCHLORINATED DIBENZO-p-DIOXINS

AND

DIBENZOFURANS

BY

HIGH-RESOLUTION GAS CHROMATOGRAPHY / HIGH-RESOLUTION MASS SPECTROMETRY

Twelve MM5 samples were received from RADIAN CORPORATION in good condition August 31, 1990 and stored in a refrigerator at 4°C. The samples were extracted and analyzed according to procedures described in the Triangle Labs User Manual provided with this data package. Any particular difficulties encountered during the sample handling by Triangle Labs will be discussed in the QA/QC remark section below.

Quality Assurance/Quality Control Samples

A laboratory method blank -- identified as the TLI Blank -- is prepared along with the batch of samples.

QA/QC Remarks

The release of this particular set of RADIAN CORPORATION analytical data by Triangle Labs was authorized by the Quality Assurance Officer who has reviewed each sample data package individually following a series of inspections/reviews conducted at two other levels of the data production line. When applicable, general deviations from acceptable QA/QC requirements are identified below. Comments on the effect of these deviations upon the validity and reliability of the results can be obtained from the User Manual (Data Quality Objectives; Section 5). Specific QA/QC Problems Associated with this Particular Project are:

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review:

The following samples represent an analysis of the archived half, and contain the usual 10.0 ng spike of internal standards (per entire sample):

TLI BLANK #1
LAB PROOF BLANK
TRIP BLANK
FIELD BLANK
AUDIT SAMPLE

All other samples represent an analysis of 2.0 % of the archived half (effectively 1.0 % of the entire sample). These were spiked with an additional 10.0 ng of internal and alternate standards, bringing these spike levels to 1010 ng per entire sample. Note that the dilution of the original surrogate pre-spikes in these samples negates their accurate quantitation. They have, therefore, been deleted from the final reports.

Addendum to Section 4.6 of the Data User's Manual

Effective December 15, 1989, Triangle Laboratories has adopted a new procedure for calculating the analyte specific detection limits. Under this new policy two representative noise height

CAPE FEAR MEMORIAL HOSPITAL INCINERATOR TESTING

CONTINUOUS EMISSIONS MONITORING DATA - BURNDOWN PERIOD, AUGUST 21, 1990

08-21-19902	CO2	CO	NOx	SO2	HCl	THC
TIME	%V	%V	ppmV	ppmV	ppmV	ppmVw	ppmCw
17:46:45	12.38	4.69	0.00	45.78	0.00	0.95	0.00
17:47:15	12.73	4.44	0.00	49.35	0.00	3.42	0.00
17:47:45	13.30	4.16	0.00	52.97	0.00	1.04	0.00
17:48:15	13.38	4.18	0.00	51.78	0.00	2.01	0.00
17:48:45	12.51	4.68	0.00	45.06	0.00	1.64	0.00
17:49:15	12.31	4.72	0.00	44.59	0.00	2.64	0.00
17:49:45	12.42	4.65	0.00	46.36	0.00	1.80	0.00
17:50:14	12.93	4.34	0.00	49.22	0.00	3.49	0.00
17:50:44	13.38	4.11	0.00	52.13	0.00	1.05	0.00
17:51:14	13.24	4.27	0.00	50.45	0.00	1.00	0.00
17:51:44	12.46	4.66	0.00	45.38	0.00	0.71	0.00
17:52:14	12.40	4.68	0.00	44.63	0.00	0.96	0.00
17:52:44	12.58	4.56	0.00	46.92	0.00	1.78	0.00
17:53:14	12.78	4.43	0.00	47.52	0.00	0.87	0.00
17:53:44	13.25	4.15	0.00	51.75	0.00	4.11	0.00
17:54:14	13.31	4.21	0.00	50.04	0.00	0.22	0.00
17:54:44	12.53	4.66	0.00	44.18	0.00	2.22	0.00
17:55:14	12.40	4.68	0.00	44.22	0.00	2.32	0.00
17:55:44	12.51	4.62	0.00	46.25	0.00	2.27	0.00
17:56:14	12.82	4.38	0.00	47.56	0.00	0.00	0.00
17:56:44	13.36	4.11	0.00	50.87	0.00	2.75	0.00
17:57:14	13.21	4.23	0.00	49.50	0.00	0.00	0.00
17:57:44	12.45	4.67	0.00	44.80	0.00	1.27	0.00
17:58:14	12.37	4.69	0.00	44.11	0.00	0.00	0.00
17:58:44	12.55	4.57	0.00	46.70	0.00	0.48	0.00
17:59:14	13.12	4.25	0.00	49.57	0.00	0.75	0.00
17:59:44	13.46	4.07	0.00	51.85	0.00	2.58	0.00
18:00:14	12.79	4.53	0.00	46.10	0.00	1.97	0.00
18:00:44	12.41	4.68	0.00	43.72	0.00	0.89	0.00
18:01:14	12.39	4.67	0.00	45.57	0.00	2.33	0.00
18:01:44	12.78	4.43	0.00	47.13	0.00	0.75	0.00
18:02:14	13.37	4.11	0.00	50.32	0.00	1.96	0.00
18:02:43	13.34	4.21	0.00	48.52	0.00	0.04	0.00
18:03:13	12.54	4.63	0.00	44.41	0.00	2.34	0.00
18:03:43	12.41	4.69	0.00	44.08	0.00	1.18	0.00
18:04:13	12.48	4.64	0.00	45.60	0.00	1.69	0.00
18:04:43	12.69	4.48	0.00	46.88	0.00	1.26	0.00
18:05:13	13.16	4.24	0.00	49.01	0.00	3.41	0.00
18:05:43	13.46	4.11	0.00	50.08	0.00	1.52	0.00
18:06:13	12.65	4.59	0.00	44.66	0.00	2.25	0.00
18:06:43	12.46	4.66	0.00	43.00	0.00	1.13	0.00
18:07:13	12.49	4.63	0.00	45.19	0.00	1.39	0.00
18:07:43	12.84	4.38	0.00	47.37	0.00	2.13	0.00
18:08:13	13.42	4.08	0.00	51.34	0.00	2.26	0.00
18:08:43	13.11	4.35	0.00	47.50	0.00	1.75	0.00

determinations are summed and multiplied by an empirically determined factor before the detection limit equation given in Section 4.6 of the Data User's Manual is applied. The effect of this procedure is to increase DB-225 analyses detection limits by a factor of 3.5, and DB-5 analyses detection limits by a factor of 5. This procedure will result in a more accurate estimate of detection limits.

The revised formula for DB-225 analyses is:

$$DL_{ai}^{DB-225} = \frac{2.5 * (3.5 * H_{ai}) * Q_{Sj}}{A_{Sj} * \overline{RRF} * W}$$

$$3.5 * H_{ai} = A_{noise}$$

The revised formula for DB-5 analyses is:

$$DL_{ai}^{DB-5} = \frac{2.5 * (5 * H_{ai}) * Q_{Sj}}{A_{Sj} * \overline{RRF} * W}$$

$$5 * H_{ai} = A_{noise}$$

The symbols are defined in Section 4.6 of the Data User's Manual.

As an example, consider a DB-225 confirmation analysis of a 10 g sample. The internal standard spike is 2000 pg, the $^{13}C_{12}$-2,3,7,8-TCDF internal standard area is 12000 area units, the RRF is 1.215 and the noise height is 11 units. The 2,3,7,8-TCDF detection limit is:

$$DL_{TCDF}^{DB-225} = \frac{2.5 * (3.5 * 11) * 2000}{12000 * 1.215 * 10.0} = 1.3 \text{ ppt}$$

Should RADIAN CORPORATION have any questions or comments to formulate regarding this data package please feel free to contact us.

For Triangle Laboratories,

Analyst

QA Project Officer

Mary C. Ohl for
Laboratory Manager

FILE NAME....: S903492 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-2ACD
CONCAL (VER).: S903488 SAMPLE ID....: RUN 1
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			4.6			
12378-PeCDD	EMPC			18.2			
123478-HxCDD	23.5				1.33	41:46	
123678-HxCDD	28.5				1.26	41:53	
123789-HxCDD	62.4				1.35	42:19	PK
1234678-HpCDD	221				0.99	46:47	
OCDD	405				0.90	52:15	
2378-TCDF	92.9				0.74	30:47	
12378-PeCDF	92.7				1.63	35:33	
23478-PeCDF	103				1.60	36:29	
123478-HxCDF	423				1.12	40:36	
123678-HxCDF	242				1.14	40:47	
234678-HxCDF	299				1.14	41:35	PK
123789-HxCDF	14.1				1.05	42:44	
1234678-HpCDF	929				0.93	45:13	
1234789-HpCDF	114				0.93	47:29	
OCDF	1040				0.85	52:31	
TOTAL TCDD	48.4	6		61.2	0.79		
TOTAL PeCDD	90.9	7		141	1.52		
TOTAL HxCDD	306	6		317	1.28		
TOTAL HpCDD	445	2			1.03		
TOTAL TCDF	706	13		710	0.75		
TOTAL PeCDF	1450	15			1.54		
TOTAL HxCDF	2210	10		2230	1.15		
TOTAL HpCDF	1710	4			0.96		

[signature] 10/12/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY

10/16/90

FILE NAME....: S903492	CLIENT ID....: RADIAN	TLI NUMBER....: 36-17-2ACD
CONCAL (VER).: S903488	SAMPLE ID....: RUN 1	
PROJECT NUMBER: 16402M	ICAL DATE....: 09/04/90	
ANALYST.....: CP	ANALYSIS DATE: 10/01/90	
SAMPLE SIZE..: 1.000	SAMPLE MATRIX: MM5	SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90	DATE COLLECTED: / /	
SPIKE FILE...: SPX237XX		SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	897	88.9	0.53	42:44	____
13C12-HxCDF 234	1100	109	0.51	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	858	84.9	0.77	30:45	____
13C12-2378-TCDD	818	80.9	0.81	31:32	____
13C12-PeCDF 123	664	65.7	1.55	35:31	____
13C12-PeCDD 123	650	64.4	1.53	36:57	____
13C12-HxCDF 678	786	77.8	0.53	40:46	____
13C12-HxCDD 678	903	89.4	1.20	41:53	____
13C12-HpCDF 678	733	72.5	0.45	45:12	____
13C12-HpCDD 678	681	67.5	1.03	46:46	____
13C12-OCDD	1030	50.8	0.86	52:14	____

TV	10/12/90

X237_RPT rev:3.03

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903493 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-3ACD
CONCAL (VER).: S903488 SAMPLE ID....: RUN 2
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	4.4				0.89	31:33	
12378-PeCDD	18.5				1.46	36:59	
123478-HxCDD	24.2				1.16	41:46	
123678-HxCDD	38.0				1.24	41:54	
123789-HxCDD	66.0				1.31	42:19	PR
1234678-HpCDD	328				1.01	46:47	
OCDD	824				0.81	52:16	
2378-TCDF	140				0.75	30:48	
12378-PeCDF	69.5				1.52	35:33	
23478-PeCDF	92.6				1.47	36:31	
123478-HxCDF	414				1.16	40:35	
123678-HxCDF	182				1.19	40:47	
234678-HxCDF	417				1.17	41:35	PR
123789-HxCDF	10.2				1.18	42:46	
1234678-HpCDF	924				0.93	45:13	
1234789-HpCDF	146				0.94	47:29	
OCDF	2160				0.89	52:31	
TOTAL TCDD	200	12			0.79		
TOTAL PeCDD	202	8		248	1.57		
TOTAL HxCDD	375	7		378	1.22		
TOTAL HpCDD	667	2			1.05		
TOTAL TCDF	940	15		943	0.74		
TOTAL PeCDF	1400	13		1410	1.52		
TOTAL HxCDF	2130	13		2150	1.17		
TOTAL HpCDF	1880	4			0.93		

[signature] 10/17/90

X237_RPT rev:3.03

FILE NAME....: S903493 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-3ACD
CONCAL (VER).: S903488 SAMPLE ID....: RUN 2
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	850	84.2	0.51	42:44	____
13C12-HxCDF 234	1120	111	0.50	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	993	98.3	0.77	30:45	____
13C12-2378-TCDD	988	97.8	0.80	31:33	____
13C12-PeCDF 123	760	75.3	1.55	35:31	____
13C12-PeCDD 123	712	70.5	1.52	36:57	____
13C12-HxCDF 678	640	63.4	0.53	40:46	____
13C12-HxCDD 678	981	97.2	1.20	41:53	____
13C12-HpCDF 678	601	59.5	0.43	45:12	____
13C12-HpCDD 678	527	52.2	1.01	46:46	____
13C12-OCDD	684	33.9	0.87	52:15	____

TV 10/12/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903494 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-4ACD
CONCAL (VER).: S903488 SAMPLE ID....: RUN 3
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	20.4				0.78	31:33	
12378-PeCDD	84.5				1.70	36:59	
123478-HxCDD	90.4				1.22	41:46	
123678-HxCDD	107				1.31	41:53	
123789-HxCDD	194				1.26	42:22	PR
1234678-HpCDD	497				1.05	46:47	
OCDD	484				0.82	52:15	
2378-TCDF	369				0.73	30:47	
12378-PeCDF	365				1.60	35:31	
23478-PeCDF	373				1.58	36:29	
123478-HxCDF	1250				1.13	40:36	
123678-HxCDF	786				1.15	40:46	
234678-HxCDF	710				1.11	41:34	PR
123789-HxCDF	48.2				1.19	42:44	
1234678-HpCDF	1930				0.93	45:12	
1234789-HpCDF	264				0.98	47:29	
OCDF	923				0.89	52:31	
TOTAL TCDD	322	12		329	0.78		
TOTAL PeCDD	560	10		569	1.56		
TOTAL HxCDD	1020	7		1030	1.26		
TOTAL HpCDD	998	2			1.05		
TOTAL TCDF	2920	16		2920	0.73		
TOTAL PeCDF	4850	17		4950	1.54		
TOTAL HxCDF	6320	12			1.13		
TOTAL HpCDF	3390	4			0.94		

[signature] 10/17/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY

10/16/90

FILE NAME....: S903494
CONCAL (VER).: S903488
PROJECT NUMBER: 16402M
ANALYST.....: CP
SAMPLE SIZE..: 1.000
DATE RECEIVED.: 08/31/90
SPIKE FILE...: SPX237XX

CLIENT ID....: RADIAN
SAMPLE ID....: RUN 3
ICAL DATE....: 09/04/90
ANALYSIS DATE: 10/01/90
SAMPLE MATRIX: MM5
DATE COLLECTED: / /

TLI NUMBER....: 36-17-4ACD
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	857	84.9	0.49	42:43	____
13C12-HxCDF 234	1090	108	0.51	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	815	80.7	0.75	30:45	____
13C12-2378-TCDD	790	78.2	0.82	31:32	____
13C12-PeCDF 123	694	68.7	1.55	35:30	____
13C12-PeCDD 123	727	71.9	1.56	36:57	____
13C12-HxCDF 678	764	75.7	0.51	40:46	____
13C12-HxCDD 678	924	91.5	1.20	41:53	____
13C12-HpCDF 678	629	62.3	0.44	45:12	____
13C12-HpCDD 678	595	58.9	1.03	46:46	____
13C12-OCDD	768	38.0	0.85	52:14	____

[signature] 10/17/90

X237_RPT rev:3.03

2

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903495 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-5ACE
CONCAL (VER).: S903488 SAMPLE ID....: RUN 4
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	14.1				0.71	31:34	
12378-PeCDD	61.4				1.69	36:59	
123478-HxCDD	65.9				1.22	41:46	
123678-HxCDD	77.8				1.27	41:53	
123789-HxCDD	164				1.31	42:22	PR
1234678-HpCDD	346				1.06	46:47	
OCDD	259				0.93	52:15	
2378-TCDF	317				0.73	30:47	
12378-PeCDF	313				1.49	35:33	
23478-PeCDF	346				1.52	36:31	
123478-HxCDF	1060				1.12	40:37	
123678-HxCDF	687				1.12	40:46	
234678-HxCDF	622				1.13	41:34	PR
123789-HxCDF	EMPC			43.2			
1234678-HpCDF	1570				0.93	45:13	
1234789-HpCDF	219				0.96	47:29	
OCDF	710				0.89	52:31	
TOTAL TCDD	213	10		244	0.76		
TOTAL PeCDD	428	10		444	1.56		
TOTAL HxCDD	787	8			1.23		
TOTAL HpCDD	672	2			1.06		
TOTAL TCDF	2560	13		2570	0.74		
TOTAL PeCDF	4840	18		4840	1.53		
TOTAL HxCDF	5870	10		5960	1.13		
TOTAL HpCDF	2780	4			0.94		

10/12/90

FILE NAME....: S903495 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-5ACE
CONCAL (VER).: S903488 SAMPLE ID....: RUN 4
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	951	94.2	0.49	42:44	____
13C12-HxCDF 234	1150	114	0.50	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	892	88.3	0.76	30:45	____
13C12-2378-TCDD	841	83.3	0.78	31:32	____
13C12-PeCDF 123	654	64.7	1.52	35:31	____
13C12-PeCDD 123	662	65.6	1.53	36:57	____
13C12-HxCDF 678	826	81.8	0.50	40:46	____
13C12-HxCDD 678	940	93.1	1.21	41:53	____
13C12-HpCDF 678	742	73.5	0.45	45:12	____
13C12-HpCDD 678	671	66.4	1.05	46:46	____
13C12-OCDD	940	46.5	0.86	52:14	____

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FILE NAME....: S903496 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-1ACD
CONCAL (VER).: S903488 SAMPLE ID....: RUN 5
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: KF ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	2.9				0.71	31:33	
12378-PeCDD	18.7				1.53	36:59	
123478-HxCDD	28.7				1.19	41:47	
123678-HxCDD	35.3				1.22	41:55	
123789-HxCDD	61.6				1.23	42:22	PR
1234678-HpCDD	314				0.98	46:48	
OCDD	598				0.86	52:16	
2378-TCDF	129				0.76	30:48	
12378-PeCDF	98.6				1.50	35:33	
23478-PeCDF	152				1.56	36:31	
123478-HxCDF	539				1.16	40:36	
123678-HxCDF	322				1.13	40:47	
234678-HxCDF	580				1.19	41:35	PR
123789-HxCDF	23.8				1.27	42:45	
1234678-HpCDF	1140				0.96	45:13	
1234789-HpCDF	186				0.96	47:30	
OCDF	1470				0.86	52:32	
TOTAL TCDD	38.5	7		55.2	0.78		
TOTAL PeCDD	112	9		130	1.62		
TOTAL HxCDD	302	7		304	1.22		
TOTAL HpCDD	607	2			0.99		
TOTAL TCDF	842	13		845	0.75		
TOTAL PeCDF	1750	15		1760	1.53		
TOTAL HxCDF	3040	12			1.14		
TOTAL HpCDF	2170	4			0.96		

[illegible] 10/23/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY

10/16/90

FILE NAME....: S903496	CLIENT ID....: RADIAN	TLI NUMBER....: 36-18-1ACD
CONCAL (VER).: S903488	SAMPLE ID....: RUN 5	
PROJECT NUMBER: 16402M	ICAL DATE....: 09/04/90	
ANALYST.....: KF	ANALYSIS DATE: 10/01/90	
SAMPLE SIZE..: 1.000	SAMPLE MATRIX: MM5	SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90	DATE COLLECTED: / /	
SPIKE FILE...: SPX237XX		SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	852	84.3	0.50	42:44	------
13C12-HxCDF 234	1130	111	0.52	41:34	------

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	879	87.1	0.77	30:45	------
13C12-2378-TCDD	865	85.7	0.79	31:33	------
13C12-PeCDF 123	724	71.6	1.53	35:31	------
13C12-PeCDD 123	774	76.6	1.58	36:59	------
13C12-HxCDF 678	649	64.2	0.52	40:46	------
13C12-HxCDD 678	1010	100	1.20	41:53	------
13C12-HpCDF 678	597	59.1	0.44	45:12	------
13C12-HpCDD 678	555	55.0	1.02	46:46	------
13C12-OCDD	704	34.8	0.87	52:15	------

[_____ 10/17/90]

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903503 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-2ACD
CONCAL (VER).: S903502 SAMPLE ID....: RUN 6
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: JA ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		3.5				____
12378-PeCDD	ND		4.1				____
123478-HxCDD	ND		11.1				____
123678-HxCDD	ND		9.6				____
123789-HxCDD	ND		11.6				____
1234678-HpCDD	32.5				1.08	46:46	____
OCDD	166				0.89	52:15	____
2378-TCDF	11.2				0.65	30:47	____
12378-PeCDF	5.2				1.70	35:31	____
23478-PeCDF	9.2				1.75	36:30	____
123478-HxCDF	EMPC			46.3			____
123678-HxCDF	21.4				1.05	40:47	____
234678-HxCDF	66.5				1.30	41:34	____
123789-HxCDF	ND		11.8				____
1234678-HpCDF	148				0.99	45:13	____
1234789-HpCDF	EMPC			32.9			____
OCDF	521				0.95	52:31	____
TOTAL TCDD	ND		3.5				____
TOTAL PeCDD	ND		4.1				____
TOTAL HxCDD	ND		10.7				____
TOTAL HpCDD	32.5	1		69.7	1.08		____
TOTAL TCDF	37.1	5		46.0	0.73		____
TOTAL PeCDF	97.8	7		116	1.58		____
TOTAL HxCDF	165	4		230	1.19		____
TOTAL HpCDF	312	3		338	1.01		____

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY

10/16/90

FILE NAME....: S903503	CLIENT ID....: RADIAN	TLI NUMBER....: 36-18-2ACD
CONCAL (VER).: S903502	SAMPLE ID....: RUN 6	
PROJECT NUMBER: 16402M	ICAL DATE....: 09/04/90	
ANALYST.....: JA	ANALYSIS DATE: 10/01/90	
SAMPLE SIZE..: 1.000	SAMPLE MATRIX: MM5	SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90	DATE COLLECTED: / /	
SPIKE FILE...: SPX237XX		SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	897	88.8	0.48	42:43	____
13C12-HxCDF 234	1230	122	0.50	41:33	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	734	72.7	0.73	30:44	____
13C12-2378-TCDD	780	77.2	0.79	31:32	____
13C12-PeCDF 123	660	65.4	1.48	35:30	____
13C12-PeCDD 123	645	63.9	1.49	36:57	____
13C12-HxCDF 678	870	86.1	0.50	40:45	____
13C12-HxCDD 678	994	98.4	1.18	41:53	____
13C12-HpCDF 678	627	62.1	0.43	45:12	____
13C12-HpCDD 678	552	54.6	1.07	46:45	____
13C12-OCDD	920	45.6	0.85	52:14	____

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FILE NAME....: S903504 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-3ACD
CONCAL (VER).: S903502 SAMPLE ID....: RUN 7
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	12.2				0.73	31:34	
12378-PeCDD	47.7				1.64	36:59	
123478-HxCDD	52.4				1.19	41:46	
123678-HxCDD	58.9				1.21	41:54	
123789-HxCDD	111				1.17	42:22	PM
1234678-HpCDD	255				0.99	46:47	
OCDD	201				0.82	52:16	
2378-TCDF	206				0.75	30:48	
12378-PeCDF	161				1.64	35:32	
23478-PeCDF	208				1.52	36:30	
123478-HxCDF	564				1.12	40:36	
123678-HxCDF	379				1.14	40:47	
234678-HxCDF	481				1.09	41:35	PM
123789-HxCDF	23.7				1.22	42:45	
1234678-HpCDF	805				0.92	45:13	
1234789-HpCDF	109				0.95	47:29	
OCDF	325				0.92	52:32	
TOTAL TCDD	156	13			0.77		
TOTAL PeCDD	298	11		302	1.58		
TOTAL HxCDD	530	7			1.21		
TOTAL HpCDD	488	2			1.03		
TOTAL TCDF	1370	15		1380	0.74		
TOTAL PeCDF	2380	16		2400	1.54		
TOTAL HxCDF	3290	12			1.13		
TOTAL HpCDF	1430	4			0.95		

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY

10/16/90

FILE NAME....: S903504
CONCAL (VER).: S903502
PROJECT NUMBER: 16402M
ANALYST.....: VC
SAMPLE SIZE..: 1.000
DATE RECEIVED.: 08/31/90
SPIKE FILE...: SPX237XX

CLIENT ID....: RADIAN
SAMPLE ID....: RUN 7
ICAL DATE....: 09/04/90
ANALYSIS DATE: 10/01/90
SAMPLE MATRIX: MM5
DATE COLLECTED: / /

TLI NUMBER....: 36-18-3ACD
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	891	88.2	0.49	42:44	
13C12-HxCDF 234	1280	126	0.50	41:34	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	763	75.6	0.75	30:44	
13C12-2378-TCDD	836	82.8	0.77	31:33	
13C12-PeCDF 123	833	82.4	1.49	35:31	
13C12-PeCDD 123	973	96.3	1.58	36:58	
13C12-HxCDF 678	788	78.0	0.50	40:46	
13C12-HxCDD 678	1010	99.5	1.22	41:53	
13C12-HpCDF 678	666	65.9	0.43	45:12	
13C12-HpCDD 678	608	60.2	0.99	46:46	
13C12-OCDD	1170	57.9	0.86	52:15	

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FILE NAME....: S903510 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-4ACE
CONCAL (VER).: S903502 SAMPLE ID....: RUN #8
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: SB ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		2.6				
12378-PeCDD	11.7				1.50	36:58	
123478-HxCDD	EMPC			14.4			
123678-HxCDD	14.9				1.08	41:53	
123789-HxCDD	32.2				1.38	42:21	PR
1234678-HpCDD	86.1				0.93	46:46	
OCDD	89.5				0.86	52:14	
2378-TCDF	73.4				0.68	30:46	
12378-PeCDF	59.6				1.51	35:31	
23478-PeCDF	72.1				1.58	36:29	
123478-HxCDF	230				1.16	40:35	
123678-HxCDF	150				1.12	40:45	
234678-HxCDF	134				1.16	41:33	PR
123789-HxCDF	8.5				1.20	42:43	
1234678-HpCDF	357				0.92	45:11	
1234789-HpCDF	52.4				0.91	47:27	
OCDF	183				0.92	52:30	
TOTAL TCDD	18.8	4		26.3	0.69		
TOTAL PeCDD	68.6	10		79.8	1.59		
TOTAL HxCDD	146	6		160	1.22		
TOTAL HpCDD	161	2			0.97		
TOTAL TCDF	459	11		515	0.71		
TOTAL PeCDF	887	13		903	1.56		
TOTAL HxCDF	1290	12			1.16		
TOTAL HpCDF	646	4			0.93		

TV 10/17/90

FILE NAME....: S903510 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-4ACE
CONCAL (VER).: S903502 SAMPLE ID....: RUN #8
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: SB ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	912	90.3	0.50	42:42	____
13C12-HxCDF 234	1110	110	0.49	41:32	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	653	64.6	0.76	30:43	____
13C12-2378-TCDD	729	72.2	0.77	31:32	____
13C12-PeCDF 123	700	69.3	1.51	35:30	____
13C12-PeCDD 123	768	76.1	1.54	36:57	____
13C12-HxCDF 678	886	87.7	0.48	40:44	____
13C12-HxCDD 678	957	94.8	1.20	41:51	____
13C12-HpCDF 678	652	64.5	0.42	45:10	____
13C12-HpCDD 678	535	53.0	1.06	46:44	____
13C12-OCDD	990	49.0	0.92	52:13	____

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903505 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-5ACD
CONCAL (VER).: S903502 SAMPLE ID....: RUN 9
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	11.6				0.79	31:34	
12378-PeCDD	70.6				1.54	36:59	
123478-HxCDD	88.8				1.23	41:46	
123678-HxCDD	101				1.12	41:54	
123789-HxCDD	212				1.19	42:22	PR
1234678-HpCDD	529				1.06	46:47	
OCDD	331				0.82	52:16	
2378-TCDF	245				0.71	30:48	
12378-PeCDF	220				1.47	35:32	
23478-PeCDF	275				1.57	36:30	
123478-HxCDF	1100				1.10	40:36	
123678-HxCDF	663				1.11	40:47	
234678-HxCDF	609				1.09	41:34	PR
123789-HxCDF	33.9				1.19	42:45	
1234678-HpCDF	1640				0.91	45:13	
1234789-HpCDF	211				1.00	47:29	
OCDF	579				0.84	52:32	
TOTAL TCDD	167	12		173	0.77		
TOTAL PeCDD	426	11			1.56		
TOTAL HxCDD	1090	7			1.21		
TOTAL HpCDD	1070	2			1.04		
TOTAL TCDF	1630	13		1640	0.75		
TOTAL PeCDF	3620	15		3660	1.54		
TOTAL HxCDF	5610	11		5840	1.11		
TOTAL HpCDF	2900	4			0.96		

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FILE NAME....: S903505 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-5ACD
CONCAL (VER).: S903502 SAMPLE ID....: RUN 9
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	889	88.0	0.51	42:43	____
13C12-HxCDF 234	1120	111	0.49	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	781	77.3	0.78	30:46	____
13C12-2378-TCDD	825	81.7	0.78	31:33	____
13C12-PeCDF 123	720	71.2	1.52	35:31	____
13C12-PeCDD 123	824	81.6	1.46	36:58	____
13C12-HxCDF 678	893	88.4	0.49	40:46	____
13C12-HxCDD 678	946	93.6	1.20	41:53	____
13C12-HpCDF 678	587	58.1	0.43	45:12	____
13C12-HpCDD 678	490	48.5	1.04	46:46	____
13C12-OCDD	709	35.1	0.89	52:15	____

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903506 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-6ACD
CONCAL (VER).: S903502 SAMPLE ID....: FIELD BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.02				------
12378-PeCDD	ND		0.02				------
123478-HxCDD	ND		0.04				------
123678-HxCDD	0.03				1.14	41:54	------
123789-HxCDD	0.04				1.08	42:22	------
1234678-HpCDD	0.14				0.90	46:48	------
OCDD	0.29				0.88	52:16	------
2378-TCDF	0.07				0.66	30:48	------
12378-PeCDF	EMPC			0.09			------
23478-PeCDF	0.08				1.55	36:30	------
123478-HxCDF	0.27				1.12	40:38	------
123678-HxCDF	0.16				1.09	40:48	------
234678-HxCDF	0.20				1.19	41:35	------
123789-HxCDF	ND		0.05				------
1234678-HpCDF	EMPC			0.51			------
1234789-HpCDF	0.06				1.00	47:29	------
OCDF	0.30				1.01	52:31	------
TOTAL TCDD	ND		0.02				------
TOTAL PeCDD	0.02	1			1.56		------
TOTAL HxCDD	0.13	3		0.17	1.20		------
TOTAL HpCDD	0.28	2			0.94		------
TOTAL TCDF	0.35	8		0.41	0.76		------
TOTAL PeCDF	0.73	7		0.88	1.59		------
TOTAL HxCDF	1.3	9			1.15		------
TOTAL HpCDF	0.15	2		0.89	0.99		------

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FILE NAME....: S903506 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-6ACD
CONCAL (VER).: S903502 SAMPLE ID....: FIELD BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	9.0	90.3	0.49	42:44	____
13C12-HxCDF 234	12.0	120	0.51	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	7.0	70.1	0.76	30:46	____
13C12-2378-TCDD	7.9	78.8	0.80	31:33	____
13C12-PeCDF 123	7.6	75.5	1.52	35:31	____
13C12-PeCDD 123	9.6	95.5	1.51	36:58	____
13C12-HxCDF 678	8.3	83.2	0.51	40:46	____
13C12-HxCDD 678	11.1	111	1.22	41:53	____
13C12-HpCDF 678	6.1	60.8	0.44	45:13	____
13C12-HpCDD 678	5.9	58.8	0.97	46:47	____
13C12-OCDD	11.1	55.5	0.87	52:15	____

[illegible] 10/12/90

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TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902573 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-2ACD
CONCAL (VER).: W902572 SAMPLE ID....: RUN 1
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	7.0				0.76	18:37	____
2378-TCDF	15.7				0.73	19:58	____
TOTAL TCDD	52.8	8		60.8	0.78		____
TOTAL TCDF	599	18			0.78		____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	819	81.1	0.78	19:58	____
13C12-2378-TCDD	771	76.4	0.77	18:36	____

[signature] 10/17/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902574 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-3ACD
CONCAL (VER).: W902572 SAMPLE ID....: RUN 2
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	12.4				0.84	18:35	____
2378-TCDF	15.1				0.85	19:58	____
TOTAL TCDD	212	9		214	0.79		____
TOTAL TCDF	787	18		790	0.78		____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	955	94.6	0.80	19:58	____
13C12-2378-TCDD	909	90.0	0.77	18:35	____

TV 10/15/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902575 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-4ACD
CONCAL (VER).: W902572 SAMPLE ID....: RUN 3
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	42.3				0.75	18:37	
2378-TCDF	83.8				0.81	19:58	
TOTAL TCDD	378	15			0.78		
TOTAL TCDF	2520	19			0.78		

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	739	73.1	0.78	19:58	
13C12-2378-TCDD	704	69.7	0.78	18:35	

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C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902576 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-5ACE
CONCAL (VER).: W902572 SAMPLE ID....: RUN 4
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	32.4				0.81	18:37	
2378-TCDF	66.7				0.82	19:58	
TOTAL TCDD	217	14			0.77		
TOTAL TCDF	2190	18			0.78		

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	844	83.6	0.78	19:58	
13C12-2378-TCDD	805	79.7	0.79	18:35	

[signature] 10/17/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902584
CONCAL (VER).: W902572
PROJECT NUMBER: 16402M
ANALYST.....: CP
SAMPLE SIZE..: 1.000
DATE RECEIVED.: 08/31/90
SPIKE FILE...: SPC2NFXX

CLIENT ID....: RADIAN
SAMPLE ID....: RUN 5
ICAL DATE....: 05/15/90
ANALYSIS DATE: 10/08/90
SAMPLE MATRIX: MM5
DATE COLLECTED: / /

TLI NUMBER....: 36-18-1ACD
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	5.1				0.67	18:35	____
2378-TCDF	19.7				0.76	19:58	____
TOTAL TCDD	38.1	6		54.4	0.75		____
TOTAL TCDF	745	18		753	0.80		____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	885	87.6	0.79	19:58	____
13C12-2378-TCDD	796	78.8	0.80	18:34	____

[_____ 10/17/90]

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902577 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-2ACD
CONCAL (VER).: W902572 SAMPLE ID....: RUN 6
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		1.9				------
2378-TCDF	ND		1.1				------
TOTAL TCDD	ND		1.9				------
TOTAL TCDF	36.6	5		43.7	0.73		------

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	737	73.0	0.79	19:58	------
13C12-2378-TCDD	691	68.4	0.80	18:35	------

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C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902578 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-3ACD
CONCAL (VER).: W902572 SAMPLE ID....: RUN 7
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	24.8				0.75	18:36	____
2378-TCDF	49.5				0.78	19:59	____
TOTAL TCDD	195	11		212	0.76		____
TOTAL TCDF	1250	18			0.77		____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	809	80.1	0.80	19:58	____
13C12-2378-TCDD	777	76.9	0.77	18:35	____

[signature] 10/17/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902583 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-4ACE
CONCAL (VER).: W902572 SAMPLE ID....: RUN 8
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: CP ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	4.1				0.73	18:36	
2378-TCDF	16.2				0.66	19:57	
TOTAL TCDD	21.8	4		31.3	0.76		
TOTAL TCDF	502	16		512	0.79		

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	791	78.3	0.79	19:57	
13C12-2378-TCDD	704	69.7	0.79	18:35	

[signature] 10/17/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/16/90

FILE NAME....: W902579 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-5ACD
CONCAL (VER).: W902572 SAMPLE ID....: RUN 9
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: CP ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NFXX SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	28.1				0.77	18:36	____
2378-TCDF	43.3				0.75	19:58	____
TOTAL TCDD	239	11		253	0.75		____
TOTAL TCDF	1510	18		1510	0.77		____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	775	76.7	0.79	19:58	____
13C12-2378-TCDD	749	74.1	0.76	18:35	____

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C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/17/90

FILE NAME....: W902580 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-6ACD
CONCAL (VER).: W902572 SAMPLE ID....: FIELD BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 05/15/90
ANALYST.....: KF ANALYSIS DATE: 10/08/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.03				
2378-TCDF	0.02				0.67	20:00	
TOTAL TCDD	ND		0.03				
TOTAL TCDF	0.10	3		0.34	0.77		

SURROGATE STD. RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	10.2	102		18:36	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	7.4	74.5	0.78	19:58	
13C12-2378-TCDD	7.3	72.8	0.78	18:34	

[signature] 10/12/90

C2NF_RPT rev:3.01

FILE NAME....: S903507 CLIENT ID....: RADIAN TLI NUMBER....: 36-19-1ABF
CONCAL (VER).: S903502 SAMPLE ID....: TRIP BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.03				------
12378-PeCDD	ND		0.04				------
123478-HxCDD	ND		0.09				------
123678-HxCDD	ND		0.08				------
123789-HxCDD	ND		0.09				------
1234678-HpCDD	ND		0.2				------
OCDD	ND		0.2				------
2378-TCDF	ND		0.03				------
12378-PeCDF	ND		0.03				------
23478-PeCDF	ND		0.03				------
123478-HxCDF	ND		0.06				------
123678-HxCDF	ND		0.06				------
234678-HxCDF	ND		0.08				------
123789-HxCDF	ND		0.10				------
1234678-HpCDF	ND		0.09				------
1234789-HpCDF	ND		0.1				------
OCDF	ND		0.3				------
TOTAL TCDD	ND		0.03				------
TOTAL PeCDD	ND		0.04				------
TOTAL HxCDD	ND		0.09				------
TOTAL HpCDD	ND		0.2				------
TOTAL TCDF	ND		0.03				------
TOTAL PeCDF	ND		0.03				------
TOTAL HxCDF	ND		0.07				------
TOTAL HpCDF	ND		0.1				------

FILE NAME....: S903507 CLIENT ID....: RADIAN TLI NUMBER....: 36-19-1ABF
CONCAL (VER).: S903502 SAMPLE ID....: TRIP BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: MWI-2

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	9.5	95.4		31:33	------
13C12-PeCDF 234	9.5	95.3	1.50	36:29	------
13C12-HxCDF 478	10.6	106	0.51	40:36	------
13C12-HxCDD 478	9.9	99.2	1.25	41:45	------
13C12-HpCDF 789	7.9	79.0	0.39	47:28	------

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	8.8	88.0	0.48	42:43	------
13C12-HxCDF 234	11.1	111	0.49	41:33	------

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	7.6	75.6	0.78	30:44	------
13C12-2378-TCDD	8.1	80.8	0.76	31:32	------
13C12-PeCDF 123	6.8	68.1	1.49	35:31	------
13C12-PeCDD 123	6.5	65.4	1.58	36:57	------
13C12-HxCDF 678	9.2	92.3	0.50	40:45	------
13C12-HxCDD 678	10.6	106	1.22	41:53	------
13C12-HpCDF 678	5.9	59.5	0.42	45:12	------
13C12-HpCDD 678	5.3	53.1	1.03	46:46	------
13C12-OCDD	8.7	43.6	0.92	52:14	------

! TV 10/17/90 ! X237_RPT rev:3.03

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FILE NAME....: S903491 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-1A,C
CONCAL (VER).: S903488 SAMPLE ID....: LAB PROOF BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: MWI-2

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.04				____
12378-PeCDD	ND		0.04				____
123478-HxCDD	ND		0.05				____
123678-HxCDD	ND		0.05				____
123789-HxCDD	ND		0.06				____
1234678-HpCDD	ND		0.08				____
OCDD	ND		0.1				____
2378-TCDF	ND		0.03				____
12378-PeCDF	ND		0.03				____
23478-PeCDF	ND		0.04				____
123478-HxCDF	ND		0.04				____
123678-HxCDF	ND		0.04				____
234678-HxCDF	ND		0.05				____
123789-HxCDF	ND		0.06				____
1234678-HpCDF	ND		0.04				____
1234789-HpCDF	ND		0.06				____
OCDF	ND		0.1				____
TOTAL TCDD	ND		0.04				____
TOTAL PeCDD	ND		0.04				____
TOTAL HxCDD	ND		0.05				____
TOTAL HpCDD	ND		0.08				____
TOTAL TCDF	ND		0.03				____
TOTAL PeCDF	ND		0.03				____
TOTAL HxCDF	ND		0.05				____
TOTAL HpCDF	ND		0.05				____

! _____ 10/17/90 !

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY
10/16/90

FILE NAME....: S903491 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-1A,C
CONCAL (VER).: S903488 SAMPLE ID....: LAB PROOF BLANK
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: MM5 SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: MWI-2

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	9.1	90.6	0.51	42:44	____
13C12-HxCDF 234	11.3	113	0.50	41:34	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	7.4	73.6	0.76	30:45	____
13C12-2378-TCDD	7.4	74.5	0.79	31:33	____
13C12-PeCDF 123	6.3	63.5	1.51	35:31	____
13C12-PeCDD 123	6.7	66.7	1.56	36:59	____
13C12-HxCDF 678	7.8	78.1	0.51	40:46	____
13C12-HxCDD 678	9.6	96.0	1.20	41:53	____
13C12-HpCDF 678	7.0	70.4	0.46	45:12	____
13C12-HpCDD 678	6.7	67.1	0.99	46:46	____
13C12-OCDD	10.1	50.6	0.89	52:15	____

_____ 10/17/90

X237_RPT rev:3.03

FILE NAME....: S903490 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: S903488 SAMPLE ID....: TLI BLANK #1
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: DM ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.04				------
12378-PeCDD	ND		0.06				------
123478-HxCDD	ND		0.06				------
123678-HxCDD	ND		0.06				------
123789-HxCDD	ND		0.07				------
1234678-HpCDD	ND		0.1				------
OCDD	ND		0.2				------
2378-TCDF	ND		0.03				------
12378-PeCDF	ND		0.04				------
23478-PeCDF	ND		0.04				------
123478-HxCDF	ND		0.05				------
123678-HxCDF	ND		0.05				------
234678-HxCDF	ND		0.06				------
123789-HxCDF	ND		0.08				------
1234678-HpCDF	ND		0.05				------
1234789-HpCDF	ND		0.08				------
OCDF	ND		0.2				------
TOTAL TCDD	ND		0.04				------
TOTAL PeCDD	ND		0.06				------
TOTAL HxCDD	ND		0.06				------
TOTAL HpCDD	ND		0.1				------
TOTAL TCDF	ND		0.03				------
TOTAL PeCDF	ND		0.04				------
TOTAL HxCDF	ND		0.06				------
TOTAL HpCDF	ND		0.06				------

FILE NAME....: S903490 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: S903488 SAMPLE ID....: TLI BLANK #1
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: DM ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: n/a

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	10.0	100		31:33	____
13C12-PeCDF 234	10.2	102	1.59	36:28	____
13C12-HxCDF 478	10.8	108	0.52	40:36	____
13C12-HxCDD 478	10.6	106	1.24	41:44	____
13C12-HpCDF 789	8.3	82.8	0.42	47:27	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	7.4	73.9	0.51	42:43	____
13C12-HxCDF 234	9.2	92.4	0.52	41:33	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	7.1	71.1	0.78	30:45	____
13C12-2378-TCDD	7.1	70.6	0.81	31:32	____
13C12-PeCDF 123	5.6	55.5	1.48	35:30	____
13C12-PeCDD 123	5.3	52.6	1.52	36:57	____
13C12-HxCDF 678	6.9	69.1	0.53	40:45	____
13C12-HxCDD 678	8.9	89.1	1.16	41:52	____
13C12-HpCDF 678	5.9	59.2	0.42	45:11	____
13C12-HpCDD 678	5.5	55.0	1.03	46:45	____
13C12-OCDD	8.2	41.0	0.83	52:14	____

|_____ __/__/__|

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a)

10/16/90

FILE NAME....: S903509 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: S903502 SAMPLE ID....: TLI BLANK #2
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		1.1				------
12378-PeCDD	ND		1.1				------
123478-HxCDD	ND		3.3				------
123678-HxCDD	ND		2.9				------
123789-HxCDD	ND		3.5				------
1234678-HpCDD	ND		5.7				------
OCDD	ND		7.1				------
2378-TCDF	ND		0.9				------
12378-PeCDF	ND		1.0				------
23478-PeCDF	ND		1.0				------
123478-HxCDF	ND		2.3				------
123678-HxCDF	ND		2.0				------
234678-HxCDF	ND		2.8				------
123789-HxCDF	ND		3.4				------
1234678-HpCDF	ND		2.8				------
1234789-HpCDF	ND		4.3				------
OCDF	ND		7.4				------
TOTAL TCDD	ND		1.1				------
TOTAL PeCDD	ND		1.1				------
TOTAL HxCDD	ND		3.2				------
TOTAL HpCDD	ND		5.7				------
TOTAL TCDF	ND		0.9				------
TOTAL PeCDF	ND		1.0				------
TOTAL HxCDF	ND		2.5				------
TOTAL HpCDF	ND		3.4				------

TV 10/17/90

FILE NAME....: S903509 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: S903502 SAMPLE ID....: TLI BLANK #2
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: VC ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: n/a

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	789	78.1	0.50	42:43	____
13C12-HxCDF 234	1000	99.4	0.50	41:33	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	833	82.4	0.76	30:44	____
13C12-2378-TCDD	848	84.0	0.77	31:32	____
13C12-PeCDF 123	776	76.8	1.49	35:30	____
13C12-PeCDD 123	857	84.8	1.52	36:57	____
13C12-HxCDF 678	757	75.0	0.50	40:45	____
13C12-HxCDD 678	845	83.7	1.22	41:52	____
13C12-HpCDF 678	544	53.8	0.43	45:11	____
13C12-HpCDD 678	492	48.7	1.00	46:45	____
13C12-OCDD	883	43.7	0.86	52:13	____

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FILE NAME....: S903511 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: S903502 SAMPLE ID....: TLI BLANK #3
PROJECT NUMEER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		1.8				____
12378-PeCDD	ND		1.9				____
123478-HxCDD	ND		5.6				____
123678-HxCDD	ND		4.9				____
123789-HxCDD	ND		5.9				____
1234678-HpCDD	ND		10.0				____
OCDD	ND		15.2				____
2378-TCDF	ND		1.5				____
12378-PeCDF	ND		1.6				____
23478-PeCDF	ND		1.6				____
123478-HxCDF	ND		3.7				____
123678-HxCDF	ND		3.3				____
234678-HxCDF	ND		4.5				____
123789-HxCDF	ND		5.6				____
1234678-HpCDF	ND		4.6				____
1234789-HpCDF	ND		6.9				____
OCDF	ND		16.0				____
TOTAL TCDD	ND		1.8				____
TOTAL PeCDD	ND		1.9				____
TOTAL HxCDD	ND		5.4				____
TOTAL HpCDD	ND		10.0				____
TOTAL TCDF	ND		1.5				____
TOTAL PeCDF	ND		1.6				____
TOTAL HxCDF	ND		4.1				____
TOTAL HpCDF	ND		5.5				____

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (a) QA/QC SUMMARY

10/16/90

FILE NAME....: S903511 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: S903502 SAMPLE ID....: TLI BLANK #3
PROJECT NUMBER: 16402M ICAL DATE....: 09/04/90
ANALYST.....: CP ANALYSIS DATE: 10/02/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX237XX SHIPMENT NO...: n/a

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	811	80.3	0.50	42:42	____
13C12-HxCDF 234	1060	105	0.48	41:33	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	643	63.7	0.77	30:44	____
13C12-2378-TCDD	668	66.1	0.77	31:32	____
13C12-PeCDF 123	614	60.8	1.48	35:30	____
13C12-PeCDD 123	634	62.8	1.56	36:57	____
13C12-HxCDF 678	831	82.2	0.50	40:45	____
13C12-HxCDD 678	883	87.4	1.24	41:52	____
13C12-HpCDF 678	599	59.3	0.41	45:11	____
13C12-HpCDD 678	501	49.6	0.95	46:45	____
13C12-OCDD	729	36.1	0.84	52:13	____

TV 10/12/90

2

CMPL YEAR TOLUENE
RUNS 2-9

TRIANGLE LABORATORIES, INC.
801-10 CAPITOLA DRIVE
RESEARCH TRIANGLE PARK, NC 27713

Phone: (919) 544-5729
Fax: (919) 544-5491

DATE :	* 10 OCTOBER 1990
CLIENT ID :	* RADIAN CORPORATION
P.O. NUMBER :	* S106087
TLI PROJECT No. :	* 16402T

CASE NARRATIVE
MODEL 8290X

ANALYSIS OF SAMPLES FOR THE PRESENCE OF

POLYCHLORINATED DIBENZO-p-DIOXINS

AND

DIBENZOFURANS

BY

HIGH-RESOLUTION GAS CHROMATOGRAPHY / HIGH-RESOLUTION MASS SPECTROMETRY

Twelve toluene rinses were received from RADIAN CORPORATION in good condition August 31, 1990 and stored in a refrigerator at 4°C. The samples were extracted and analyzed according to procedures described in the Triangle Labs User Manual provided with this data package. Any particular difficulties encountered during the sample handling by Triangle Labs will be discussed in the QA/QC remark section below.

Quality Assurance/Quality Control Samples

A laboratory method blank -- identified as the TLI Blank -- is prepared along with the batch of samples.

QA/QC Remarks

The release of this particular set of RADIAN CORPORATION analytical data by Triangle Labs was authorized by the Quality Assurance Officer who has reviewed each sample data package individually following a series of inspections/reviews conducted at two other levels of the data production line. When applicable, general deviations from acceptable QA/QC requirements are identified below. Comments on the effect of these deviations upon the validity and reliability of the results can be obtained from the User Manual (Data Quality Objectives; Section 5). Specific QA/QC Problems Associated with this Particular Project are:

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review:

Some samples in this project present QC ion instabilities as a result of quantitative interferences. Where the interference coincides with an internal standard, the internal standard is flagged "Q". This may affect quantitation of analytes with chlorine substituent distribution which differs from the internal standard; however, the associated analyte with identical chlorine-substitution to the internal standard is unaffected. Where the interference coincides with any non-2378 substituted furan or dioxin isomer, the Totals are flagged "Q". Reliable estimates of Total TCDF and TCDD for samples with DB-225 totals affected by quantatitive interference can be obtained from the DB-5 analysis as the DB-5 analyses do not show quantitative interference with non-2378 substituted tetra furans or dioxins. Quantitative interference is described in section 5.1.2.4.1 of the Data User's Manual.

Percent recoveries for internal and surrogate standards for all analyses are artificially high due to improper preparation of recovery standard solution # S11-33-1F by dilution from a stock solution. An appropriate corrective action has been already undertaken. Recoveries of internal and surrogate standards are artificially overestimated by a minimun of 20 %. However, analyte quantitation are not affected by this uncertainty. Analytes

in a type "B" analysis are compared to internal standards for quantitation, and internal standards quantitation is considered valid for these analyses. Estimations of extraction and fractional efficiencies are not possible for these samples due to to the artificially high recoveries.

Sample CFM 46 RUN 1 (TLI # 36-17-2B) has been scheduled for reanalysis due to differences between the DB-5 and DB-225 internal standard percent recoveries. The results for this sample will be forwarded as soon as possible.

Addendum to Section 4.6 of the Data User's Manual

Effective December 15, 1989, Triangle Laboratories has adopted a new procedure for calculating the analyte specific detection limits. Under this new policy two representative noise height determinations are summed and multiplied by an empirically determined factor before the detection limit equation given in Section 4.6 of the Data User's Manual is applied. The effect of this procedure is to increase DB-225 analyses detection limits by a factor of 3.5, and DB-5 analyses detection limits by a factor of 5. This procedure will result in a more accurate estimate of detection limits.

The revised formula for DB-225 analyses is:

$$DL_{ai}^{DB-225} = \frac{2.5 * (3.5 * H_{ai}) * Q_{Bj}}{A_{Bj} * \overline{RRF} * W}$$

$$3.5 * H_{ai} = A_{noise}$$

The revised formula for DB-5 analyses is:

$$DL_{ai}^{DB-5} = \frac{2.5 * (5 * H_{ai}) * Q_{Bj}}{A_{Bj} * \overline{RRF} * W}$$

$$5 * H_{ai} = A_{noise}$$

The symbols are defined in Section 4.6 of the Data User's Manual.

As an example, consider a DB-225 confirmation analysis of a 10 g sample. The internal standard spike is 2000 pg, the 13C12-2,3,7,8-TCDF internal standard area is 12000 area units, the $\overline{RRF}$ is 1.215 and the noise height is 11 units. The 2,3,7,8-TCDF detection limit is:

$$DL_{TCDF}^{DB-225} = \frac{2.5 * (3.5 * 11) * 2000}{12000 * 1.215 * 10.0} = 1.3 \text{ ppt}$$

Should RADIAN CORPORATION have any questions or comments to formulate regarding this data package please feel free to contact us.

For Triangle Laboratories,

Analyst QA Project Officer Laboratory Manager

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

10/19/90

FILE NAME....: T904315 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-2B
CONCAL (VER).: T904307 SAMPLE ID....: CFM 46 RUN 1
PROJECT NUMBER: 16402T ICAL DATE....: 09/24/90
ANALYST.....: MTB ANALYSIS DATE: 10/10/90
SAMPLE SIZE..: 277.900 g SAMPLE MATRIX: RINSE SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI-2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	28.0				0.69	33:00	
12378-PeCDD	166				1.63	38:28	
123478-HxCDD	EMPC			0.51			Q
123678-HxCDD	177				1.30	43:26	
123789-HxCDD	382				1.31	43:54	Q
1234678-HpCDD	2230				0.98	48:34	
OCDD	6510				0.85	54:38	
2378-TCDF	401				0.76	32:12	
12378-PeCDF	697				1.75	37:01	
23478-PeCDF	688				1.49	37:58	
123478-HxCDF	2490				1.17	42:08	
123678-HxCDF	1770				1.18	42:19	
234678-HxCDF	2810				1.15	43:06	Q
123789-HxCDF	135				1.19	44:18	
1234678-HpCDF	9290				0.97	46:54	
1234789-HpCDF	1490				0.94	49:20	
OCDF	18970				0.93	54:55	
TOTAL TCDD	145	3		1.2	0.76		
TOTAL PeCDD	586	7		2.4	1.55		
TOTAL HxCDD	1280	5		5.3	1.33		Q
TOTAL HpCDD	4170	2			1.03		
TOTAL TCDF	2110	12		7.6	0.76		Q
TOTAL PeCDF	8710	12		33.1	1.56		Q
TOTAL HxCDF	13350	12		48.5	1.19		Q
TOTAL HpCDF	17590	4			0.96		

MWI 10/19/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

10/19/90

FILE NAME....: T904315 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-2B
CONCAL (VER).: T904307 SAMPLE ID....: CFM 46 RUN 1
PROJECT NUMBER: 16402T ICAL DATE....: 09/24/90
ANALYST.....: MTB ANALYSIS DATE: 10/10/90
SAMPLE SIZE..: 277.900 g SAMPLE MATRIX: RINSE SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2090	104		32:59	
13C12-PeCDF 234	2670	134	1.61	37:58	
13C12-HxCDF 478	2500	125	0.50	42:08	
13C12-HxCDD 478	4420	221	1.20	43:17	Q
13C12-HpCDF 789	1540	76.9	0.44	49:19	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1910	95.5	0.48	44:17	
13C12-HxCDF 234	4600	230	0.52	43:05	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2690	135	0.76	32:09	Q
13C12-2378-TCDD	2060	103	0.78	32:58	
13C12-PeCDF 123	2420	121	1.50	37:00	
13C12-PeCDD 123	3420	171	1.60	38:27	Q
13C12-HxCDF 678	2830	142	0.51	42:18	
13C12-HxCDD 678	4340	217	1.31	43:25	Q
13C12-HpCDF 678	2000	100	0.43	46:53	
13C12-HpCDD 678	2090	105	1.06	48:33	
13C12-OCDD	3090	77.3	0.94	54:37	

MTB 10/19/90

X237_RPT rev:3.03

2

FILE NAME....: T904058 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-3B
CONCAL (VER).: T904048 SAMPLE ID....: CFM 82 RUN 2
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: HA ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		17.7				
12378-PeCDD	EMPC			41.6			
123478-HxCDD	53.1				1.35	42:03	
123678-HxCDD	63.3				1.43	42:11	
123789-HxCDD	147				1.26	42:39	PR
1234678-HpCDD	948				1.14	47:09	
OCDD	3670				0.89	52:48	
2378-TCDF	218				0.69	30:59	
12378-PeCDF	EMPC			197			
23478-PeCDF	192				1.71	36:45	
123478-HxCDF	823				1.18	40:52	PR
123678-HxCDF	374				1.23	41:04	
234678-HxCDF	709				1.19	41:52	PR
123789-HxCDF	35.6				1.09	43:03	
1234678-HpCDF	2980				0.92	45:33	
1234789-HpCDF	585				1.01	47:51	
OCDF	6890				0.96	53:04	
TOTAL TCDD	EMPC			78.7			
TOTAL PeCDD	15.6	1		246	1.54		
TOTAL HxCDD	617	6		637	1.30		
TOTAL HpCDD	1730	2			1.12		
TOTAL TCDF	1080	9		1190	0.75		
TOTAL PeCDF	2040	8		2590	1.54		
TOTAL HxCDF	3630	11		3780	1.20		
TOTAL HpCDF	5760	4			0.94		

KV 10/4/90

FILE NAME....: T904058 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-3B
CONCAL (VER).: T904048 SAMPLE ID....: CFM 82 RUN 2
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: HA ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2000	99.9		31:46	
13C12-PeCDF 234	3170	158	1.48	36:44	
13C12-HxCDF 478	2810	140	0.52	40:53	
13C12-HxCDD 478	3440	172	1.25	42:02	
13C12-HpCDF 789	2490	124	0.42	47:50	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	2750	137	0.53	43:02	
13C12-HxCDF 234	3320	166	0.53	41:51	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2200	110	0.76	30:57	
13C12-2378-TCDD	2040	102	0.81	31:45	
13C12-PeCDF 123	2820	141	1.55	35:46	
13C12-PeCDD 123	4480	224	1.39	37:13	
13C12-HxCDF 678	2740	137	0.52	41:02	
13C12-HxCDD 678	3280	164	1.27	42:10	
13C12-HpCDF 678	2520	126	0.43	45:32	
13C12-HpCDD 678	2480	124	1.05	47:08	
13C12-OCDD	4010	100	0.87	52:47	

FILE NAME....: T904017 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-4B
CONCAL (VER).: T904006 SAMPLE ID....: CFM 98 RUN 3
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/23/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	119				0.82	31:44	
12378-PeCDD	568				1.56	37:12	
123478-HxCDD	698				1.27	42:02	
123678-HxCDD	741				1.18	42:10	
123789-HxCDD	1180				1.19	42:38	PR
1234678-HpCDD	6340				1.03	47:08	
OCDD	7440				0.85	52:46	
2378-TCDF	1460				0.77	30:56	
12378-PeCDF	2460				1.55	35:45	
23478-PeCDF	1760				1.53	36:43	
123478-HxCDF	9060				1.09	40:51	PR
123678-HxCDF	5340				1.10	41:02	
234678-HxCDF	3260				1.12	41:51	PR
123789-HxCDF	439				1.16	43:01	
1234678-HpCDF	20190				0.94	45:31	
1234789-HpCDF	2450				0.96	47:50	
OCDF	7100				0.88	53:02	
TOTAL TCDD	1540	12		1730	0.78		
TOTAL PeCDD	3180	11			1.58		
TOTAL HxCDD	8130	8		8140	1.21		
TOTAL HpCDD	12350	2			1.02		
TOTAL TCDF	11640	12		12920	0.76		
TOTAL PeCDF	28040	16		28060	1.52		
TOTAL HxCDF	41340	12			1.13		
TOTAL HpCDF	33820	4			0.95		

KV 10/4/90

FILE NAME....: T904017 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-4B
CONCAL (VER).: T904006 SAMPLE ID....: CFM 98 RUN 3
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/23/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1920	96.2		31:44	____
13C12-PeCDF 234	3120	156	1.64	36:43	____
13C12-HxCDF 478	2300	115	0.53	40:51	____
13C12-HxCDD 478	3260	163	1.29	42:01	____
13C12-HpCDF 789	3230	162	0.42	47:49	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	2720	136	0.50	43:00	____
13C12-HxCDF 234	2850	142	0.50	41:50	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2040	102	0.76	30:54	____
13C12-2378-TCDD	2210	110	0.83	31:43	____
13C12-PeCDF 123	3140	157	1.56	35:44	____
13C12-PeCDD 123	5250	262	1.49	37:11	____
13C12-HxCDF 678	2460	123	0.50	41:01	____
13C12-HxCDD 678	3500	175	1.23	42:09	____
13C12-HpCDF 678	3060	153	0.46	45:31	____
13C12-HpCDD 678	3970	198	1.08	47:07	____
13C12-OCDD	8330	208	0.85	52:45	____

FILE NAME....: T904039 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-5B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 120 RUN 4
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: KF ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	28.2				0.81	31:42	
12378-PeCDD	133				1.58	37:09	
123478-HxCDD	119				1.17	41:59	
123678-HxCDD	128				1.13	42:08	
123789-HxCDD	212				1.27	42:36	PR
1234678-HpCDD	849				1.06	47:05	
OCDD	905				0.86	52:43	
2378-TCDF	373				0.71	30:56	
12378-PeCDF	615				1.58	35:42	
23478-PeCDF	646				1.50	36:42	
123478-HxCDF	1990				1.15	40:50	PR
123678-HxCDF	1330				1.15	41:00	
234678-HxCDF	1280				1.16	41:48	PRQ
123789-HxCDF	141				1.17	42:59	
1234678-HpCDF	3720				0.91	45:29	
1234789-HpCDF	750				0.91	47:47	
OCDF	2090				0.91	52:59	
TOTAL TCDD	217	10		309	0.77		
TOTAL PeCDD	601	9		717	1.59		
TOTAL HxCDD	1190	8			1.23		
TOTAL HpCDD	1500	2			1.06		
TOTAL TCDF	2750	14			0.72		
TOTAL PeCDF	6910	14			1.50		
TOTAL HxCDF	9860	12			1.17		Q
TOTAL HpCDF	6730	4			0.92		

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FILE NAME....: T904039 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-5B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 120 RUN 4
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: KF ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2980	149		31:42	
13C12-PeCDF 234	3470	173	1.58	36:40	
13C12-HxCDF 478	2360	118	0.52	40:49	
13C12-HxCDD 478	3870	194	1.20	41:59	
13C12-HpCDF 789	2260	113	0.43	47:46	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	2490	124	0.51	42:57	
13C12-HxCDF 234	3550	177	0.53	41:47	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2670	133	0.80	30:53	
13C12-2378-TCDD	2920	146	0.81	31:40	
13C12-PeCDF 123	3190	159	1.54	35:41	
13C12-PeCDD 123	3580	179	1.58	37:08	
13C12-HxCDF 678	2350	118	0.51	40:59	
13C12-HxCDD 678	3590	180	1.21	42:06	
13C12-HpCDF 678	2290	115	0.44	45:28	
13C12-HpCDD 678	2740	137	1.10	47:04	
13C12-OCDD	4920	123	0.85	52:42	

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

10/04/90

FILE NAME....: T904041 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-1B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 135 RUN 5
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			7.6			
12378-PeCDD	46.5				1.72	37:11	
123478-HxCDD	46.2				1.16	42:01	
123678-HxCDD	66.6				1.24	42:09	
123789-HxCDD	71.3				1.30	42:38	PR
1234678-HpCDD	783				1.05	47:07	
OCDD	2390				0.82	52:45	
2378-TCDF	156				0.72	30:57	
12378-PeCDF	254				1.65	35:44	
23478-PeCDF	294				1.57	36:43	
123478-HxCDF	1060				1.15	40:51	PR
123678-HxCDF	647				1.14	41:01	
234678-HxCDF	914				1.20	41:50	PR
123789-HxCDF	89.9				1.10	43:00	
1234678-HpCDF	2950				0.92	45:31	
1234789-HpCDF	834				0.92	47:49	
OCDF	6310				0.93	53:01	
TOTAL TCDD	24.5	2		64.2	0.78		
TOTAL PeCDD	191	9		198	1.58		
TOTAL HxCDD	570	8		573	1.23		
TOTAL HpCDD	1360	2			1.05		
TOTAL TCDF	902	12		907	0.78		
TOTAL PeCDF	3210	12		3310	1.51		
TOTAL HxCDF	5270	12		5280	1.16		
TOTAL HpCDF	6050	4			0.92		

KC 10/4/96

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

10/04/90

FILE NAME....: T904041
CONCAL (VER).: T904036
PROJECT NUMBER: 16402T
ANALYST.....: CD
SAMPLE SIZE..: 1.000
DATE RECEIVED.: 08/31/90
SPIKE FILE...: SPX2372K

CLIENT ID....: RADIAN
SAMPLE ID....: CFM 135 RUN 5
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/25/90
SAMPLE MATRIX: TOLUENE R
DATE COLLECTED: / /

TLI NUMBER....: 36-18-18
SAMPLE ORIGIN: CFM
SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1800	89.8		31:44	____
13C12-PeCDF 234	2150	108	1.61	36:42	____
13C12-HxCDF 478	1450	72.6	0.52	40:51	____
13C12-HxCDD 478	2320	116	1.23	42:00	____
13C12-HpCDF 789	1440	72.2	0.42	47:48	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1520	75.8	0.51	42:59	____
13C12-HxCDF 234	1870	93.7	0.52	41:49	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1670	83.6	0.75	30:54	____
13C12-2378-TCDD	1820	90.8	0.81	31:43	____
13C12-PeCDF 123	2080	104	1.60	35:44	____
13C12-PeCDD 123	3570	179	1.50	37:11	____
13C12-HxCDF 678	1420	71.1	0.52	41:01	____
13C12-HxCDD 678	2220	111	1.22	42:08	____
13C12-HpCDF 678	1400	69.8	0.44	45:30	____
13C12-HpCDD 678	1810	90.6	1.04	47:06	____
13C12-OCDD	3500	87.4	0.87	52:44	____

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2

FILE NAME....: T904042 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-2B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 150 RUN 6
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		6.0				
12378-PeCDD	ND		9.2				
123478-HxCDD	10.7				1.25	42:00	
123678-HxCDD	17.0				1.15	42:08	
123789-HxCDD	EMPC			18.8			PR
1234678-HpCDD	489				1.00	47:07	
OCDD	3190				0.86	52:44	
2378-TCDF	51.1				0.89	30:57	
12378-PeCDF	EMPC			45.9			
23478-PeCDF	70.4				1.70	36:43	
123478-HxCDF	278				1.13	40:50	PR
123678-HxCDF	144				1.12	41:01	
234678-HxCDF	446				1.07	41:50	PR
123789-HxCDF	EMPC			23.7			
1234678-HpCDF	1320				0.89	45:30	
1234789-HpCDF	517				0.92	47:49	
OCDF	7020				0.91	53:00	
TOTAL TCDD	ND		6.0				
TOTAL PeCDD	ND		9.2				
TOTAL HxCDD	128	6		145	1.26		
TOTAL HpCDD	831	2			1.06		
TOTAL TCDF	102	4		251	0.74		
TOTAL PeCDF	573	7		720	1.55		
TOTAL HxCDF	1470	9		1550	1.20		
TOTAL HpCDF	3110	4			0.92		

KU 10/11/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

10/04/90

FILE NAME....: T904042 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-2B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 150 RUN 6
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1370	68.3		31:43	____
13C12-PeCDF 234	1810	90.6	1.51	36:42	____
13C12-HxCDF 478	1550	77.5	0.53	40:50	____
13C12-HxCDD 478	2230	111	1.23	42:00	____
13C12-HpCDF 789	1500	74.8	0.44	47:48	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1650	82.3	0.52	42:59	____
13C12-HxCDF 234	2050	102	0.51	41:48	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1300	65.0	0.75	30:54	____
13C12-2378-TCDD	1480	73.9	0.79	31:42	____
13C12-PeCDF 123	1760	88.0	1.54	35:42	____
13C12-PeCDD 123	1880	93.8	1.43	37:09	____
13C12-HxCDF 678	1580	79.0	0.52	41:00	____
13C12-HxCDD 678	2150	107	1.22	42:08	____
13C12-HpCDF 678	1510	75.4	0.44	45:29	____
13C12-HpCDD 678	1870	93.7	1.02	47:05	____
13C12-OCDD	3540	88.4	0.91	52:43	____

KU 10/4/90

X237_RPT rev:3.03

FILE NAME....: T904043 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-3B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 196 RUN 7
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	12.5				0.69	31:43	
12378-PeCDD	64.8				1.56	37:11	
123478-HxCDD	51.8				1.28	42:00	
123678-HxCDD	73.7				1.22	42:08	
123789-HxCDD	142				1.27	42:36	PR
1234678-HpCDD	537				1.12	47:06	
OCDD	1190				0.80	52:44	
2378-TCDF	168				0.80	30:56	
12378-PeCDF	213				1.38	35:44	
23478-PeCDF	303				1.45	36:42	
123478-HxCDF	693				1.08	40:50	PR
123678-HxCDF	490				1.09	41:01	
234678-HxCDF	654				1.08	41:48	PR
123789-HxCDF	64.4				1.11	43:00	
1234678-HpCDF	1750				0.96	45:30	
1234789-HpCDF	457				0.98	47:48	
OCDF	2050				0.94	53:00	
TOTAL TCDD	66.8	4		84.6	0.71		
TOTAL PeCDD	205	6		341	1.62		
TOTAL HxCDD	568	6		581	1.24		
TOTAL HpCDD	956	2			1.06		
TOTAL TCDF	890	10		1030	0.76		
TOTAL PeCDF	2510	12		2540	1.50		
TOTAL HxCDF	3310	8		3750	1.10		
TOTAL HpCDF	3440	4			0.94		

KW 10/11/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

10/04/90

FILE NAME....: T904043 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-3B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 196 RUN 7
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1240	62.1		31:43	
13C12-PeCDF 234	1640	82.2	1.57	36:40	
13C12-HxCDF 478	1250	62.5	0.53	40:50	
13C12-HxCDD 478	1880	93.8	1.20	41:59	
13C12-HpCDF 789	1170	58.6	0.44	47:47	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1250	62.3	0.52	42:59	
13C12-HxCDF 234	1650	82.5	0.51	41:48	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1180	58.9	0.76	30:53	
13C12-2378-TCDD	1220	61.2	0.82	31:42	
13C12-PeCDF 123	1530	76.6	1.57	35:42	
13C12-PeCDD 123	1780	88.9	1.54	37:09	
13C12-HxCDF 678	1260	63.0	0.52	40:59	
13C12-HxCDD 678	1760	87.9	1.20	42:07	
13C12-HpCDF 678	1180	58.9	0.44	45:29	
13C12-HpCDD 678	1470	73.3	1.10	47:05	
13C12-OCDD	2630	65.8	0.89	52:43	

KC 10/4/90

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

10/04/90

FILE NAME....: T904044 CLIENT ID....: RAVIAN TLI NUMBER....: 36-18-48
CONCAL (VER).: T904036 SAMPLE ID....: CFM 217 RUN 8
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		5.1				
12378-PeCDD	EMPC			8.8			
123478-HxCDD	EMPC			8.3			
123678-HxCDD	EMPC			11.1			
123789-HxCDD	13.6				1.23	42:37	PR
1234678-HpCDD	137				1.11	47:07	
OCDD	339				0.85	52:45	
2378-TCDF	28.5				0.75	30:55	
12378-PeCDF	31.2				1.77	35:44	
23478-PeCDF	43.8				1.43	36:42	
123478-HxCDF	116				1.14	40:50	PR
123678-HxCDF	77.2				1.22	41:01	
234678-HxCDF	140				1.17	41:50	PRQ
123789-HxCDF	EMPC			12.1			
1234678-HpCDF	302				0.90	45:30	
1234789-HpCDF	EMPC			97.9			
OCDF	455				0.94	53:00	
TOTAL TCDD	ND		5.1				
TOTAL PeCDD	EMPC			8.8			
TOTAL HxCDD	68.0	4		102	1.31		
TOTAL HpCDD	239	2			1.10		
TOTAL TCDF	67.6	4		145	0.79		
TOTAL PeCDF	411	11		434	1.58		
TOTAL HxCDF	588	8		658	1.20		O
TOTAL HpCDF	453	3		628	0.94		

KW 10/4/90

X237_RPT rev:3.03

FILE NAME....: T904044 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-4B
CONCAL (VER).: T904035 SAMPLE ID....: CFM 217 RUN 8
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1370	68.7		31:43	
13C12-PeCDF 234	1980	99.1	1.56	36:42	
13C12-HxCDF 478	1350	67.4	0.51	40:51	
13C12-HxCDD 478	2260	113	1.21	42:00	
13C12-HpCDF 789	1320	66.0	0.44	47:48	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1460	73.2	0.52	42:59	
13C12-HxCDF 234	2030	101	0.51	41:48	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1320	65.8	0.75	30:53	
13C12-2378-TCDD	1420	70.8	0.87	31:42	
13C12-PeCDF 123	1780	88.9	1.57	35:42	
13C12-PeCDD 123	2960	148	1.53	37:09	
13C12-HxCDF 678	1370	68.7	0.53	41:00	
13C12-HxCDD 678	2130	106	1.23	42:08	
13C12-HpCDF 678	1280	64.2	0.44	45:29	
13C12-HpCDD 678	1630	81.6	1.03	47:06	
13C12-OCDD	2920	73.0	0.86	52:43	

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

10/04/90

FILE NAME....: T904045 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-5B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 241 RUN 9
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			11.8			
12378-PeCDD	87.4				1.58	37:11	
123478-HxCDD	99.9				1.32	42:00	
123678-HxCDD	121				1.32	42:09	
123789-HxCDD	149				1.23	42:37	PR
1234678-HpCDD	803				1.01	47:07	
OCDD	679				0.91	52:45	
2378-TCDF	136				0.71	30:55	
12378-PeCDF	251				1.56	35:44	
23478-PeCDF	353				1.58	36:43	
123478-HxCDF	1320				1.14	40:51	PR
123678-HxCDF	839				1.16	41:01	
234678-HxCDF	855				1.17	41:50	PR
123789-HxCDF	63.2				1.38	43:00	
1234678-HpCDF	3120				0.90	45:30	
1234789-HpCDF	497				0.90	47:49	
OCDF	1310				0.94	53:00	
TOTAL TCDD	45.5	2		71.6	0.75		
TOTAL PeCDD	374	8		450	1.53		
TOTAL HxCDD	1140	9			1.26		
TOTAL HpCDD	1480	2			1.04		
TOTAL TCDF	707	9		850	0.80		
TOTAL PeCDF	3520	12		3550	1.53		
TOTAL HxCDF	6800	12			1.17		
TOTAL HpCDF	4720	3		5490	0.90		

[signature] 10/11/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

10/04/90

FILE NAME....: T904045 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-5B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 241 RUN 9
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1100	55.0		31:43	____
13C12-PeCDF 234	1380	68.8	1.58	36:42	____
13C12-HxCDF 478	1200	60.1	0.52	40:50	____
13C12-HxCDD 478	1760	88.1	1.19	41:59	____
13C12-HpCDF 789	978	48.9	0.42	47:48	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	946	47.3	0.51	42:59	____
13C12-HxCDF 234	1460	72.8	0.50	41:48	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1040	52.0	0.74	30:52	____
13C12-2378-TCDD	1130	56.6	0.86	31:42	____
13C12-PeCDF 123	1190	59.6	1.60	35:42	____
13C12-PeCDD 123	1570	78.4	1.54	37:09	____
13C12-HxCDF 678	1120	55.9	0.51	41:00	____
13C12-HxCDD 678	1590	79.4	1.22	42:08	____
13C12-HpCDF 678	1040	52.0	0.44	45:29	____
13C12-HpCDD 678	1210	60.6	1.01	47:06	____
13C12-OCDD	2200	54.9	0.85	52:44	____

KC 10/4/90

X237_RPT rev:3.03

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

10/04/90

FILE NAME....: T904046 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-68
CONCAL (VER).: T904036 SAMPLE ID....: CFM 266 FIELD BLANK
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		4.6				
12378-PeCDD	ND		7.1				
123478-HxCDD	ND		3.8				
123678-HxCDD	ND		3.7				
123789-HxCDD	ND		4.3				
1234678-HpCDD	ND		5.1				
OCDD	EMPC			29.5			
2378-TCDF	ND		3.0				
12378-PeCDF	ND		4.9				
23478-PeCDF	ND		5.2				
123478-HxCDF	4.8				1.25	40:50	
123678-HxCDF	3.4				1.06	41:01	
234678-HxCDF	8.1				1.08	41:50	Q
123789-HxCDF	ND		4.3				
1234678-HpCDF	EMPC			13.0			
1234789-HpCDF	ND		4.6				
OCDF	ND		8.1				
TOTAL TCDD	ND		4.6				
TOTAL PeCDD	ND		7.1				
TOTAL HxCDD	ND		3.9				
TOTAL HpCDD	ND		5.1				
TOTAL TCDF	ND		3.0				
TOTAL PeCDF	ND		5.0				
TOTAL HxCDF	23.9	4			1.13		Q
TOTAL HpCDF	EMPC			15.9			

KL 10/4/90

FILE NAME....: T904046 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-6B
CONCAL (VER).: T904036 SAMPLE ID....: CFM 266 FIELD BLANK
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1730	86.5		31:43	
13C12-PeCDF 234	2090	104	1.58	36:40	
13C12-HxCDF 478	1440	72.0	0.54	40:50	
13C12-HxCDD 478	2190	109	1.21	42:00	
13C12-HpCDF 789	1460	73.2	0.45	47:48	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1570	78.7	0.52	42:59	
13C12-HxCDF 234	1970	98.4	0.51	41:48	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1600	79.8	0.73	30:54	
13C12-2378-TCDD	1670	83.4	0.82	31:42	
13C12-PeCDF 123	1980	99.2	1.59	35:42	
13C12-PeCDD 123	2100	105	1.56	37:09	
13C12-HxCDF 678	1390	69.3	0.50	41:00	
13C12-HxCDD 678	1960	97.8	1.23	42:08	
13C12-HpCDF 678	1340	67.0	0.45	45:29	
13C12-HpCDD 678	1690	84.6	1.00	47:06	
13C12-OCDD	3440	86.0	0.88	52:43	

KV 10/4/90

FILE NAME....: T904013
CONCAL (VER).: T904006
PROJECT NUMBER: 16402T
ANALYST.....: JA
SAMPLE SIZE..: 1.000
DATE RECEIVED.: / /
SPIKE FILE...: SPX2372K

CLIENT ID....: RADIAN
SAMPLE ID....: TLI TOLUENE BLANK
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/23/90
SAMPLE MATRIX: n/a
DATE COLLECTED: / /

TLI NUMBER....: n/a
SAMPLE ORIGIN: n/a
SHIPMENT NO...: n/a

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		4.3				
12378-PeCDD	ND		4.5				
123478-HxCDD	ND		4.6				
123678-HxCDD	ND		4.7				
123789-HxCDD	ND		5.3				
1234678-HpCDD	ND		6.7				
OCDD	ND		10.7				
2378-TCDF	ND		3.2				
12378-PeCDF	ND		3.8				
23478-PeCDF	ND		4.3				
123478-HxCDF	ND		2.7				
123678-HxCDF	ND		2.8				
234678-HxCDF	ND		3.8				
123789-HxCDF	ND		5.6				
1234678-HpCDF	ND		3.2				
1234789-HpCDF	ND		6.0				
OCDF	ND		9.1				
TOTAL TCDD	ND		4.3				
TOTAL PeCDD	ND		4.5				
TOTAL HxCDD	ND		4.8				
TOTAL HpCDD	ND		6.7				
TOTAL TCDF	ND		3.2				
TOTAL PeCDF	ND		4.0				
TOTAL HxCDF	ND		3.4				
TOTAL HpCDF	ND		4.2				

KV 10/3/90

FILE NAME....: T904013 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: T904006 SAMPLE ID....: TLI TOLUENE BLANK
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/23/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: n/a

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2170	109		31:44	
13C12-PeCDF 234	3360	168	1.48	36:42	
13C12-HxCDF 478	2220	111	0.51	40:51	
13C12-HxCDD 478	3510	175	1.21	42:00	
13C12-HpCDF 789	3440	172	0.43	47:48	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	2880	144	0.52	43:00	
13C12-HxCDF 234	3350	167	0.51	41:49	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1880	94.1	0.77	30:54	
13C12-2378-TCDD	2020	101	0.78	31:43	
13C12-PeCDF 123	2880	144	1.51	35:44	
13C12-PeCDD 123	4200	210	1.52	37:11	
13C12-HxCDF 678	2200	110	0.52	41:01	
13C12-HxCDD 678	3020	151	1.22	42:08	
13C12-HpCDF 678	2800	140	0.43	45:30	
13C12-HpCDD 678	3720	186	1.04	47:06	
13C12-OCDD	8180	205	0.87	52:44	

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

10/09/90

FILE NAME....: T904014 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-18
CONCAL (VER).: T904006 SAMPLE ID....: CFM 4 PROOF BLANK
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/23/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		2.9				
12378-PeCDD	ND		2.2				
123478-HxCDD	ND		2.2				
123678-HxCDD	ND		2.3				
123789-HxCDD	ND		2.6				
1234678-HpCDD	ND		3.5				
OCDD	EMPC			32.3			
2378-TCDF	ND		2.1				
12378-PeCDF	ND		2.3				
23478-PeCDF	ND		2.6				
123478-HxCDF	ND		1.5				
123678-HxCDF	ND		1.5				
234678-HxCDF	5.5				1.27	41:48	(5)
123789-HxCDF	ND		3.0				
1234678-HpCDF	ND		1.8				
1234789-HpCDF	ND		3.3				
OCDF	ND		4.8				
TOTAL TCDD	ND		2.9				
TOTAL PeCDD	ND		2.2				
TOTAL HxCDD	ND		2.3				
TOTAL HpCDD	ND		3.5				
TOTAL TCDF	ND		2.1				
TOTAL PeCDF	ND		2.4				
TOTAL HxCDF	4.9	1			1.27		(2)
TOTAL HpCDF	ND		2.3				

KU 10/9/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

10/09/90

FILE NAME....: T904014 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-1B
CONCAL (VER).: T904006 SAMPLE ID....: CFM 4 PROOF BLANK
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/23/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1430	71.6		31:43	
13C12-PeCDF 234	2730	137	1.50	36:40	
13C12-HxCDF 478	1720	86.0	0.51	40:50	
13C12-HxCDD 478	2940	147	1.19	41:59	
13C12-HpCDF 789	2740	137	0.46	47:47	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	2110	105	0.50	42:59	
13C12-HxCDF 234	2540	127	0.50	41:48	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1200	60.2	0.76	30:53	
13C12-2378-TCDD	1260	63.0	0.76	31:42	
13C12-PeCDF 123	1980	99.2	1.50	35:42	
13C12-PeCDD 123	3490	175	1.46	37:09	
13C12-HxCDF 678	1570	78.6	0.51	40:59	
13C12-HxCDD 678	2420	121	1.24	42:07	
13C12-HpCDF 678	2000	99.9	0.43	45:29	
13C12-HpCDD 678	2730	137	1.02	47:05	
13C12-OCDD	5990	150	0.82	52:43	

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X237_RPT rev:3.03

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FILE NAME....: T904049
CONCAL (VER).: T904048
PROJECT NUMBER: 16402T
ANALYST.....: JA
SAMPLE SIZE..: 1.000
DATE RECEIVED.: 08/31/90
SPIKE FILE...: SPX2372K

CLIENT ID....: RADIAN
SAMPLE ID....: CFM 24 TRIP BLANK
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/25/90
SAMPLE MATRIX: TOLUENE R
DATE COLLECTED: / /

TLI NUMBER....: 36-19-1D
SAMPLE ORIGIN: CFM
SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		3.3				____
12378-PeCDD	ND		2.7				____
123478-HxCDD	ND		2.6				____
123678-HxCDD	ND		2.5				____
123789-HxCDD	ND		2.9				____
1234678-HpCDD	ND		4.2				____
OCDD	ND		9.2				____
2378-TCDF	ND		2.4				____
12378-PeCDF	ND		3.5				____
23478-PeCDF	ND		3.7				____
123478-HxCDF	ND		2.1				____
123678-HxCDF	ND		2.0				____
234678-HxCDF	ND		2.6				____
123789-HxCDF	ND		3.2				____
1234678-HpCDF	ND		2.4				____
1234789-HpCDF	ND		3.7				____
OCDF	ND		8.0				____
TOTAL TCDD	ND		3.3				____
TOTAL PeCDD	ND		2.7				____
TOTAL HxCDD	ND		2.7				____
TOTAL HpCDD	ND		4.2				____
TOTAL TCDF	ND		2.4				____
TOTAL PeCDF	ND		3.6				____
TOTAL HxCDF	ND		2.4				____
TOTAL HpCDF	ND		2.9				____

KO 10/9/90

FILE NAME....: T904049 CLIENT ID....: RADIAN TLI NUMBER....: 36-19-1D
CONCAL (VER).: T904048 SAMPLE ID....: CFM 24 TRIP BLANK
PROJECT NUMBER: 16402T ICAL DATE....: 09/13/90
ANALYST.....: JA ANALYSIS DATE: 09/25/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPX2372K SHIPMENT NO...: MWI 2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1260	63.2		31:42	____
13C12-PeCDF 234	1630	81.5	1.65	36:40	____
13C12-HxCDF 478	1300	64.9	0.53	40:50	____
13C12-HxCDD 478	2070	104	1.17	41:59	____
13C12-HpCDF 789	1050	52.3	0.41	47:47	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	1230	61.4	0.51	42:58	____
13C12-HxCDF 234	1840	92.1	0.52	41:48	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1110	55.4	0.73	30:53	____
13C12-2378-TCDD	1280	64.0	0.84	31:42	____
13C12-PeCDF 123	1510	75.7	1.59	35:42	____
13C12-PeCDD 123	3010	150	1.53	37:08	____
13C12-HxCDF 678	1290	64.5	0.52	40:59	____
13C12-HxCDD 678	1960	98.2	1.20	42:06	____
13C12-HpCDF 678	1120	56.2	0.42	45:28	____
13C12-HpCDD 678	1400	70.0	1.00	47:04	____
13C12-OCDD	2380	59.6	0.85	52:42	____

KU 10/9/90

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/05/90

FILE NAME....: W902371 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-2B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 46 RUN 1
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 09/30/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	39.2				0.68	18:54	
2378-TCDF	95.0				0.80	20:18	
TOTAL TCDD	307	9		337	0.76		
TOTAL TCDF	2390	22		2440	0.75		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2160	108		18:54	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2570	129	0.76	20:16	
13C12-2378-TCDD	2220	111	0.79	18:52	

! kw 10/5/90 ! C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/04/90

FILE NAME....: W902373 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-3B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 82 RUN 2
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 09/30/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		16.2				
2378-TCDF	28.1				0.72	20:17	
TOTAL TCDD	ND		16.2				
TOTAL TCDF	881	16		925	0.73		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37C1-TCDD	1820	91.1		18:53	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2020	101	0.78	20:16	
13C12-2378-TCDD	1890	94.5	0.74	18:52	

[_____ KSV 10/4/90]

C2NF_RPT rev:3.01

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TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/04/90

FILE NAME....: W902374 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-4B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 98 RUN 3
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 09/30/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	148				0.72	18:53	PR
2378-TCDF	363				0.75	20:17	
TOTAL TCDD	2130	14		2150	0.76		
TOTAL TCDF	12090	21		12240	0.73		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2120	106		18:53	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	2530	127	0.76	20:16	
13C12-2378-TCDD	2320	116	0.77	18:52	

kv 10/4/90

C2NF_RPT rev:3.01

FILE NAME....: W902375 CLIENT ID....: RADIAN TLI NUMBER....: 36-17-5B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 120 RUN 4
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 09/30/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	33.7				0.65	18:53	PR
2378-TCDF	111				0.71	20:17	
TOTAL TCDD	311	9		365	0.74		
TOTAL TCDF	2900	21		2920	0.75		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	2670	134		18:53	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	3080	154	0.78	20:16	
13C12-2378-TCDD	2720	136	0.78	18:52	

[illegible] 10/4/90

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/04/90

FILE NAME....: W902376 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-1B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 135 RUN 5
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			9.8			
2378-TCDF	37.7				0.73	20:17	
TOTAL TCDD	53.5	5		78.0	0.77		
TOTAL TCDF	1010	21		1040	0.72		Q

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1620	81.1		18:52	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1790	89.7	0.78	20:16	
13C12-2378-TCDD	1660	83.0	0.77	18:52	

KU 10/4/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/04/90

FILE NAME....: W902377
CONCAL (VER).: W902364
PROJECT NUMBER: 16402T
ANALYST.....: MTB
SAMPLE SIZE..: 1.000
DATE RECEIVED.: 08/31/90
SPIKE FILE...: SPC2NF2K

CLIENT ID....: RADIAN
SAMPLE ID....: CFM 150 RUN 6
ICAL DATE....: 05/15/90
ANALYSIS DATE: 10/01/90
SAMPLE MATRIX: TOLUENE R
DATE COLLECTED: / /

TLI NUMBER....: 36-18-2B
SAMPLE ORIGIN: CFM
SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		4.5				
2378-TCDF	9.2				0.71	20:17	
TOTAL TCDD	ND		4.5				
TOTAL TCDF	222	15		255	0.75		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1640	82.1		18:53	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1830	91.4	0.77	20:16	
13C12-2378-TCDD	1690	84.3	0.78	18:52	

KW 10/4/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/04/90

FILE NAME....: W902378 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-3B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 196 RUN 7
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	13.5				0.86	18:53	____
2378-TCDF	52.8				0.70	20:16	____
TOTAL TCDD	110	7		117	0.81		____
TOTAL TCDF	1050	20		1080	0.74		____

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1340	67.0		18:53	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1530	76.5	0.80	20:16	____
13C12-2378-TCDD	1360	68.1	0.78	18:52	____

KW 10/4/90

C2NF_RPT rev:3.01

FILE NAME....: W902379 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-4B
CONCAL (VER).: W902364 SAMPLE ID....: CFM 217 RUN 8
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: MTB ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		6.1				
2378-TCDF	7.5				0.66	20:16	
TOTAL TCDD	ND		6.1				
TOTAL TCDF	92.1	12		169	0.76		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1440	72.0		18:53	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1620	81.0	0.78	20:16	
13C12-2378-TCDD	1480	74.2	0.77	18:51	

KL 10/4/90

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

10/04/90

FILE NAME....: W902382 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-5B
CONCAL (VER).: W902381 SAMPLE ID....: CFM 241 RUN 9
PROJECT NUMBER: 16402T ICAL DATE....: 05/15/90
ANALYST.....: VCB ANALYSIS DATE: 10/01/90
SAMPLE SIZE..: 1.000 SAMPLE MATRIX: TOLUENE R SAMPLE ORIGIN: CFM
DATE RECEIVED.: 08/31/90 DATE COLLECTED: / /
SPIKE FILE...: SPC2NF2K SHIPMENT NO...: MWI 2

NAME	AMT(pg)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	16.8				0.76	18:52	
2378-TCDF	39.6				0.81	20:16	
TOTAL TCDD	94.2	7		101	0.74		
TOTAL TCDF	865	20		891	0.79		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
37C1-TCDD	1660	82.9		18:52	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (pg)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1980	98.8	0.78	20:15	
13C12-2378-TCDD	1590	79.4	0.77	18:51	

KV 10/4/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
801-10 CAPITOLA DRIVE
RESEARCH TRIANGLE PARK, NC 27713

Phone: (919) 544-5729
Fax: (919) 544-5491

DATE :	* 09 NOVEMBER 1990
CLIENT ID :	* RADIAN CORPORATION
P.O. NUMBER :	* S106087
TLI PROJECT No. :	* 16403

CASE NARRATIVE
MODEL 8290X

ANALYSIS OF SAMPLES FOR THE PRESENCE OF

POLYCHLORINATED DIBENZO-p-DIOXINS

AND

DIBENZOFURANS

BY

HIGH-RESOLUTION GAS CHROMATOGRAPHY / HIGH-RESOLUTION MASS SPECTROMETRY

Ten ash samples were received from RADIAN CORPORATION in good condition September 01, 1990 and stored in a refrigerator at 4°C. The samples were extracted and analyzed according to procedures described in the Triangle Labs User Manual provided with this data package. Any particular difficulties encountered during the sample handling by Triangle Labs will be discussed in the QA/QC remark section below.

Quality Assurance/Quality Control Samples

A laboratory method blank -- identified as the TLI Blank -- is prepared along with the batch of samples.

QA/QC Remarks

The release of this particular set of RADIAN CORPORATION analytical data by Triangle Labs was authorized by the Quality Assurance Officer who has reviewed each sample data package individually following a series of inspections/reviews conducted at two other levels of the data production line. When applicable, general deviations from acceptable QA/QC requirements are identified below. Comments on the effect of these deviations upon the validity and reliability of the results can be obtained from the User Manual (Data Quality Objectives; Section 5). Specific QA/QC Problems Associated with this Particular Project are:

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review:

Analytes were found in both TLI Blanks. In TLI Blank #1 these concentrations are not greater than one-third the calculated method quantitation limit (TMQL) for the associated samples. Blank contamination levels of one-third TMQL or less are acceptable under TLI guidelines, as discussed in section 5.1.3.2 of the Data User's Manual. OCDD concentrations are not required to be below one-third TMQL. In TLI Blank #2, all analytes were below TMQL except 123478-HxCDF and 1234678-HpCDF. These concentrations are not greater than 5% of any sample concentrations. Blank contamination of this magnitude is acceptable under TLI guidelines, as discussed in section 5.1.3.2 of the Data User's Manual.

Some samples in this project present QC ion instabilities as a result of quantitative interferences. Where the interference coincides with an internal standard, the internal standard is flagged "Q". This may affect quantitation of analytes with different-than-internal standard distribution of chlorine substituents in the molecule; however, the associated analyte with identical chlorine-substitution to the internal standard is unaffected.
Where the interference coincides with any non-2378 substituted furan or dioxin isomer, the Totals are flagged "Q". Reliable

estimates of Total TCDF for these samples can be obtained from the DB-225 analysis as they do not show quantitative interference with non-2378 substituted tetra furans or dioxins.
Quantitative interference is described in section 5.1.2.4.1 of the Data User's Manual.

All samples except CFM-289 (TLI# 36-20-9) and CFM-191 (TLI# 36-20-6) show saturated peaks (flagged "S"). These concentrations represent minimum estimates and may not meet the ion-abundance ratio. Samples CFM-118 (TLI# 36-20-4) and CFM-180 (TLI# 36-20-5) are recommended for a reextraction using a lesser amount of sample. They have not been confirmed. Samples CFM-37 (TLI# 36-20-1), CFM-68 (TLI# 36-20-2), CFM-76 (TLI# 36-20-3), CFM-185 (TLI# 36-20-7), CFM-238 (TLI# 36-20-8) and CFM-261 (TLI# 36-20-10) are recommended for a dilution and reinjection.

Analyses on the DB-225 column do not resolve the 2378-TCDD peak from the unspecific isomers. This has been shown with a "U" flag for unresolved. Results should be obtained from the DB-5 analyses as usual.

The DB-225 analysis of sample CFM-37 (TLI# 36-20-1) shows a different spike file from the other analyses. An irregular addition of Recovery standard was made to this sample.

Addendum to Section 4.6 of the Data User's Manual

Effective December 15, 1989, Triangle Laboratories has adopted a new procedure for calculating the analyte specific detection limits. Under this new policy two representative noise height determinations are summed and multiplied by an empirically determined factor before the detection limit equation given in Section 84.6 of the Data User's Manual is applied. The effect of this procedure is to increase DB-225 analyses detection limits by a factor of 3.5, and DB-5 analyses detection limits by a factor of 5. This procedure will result in a more accurate estimate of detection limits.

The revised formula for DB-225 analyses is:

$$DL_{ai}^{DB-225} = \frac{2.5 * (3.5 * H_{ai}) * Q_{Sj}}{A_{Sj} * \overline{RRF} * W}$$

$$3.5 * H_{ai} = A_{noise}$$

The revised formula for DB-5 analyses is:

$$DL_{ai}^{DB-5} = \frac{2.5 * (5 * H_{ai}) * Q_{Sj}}{A_{Sj} * \overline{RRF} * W}$$

$$5 * H_{ai} = A_{noise}$$

The symbols are defined in Section 4.6 of the Data User's Manual.

As an example, consider a DB-225 confirmation analysis of a 10 g sample. The internal standard spike is 2000 pg, the 13C12-2,3,7,8-TCDF internal standard area is 12000 area units, the RRF is 1.215 and the noise height is 11 units. The 2,3,7,8-TCDF detection limit is:

$$DL_{TCDF}^{DB-225} = \frac{2.5 * (3.5 * 11) * 2000}{12000 * 1.215 * 10.0} = 1.3 \text{ ppt}$$

Should RADIAN CORPORATION have any questions or comments to formulate regarding this data package please feel free to contact us.

For Triangle Laboratories,

Analyst

QA Project Officer

Laboratory Manager

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

11/07/90

FILE NAME....: T904054 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-2
CONCAL (VER).: T904048 SAMPLE ID....: CFM-68 Run 1
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: SB ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.510 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.11				0.85	31:43	
12378-PeCDD	0.56				1.57	37:09	
123478-HxCDD	0.74				1.25	42:00	
123678-HxCDD	1.3				1.28	42:08	
123789-HxCDD	2.6				1.26	42:34	PR
1234678-HpCDD	8.3				1.06	47:05	b
OCDD	10.5				0.86	52:43	b
2378-TCDF	EMPC			8.1			S,B
12378-PeCDF	2.8				1.58	35:42	
23478-PeCDF	7.1				1.59	36:42	B
123478-HxCDF	EMPC			10.6			S,Q,B
123678-HxCDF	EMPC			5.6			S,Q,B
234678-HxCDF	EMPC			9.6			S,Q,B
123789-HxCDF	0.34				1.12	42:59	P
1234678-HpCDF	8.6				0.90	45:29	B
1234789-HpCDF	2.1				0.94	47:47	P
OCDF	12.8				0.92	52:59	P
TOTAL TCDD	5.2	12			0.82		
TOTAL PeCDD	10.9	11			1.57		Q
TOTAL HxCDD	18.5	8		18.5	1.26		Q
TOTAL HpCDD	18.3	2			1.07		
TOTAL TCDF	44.5	16		52.5	0.78		S
TOTAL PeCDF	42.4	14		71.9	1.57		S,Q
TOTAL HxCDF	9.1	7		53.6	1.11		S,Q
TOTAL HpCDF	20.2	4			0.93		S,Q

DH 11/7/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

FILE NAME....: T904054
CONCAL (VER).: T904048
PROJECT NUMBER: 16403
ANALYST.....: SB
SAMPLE SIZE..: 10.510 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-68 Run 1
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-2
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.81	85.1		31:42	
13C12-PeCDF 234	1.1	117	1.49	36:40	
13C12-HxCDF 478	1.3	131	0.55	40:50	Q
13C12-HxCDD 478	1.0	106	1.23	41:59	
13C12-HpCDF 789	0.80	84.5	0.45	47:46	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.90	94.4	0.53	42:58	
13C12-HxCDF 234	1.1	120	0.52	41:47	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.96	101	0.77	30:53	
13C12-2378-TCDD	0.81	85.2	0.80	31:40	
13C12-PeCDF 123	1.0	106	1.54	35:42	
13C12-PeCDD 123	0.93	98.0	1.57	37:09	
13C12-HxCDF 678	0.95	99.4	0.54	40:59	
13C12-HxCDD 678	0.95	100	1.24	42:06	
13C12-HpCDF 678	1.2	122	0.47	45:29	Q
13C12-HpCDD 678	0.89	93.6	1.05	47:04	
13C12-OCDD	1.4	73.0	0.91	52:42	

DH 11/2/90

2

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

11/07/90

FILE NAME....: T904055 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-3
CONCAL (VER).: T904048 SAMPLE ID....: CFM-76 Run2
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: SB ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.050 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.06				0.72	31:43	
12378-PeCDD	0.37				1.62	37:11	
123478-HxCDD	0.57				1.31	42:00	
123678-HxCDD	1.2				1.27	42:08	
123789-HxCDD	2.3				1.28	42:34	PR
1234678-HpCDD	9.8				1.06	47:06	B
OCDD	19.5				0.86	52:44	B
2378-TCDF	5.7				0.87	30:57	S,B
12378-PeCDF	1.3				1.62	35:42	
23478-PeCDF	4.0				1.59	36:42	B
123478-HxCDF	EMPC			11.6			S,B
123678-HxCDF	4.8				1.12	41:01	B
234678-HxCDF	EMPC			10.6			S,B
123789-HxCDF	0.21				1.28	42:59	
1234678-HpCDF	11.2				0.89	45:30	B
1234789-HpCDF	2.4				0.92	47:47	
OCDF	30.9				0.94	53:00	B
TOTAL TCDD	10.2	13			0.81		
TOTAL PeCDD	20.3	10		20.7	1.59		Q
TOTAL HxCDD	24.9	8		24.9	1.24		Q
TOTAL HpCDD	22.1	2			1.07		
TOTAL TCDF	30.5	18		30.5	0.78		
TOTAL PeCDF	40.8	13		54.2	1.58		Q
TOTAL HxCDF	21.0	10		54.5	1.14		Q
TOTAL HpCDF	26.6	4			0.92		

11/7/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

11/07/90

FILE NAME....: T904055 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-3
CONCAL (VER).: T904048 SAMPLE ID....: CFM-76
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90 Run 2
ANALYST.....: SB ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.050 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	1.0	105		31:43	
13C12-PeCDF 234	1.1	114	1.50	36:40	
13C12-HxCDF 478	1.3	128	0.53	40:50	Q
13C12-HxCDD 478	1.1	106	1.28	41:59	
13C12-HpCDF 789	0.73	73.0	0.46	47:47	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.90	90.6	0.53	42:58	
13C12-HxCDF 234	1.2	116	0.53	41:48	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.2	118	0.78	30:53	
13C12-2378-TCDD	0.98	98.2	0.81	31:42	
13C12-PeCDF 123	1.0	105	1.55	35:42	
13C12-PeCDD 123	0.93	93.4	1.58	37:09	
13C12-HxCDF 678	0.94	94.1	0.52	40:59	
13C12-HxCDD 678	0.92	92.5	1.25	42:07	
13C12-HpCDF 678	1.0	103	0.48	45:29	
13C12-HpCDD 678	0.79	78.9	1.04	47:05	
13C12-OCDD	1.2	60.3	0.87	52:43	

DH 11/7/90

X237_RPT rev:3.03

2

FILE NAME....: T904057 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-4
CONCAL (VER).: T904048 SAMPLE ID....: CFM-118 Run 3
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: HA ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.650 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.14				0.84	31:43	
12378-PeCDD	1.4				1.58	37:12	
123478-HxCDD	3.7				1.25	42:02	
123678-HxCDD	5.9				1.27	42:10	
123789-HxCDD	12.9				1.26	42:36	PR
1234678-HpCDD	23.7				1.00	47:09	M,B
OCDD	42.5				0.94	52:52	M,B
2378-TCDF	8.5				0.89	30:58	M,B
12378-PeCDF	5.0				1.45	35:44	M
23478-PeCDF	EMPC			14.4			M,B
123478-HxCDF	EMPC			8.3			M,B
123678-HxCDF	EMPC			4.8			M,B
234678-HxCDF	EMPC			8.6			M,B
123789-HxCDF	0.91				1.24	43:00	M
1234678-HpCDF	12.1				0.92	45:36	M,B
1234789-HpCDF	8.5				0.92	47:50	M
OCDF	43.1				0.99	53:09	M,B
TOTAL TCDD	11.9	13		11.9	0.80		
TOTAL PeCDD	40.4	11			1.58		M
TOTAL HxCDD	66.7	9		66.7	1.24		M
TOTAL HpCDD	47.1	2			1.00		
TOTAL TCDF	74.1	17		74.1	0.80		M
TOTAL PeCDF	43.1	9		138	1.49		M
TOTAL HxCDF	11.5	4		54.5	1.20		M
TOTAL HpCDF	38.6	4			0.92		M

DH 11/7/90

FILE NAME....: T904057
CONCAL (VER).: T904048
PROJECT NUMBER: 16403
ANALYST.....: HA
SAMPLE SIZE..: 10.650 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-118 Run 3
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-4
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.94	99.6		31:44	
13C12-PeCDF 234	1.4	152	1.52	36:43	Q
13C12-HxCDF 478	1.4	147	0.65	40:53	RQ,Q
13C12-HxCDD 478	1.0	109	1.24	42:01	
13C12-HpCDF 789	0.74	79.1	0.46	47:49	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.81	85.7	0.53	43:00	
13C12-HxCDF 234	1.3	137	0.57	41:50	Q

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.2	129	0.80	30:56	Q
13C12-2378-TCDD	0.90	95.7	0.82	31:43	
13C12-PeCDF 123	1.2	125	1.51	35:44	Q
13C12-PeCDD 123	0.90	95.5	1.52	37:11	
13C12-HxCDF 678	1.0	109	0.55	41:02	Q
13C12-HxCDD 678	0.88	93.7	1.22	42:09	
13C12-HpCDF 678	1.6	174	0.92	45:36	RQ,Q
13C12-HpCDD 678	1.1	118	1.04	47:08	Q
13C12-OCDD	3.4	182	1.01	52:51	Q

DH 11/7/90

FILE NAME....: T904061
CONCAL (VER).: T904060
PROJECT NUMBER: 16403
ANALYST.....: CP
SAMPLE SIZE..: 10.250 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-180
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-5
Run 4
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.36				0.81	31:43	
12378-PeCDD	4.1				1.61	37:13	
123478-HxCDD	8.1				1.25	42:03	
123678-HxCDD	13.9				1.25	42:11	
123789-HxCDD	29.4				1.24	42:36	PR
1234678-HpCDD	97.2				1.01	47:09	B
OCDD	191				0.90	52:48	B
2378-TCDF	25.9				0.89	30:59	B
12378-PeCDF	14.5				1.59	35:46	
23478-PeCDF	EMPC			39.4			B
123478-HxCDF	EMPC			58.0			Q,B
123678-HxCDF	EMPC			33.9			Q,B
234678-HxCDF	EMPC			55.3			Q,B
123789-HxCDF	1.6				1.18	43:02	
1234678-HpCDF	43.1				0.91	45:34	B
1234789-HpCDF	11.4				0.95	47:51	
OCDF	173				0.96	53:04	B
TOTAL TCDD	29.7	13		29.7	0.82		
TOTAL PeCDD	96.4	12			1.57		
TOTAL HxCDD	205	9		205	1.24		Q
TOTAL HpCDD	200	2			1.01		Q
TOTAL TCDF	190	16		216	0.78		
TOTAL PeCDF	139	11		375	1.54		
TOTAL HxCDF	70.4	7		325	1.17		Q
TOTAL HpCDF	112	4			0.93		Q

DH 11/7/90

FILE NAME....: T904061 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-5
CONCAL (VER).: T904060 SAMPLE ID....: CFM-180 Run 4
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CP ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.250 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.78	79.5		31:45	____
13C12-PeCDF 234	1.1	109	1.50	36:43	____
13C12-HxCDF 478	1.6	161	0.70	40:53	RQQ
13C12-HxCDD 478	0.90	92.3	1.18	42:02	____
13C12-HpCDF 789	0.58	59.6	0.44	47:50	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.70	71.8	0.50	43:00	____
13C12-HxCDF 234	1.0	104	0.57	41:51	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.1	113	0.82	30:57	____
13C12-2378-TCDD	0.90	91.7	0.82	31:44	____
13C12-PeCDF 123	1.0	106	1.44	35:45	____
13C12-PeCDD 123	0.79	81.1	1.53	37:12	____
13C12-HxCDF 678	1.1	108	0.58	41:02	____
13C12-HxCDD 678	0.85	86.7	1.24	42:10	____
13C12-HpCDF 678	1.6	165	0.90	45:34	RQQ
13C12-HpCDD 678	0.88	89.9	1.01	47:08	____
13C12-OCDD	2.2	111	0.98	52:47	____

[signature] 11/7/90

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

11/07/90

FILE NAME....: T904063 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-7
CONCAL (VER).: T904060 SAMPLE ID....: CFM-185 Run 5
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.240 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.28				0.77	31:45	
12378-PeCDD	2.3				1.59	37:12	
123478-HxCDD	3.2				1.25	42:02	
123678-HxCDD	5.6				1.25	42:10	
123789-HxCDD	12.9				1.23	42:36	PR
1234678-HpCDD	42.8				1.05	47:08	B
OCDD	71.3				0.85	52:47	B
2378-TCDF	22.1				0.88	30:58	S,D
12378-PeCDF	6.1				1.67	35:44	
23478-PeCDF	22.5				1.58	36:44	M
123478-HxCDF	EMPC			62.7			B
123678-HxCDF	23.6				1.19	41:02	B
234678-HxCDF	46.4				1.11	41:51	B
123789-HxCDF	0.76				1.11	43:02	
1234678-HpCDF	60.4				0.92	45:32	B
1234789-HpCDF	6.7				0.98	47:50	
OCDF	61.9				0.91	53:03	B
TOTAL TCDD	24.1	13		24.1	0.81		
TOTAL PeCDD	56.9	10		59.5	1.58		
TOTAL HxCDD	96.8	7		96.8	1.24		
TOTAL HpCDD	91.2	2			1.06		
TOTAL TCDF	155	18		155	0.76		
TOTAL PeCDF	190	16		245	1.56		
TOTAL HxCDF	135	10		265	1.17		
TOTAL HpCDF	111	4			0.97		

DH 11/7/90

X237_RPT rev:3.03

FILE NAME....: T904063 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-7
CONCAL (VER).: T904060 SAMPLE ID....: CFM-185 Run 5
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.240 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.92	94.6		31:45	
13C12-PeCDF 234	0.86	88.3	1.57	36:43	
13C12-HxCDF 478	1.3	134	0.56	40:52	Q
13C12-HxCDD 478	0.95	96.9	1.28	42:01	
13C12-HpCDF 789	0.60	61.8	0.40	47:49	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.79	80.7	0.52	43:00	
13C12-HxCDF 234	0.95	97.0	0.55	41:50	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.1	109	0.78	30:56	
13C12-2378-TCDD	0.91	93.4	0.80	31:44	
13C12-PeCDF 123	0.89	90.6	1.52	35:44	
13C12-PeCDD 123	0.69	70.3	1.55	37:11	
13C12-HxCDF 678	0.94	96.7	0.56	41:02	
13C12-HxCDD 678	0.85	86.7	1.24	42:09	
13C12-HpCDF 678	1.00	102	0.57	45:32	RO Q
13C12-HpCDD 678	0.74	75.9	1.02	47:07	
13C12-OCDD	1.4	70.0	0.93	52:46	

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

11/07/90

FILE NAME....: T904062 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-6
CONCAL (VER).: T904060 SAMPLE ID....: CFM-191 Run 6
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: MC ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.420 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.05				0.80	31:43	
12378-PeCDD	0.32				1.49	37:12	
123478-HxCDD	0.36				1.38	42:02	
123678-HxCDD	0.64				1.27	42:10	
123789-HxCDD	1.2				1.21	42:35	PR
1234678-HpCDD	4.6				1.06	47:07	B
OCDD	7.5				0.84	52:46	B
2378-TCDF	6.2				0.78	30:57	B
12378-PeCDF	1.4				1.60	35:45	
23478-PeCDF	3.2				1.58	36:43	B
123478-HxCDF	13.4				1.19	40:50	B
123678-HxCDF	4.2				1.19	41:02	B
234678-HxCDF	7.4				1.21	41:50	B
123789-HxCDF	0.17				1.29	43:00	
1234678-HpCDF	26.6				0.96	45:31	B
1234789-HpCDF	1.5				0.98	47:49	
OCDF	11.3				0.91	53:02	B
TOTAL TCDD	3.0	13			0.80		
TOTAL PeCDD	6.5	12			1.57		
TOTAL HxCDD	8.4	7		8.4	1.26		
TOTAL HpCDD	10.6	2			1.06		
TOTAL TCDF	29.9	16		29.9	0.77		
TOTAL PeCDF	41.1	14			1.58		
TOTAL HxCDF	51.2	12			1.21		
TOTAL HpCDF	40.2	4			0.97		

DH 11/7/90

X237_RPT rev:3.03

FILE NAME....: T904062 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-6
CONCAL (VER).: T904060 SAMPLE ID....: CFM-191 Run 6
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: MC ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.420 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.81	84.7		31:44	____
13C12-PeCDF 234	0.87	91.0	1.60	36:42	____
13C12-HxCDF 478	1.00	104	0.53	40:51	____
13C12-HxCDD 478	1.0	105	1.23	42:00	____
13C12-HpCDF 789	0.64	66.2	0.46	47:49	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.79	82.4	0.54	42:59	____
13C12-HxCDF 234	0.99	103	0.51	41:49	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.81	84.7	0.76	30:54	____
13C12-2378-TCDD	0.78	81.3	0.80	31:43	____
13C12-PeCDF 123	0.85	88.6	1.57	35:44	____
13C12-PeCDD 123	0.80	83.0	1.57	37:11	____
13C12-HxCDF 678	0.85	88.3	0.51	41:01	____
13C12-HxCDD 678	0.94	97.5	1.22	42:08	____
13C12-HpCDF 678	0.78	81.4	0.50	45:30	____
13C12-HpCDD 678	0.60	62.7	1.04	47:06	____
13C12-OCDD	1.3	67.0	0.93	52:45	____

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X237_RPT rev:3.03

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

FILE NAME....: T904064 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-8
CONCAL (VER).: T904060 SAMPLE ID....: CFM-238 R. 7
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.240 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.08				0.80	31:45	
12378-PeCDD	0.61				1.60	37:13	
123478-HxCDD	0.94				1.27	42:03	
123678-HxCDD	1.9				1.22	42:11	
123789-HxCDD	3.3				1.24	42:36	B
1234678-HpCDD	14.3				1.04	47:09	B
OCDD	27.5				0.87	52:47	B
2378-TCDF	11.0				0.86	30:59	B
12378-PeCDF	2.5				1.50	35:46	
23478-PeCDF	6.4				1.47	36:44	B
123478-HxCDF	EMPC			24.7			B
123678-HxCDF	9.2				1.17	41:03	B
234678-HxCDF	16.4				1.17	41:51	B
123789-HxCDF	0.42				1.24	43:02	
1234678-HpCDF	24.6				0.92	45:33	B
1234789-HpCDF	3.7				1.03	47:51	B
OCDF	34.1				0.91	53:03	B
TOTAL TCDD	5.9	13			0.83		
TOTAL PeCDD	14.0	12			1.58		
TOTAL HxCDD	27.3	8			1.27		
TOTAL HpCDD	31.5	2			1.05		
TOTAL TCDF	55.3	17		55.3	0.81		
TOTAL PeCDF	82.9	14		82.9	1.46		
TOTAL HxCDF	53.2	10		104	1.19		SQ
TOTAL HpCDF	48.0	4			0.99		SQ

DH 11/7/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

11/07/90

FILE NAME....: T904064
CONCAL (VER).: T904060
PROJECT NUMBER: 16403
ANALYST.....: CD
SAMPLE SIZE..: 10.240 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-238
ICAL DATE....: 09/13/90 R-7
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-8

SAMPLE ORIGIN: CAPE FEAR

SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.87	88.8		31:45	
13C12-PeCDF 234	1.0	104	1.51	36:43	
13C12-HxCDF 478	1.2	121	0.55	40:53	Q
13C12-HxCDD 478	0.94	96.4	1.26	42:02	
13C12-HpCDF 789	0.66	67.3	0.43	47:50	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.77	78.3	0.55	43:00	
13C12-HxCDF 234	0.95	97.1	0.52	41:50	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.91	93.1	0.78	30:56	
13C12-2378-TCDD	0.87	89.0	0.82	31:44	
13C12-PeCDF 123	0.99	101	1.53	35:45	
13C12-PeCDD 123	0.89	91.2	1.58	37:12	
13C12-HxCDF 678	0.90	92.5	0.53	41:02	
13C12-HxCDD 678	0.90	92.1	1.21	42:10	
13C12-HpCDF 678	1.0	105	0.50	45:32	Q
13C12-HpCDD 678	0.81	82.4	1.04	47:08	
13C12-OCDD	1.5	77.5	0.89	52:46	

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X237_RPT rev:3.03

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

11/07/90

FILE NAME....: T904066 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-10
CONCAL (VER).: T904060 SAMPLE ID....: CFM-261 Run 6
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.400 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.07				0.80	31:43	
12378-PeCDD	0.48				1.48	37:12	
123478-HxCDD	0.69				1.22	42:02	
123678-HxCDD	1.3				1.24	42:10	
123789-HxCDD	2.5				1.24	42:36	PR
1234678-HpCDD	9.4				1.02	47:08	B
OCDD	18.0				0.84	52:46	B
2378-TCDF	10.5				0.81	30:58	B
12378-PeCDF	2.0				1.58	35:45	
23478-PeCDF	5.6				1.58	36:43	
123478-HxCDF	EMPC			20.8			
123678-HxCDF	6.7				1.19	41:02	B
234678-HxCDF	14.2				1.15	41:50	B
123789-HxCDF	0.19				1.39	43:00	
1234678-HpCDF	20.8				0.92	45:32	B
1234789-HpCDF	2.3				0.99	47:50	
OCDF	23.3				0.92	53:02	B
TOTAL TCDD	6.8	13			0.80		
TOTAL PeCDD	13.1	11		13.1	1.52		
TOTAL HxCDD	21.5	7			1.23		
TOTAL HpCDD	20.5	2			1.03		
TOTAL TCDF	48.9	15		48.9	0.76		
TOTAL PeCDF	73.7	13			1.57		
TOTAL HxCDF	40.0	10		83.2	1.20		EMPC
TOTAL HpCDF	37.8	4			0.97		EMPC

DH 11/7/90

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

11/07/90

FILE NAME....: T904066 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-10
CONCAL (VER).: T904060 SAMPLE ID....: CFM-261 Rev 3
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.400 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.79	82.2		31:44	
13C12-PeCDF 234	0.97	101	1.55	36:42	
13C12-HxCDF 478	1.2	128	0.54	40:51	Q
13C12-HxCDD 478	0.96	100	1.32	42:00	
13C12-HpCDF 789	0.78	81.0	0.45	47:49	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.80	83.6	0.52	43:00	
13C12-HxCDF 234	1.0	106	0.53	41:50	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.87	90.8	0.73	30:56	
13C12-2378-TCDD	0.81	84.0	0.84	31:43	
13C12-PeCDF 123	0.94	97.7	1.55	35:44	
13C12-PeCDD 123	0.86	89.6	1.61	37:11	
13C12-HxCDF 678	0.95	98.9	0.53	41:01	
13C12-HxCDD 678	0.93	96.7	1.19	42:09	
13C12-HpCDF 678	1.1	116	0.51	45:31	Q
13C12-HpCDD 678	0.88	91.5	1.02	47:07	
13C12-OCDD	2.1	109	0.88	52:45	

DH 11/7/90

X237_RPT rev:3.03

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FILE NAME....: T904065
CONCAL (VER).: T904060
PROJECT NUMBER: 16403
ANALYST.....: CD
SAMPLE SIZE..: 10.300 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-289 Run 1
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-9

SAMPLE ORIGIN: CAPE FEAR

SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.06				0.68	31:43	
12378-PeCDD	0.42				1.70	37:12	
123478-HxCDD	0.56				1.21	42:02	
123678-HxCDD	1.0				1.19	42:10	
123789-HxCDD	2.0				1.29	42:35	PR
1234678-HpCDD	7.4				1.05	47:07	B
OCDD	10.6				0.86	52:46	B
2378-TCDF	9.8				0.74	30:58	B
12378-PeCDF	1.9				1.57	35:45	
23478-PeCDF	4.2				1.60	36:43	B
123478-HxCDF	18.7				1.21	40:50	B
123678-HxCDF	6.0				1.22	41:02	B
234678-HxCDF	9.7				1.21	41:50	B
123789-HxCDF	0.20				1.38	43:00	
1234678-HpCDF	33.9				0.99	45:31	B
1234789-HpCDF	1.8				0.97	47:50	
OCDF	11.2				0.90	53:02	B
TOTAL TCDD	5.4	13			0.78		
TOTAL PeCDD	9.2	10		9.9	1.52		
TOTAL HxCDD	17.4	7			1.24		
TOTAL HpCDD	16.3	2			1.07		
TOTAL TCDF	49.1	16		49.1	0.76		
TOTAL PeCDF	62.6	13			1.59		
TOTAL HxCDF	73.2	12		73.2	1.24		
TOTAL HpCDF	50.9	4			0.99		

DH 11/7/90

FILE NAME....: T904065
CONCAL (VER).: T904060
PROJECT NUMBER: 16403
ANALYST.....: CD
SAMPLE SIZE..: 10.300 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-289
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-9

SAMPLE ORIGIN: CAPE FEAR

SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.82	84.6		31:44	
13C12-PeCDF 234	0.75	77.4	1.54	36:42	
13C12-HxCDF 478	1.2	119	0.52	40:51	
13C12-HxCDD 478	0.97	99.4	1.29	42:00	
13C12-HpCDF 789	0.70	72.1	0.43	47:48	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.84	86.8	0.53	42:59	
13C12-HxCDF 234	1.0	104	0.53	41:49	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.84	86.6	0.75	30:54	
13C12-2378-TCDD	0.79	81.2	0.81	31:43	
13C12-PeCDF 123	0.76	78.3	1.50	35:44	
13C12-PeCDD 123	0.77	79.3	1.57	37:11	
13C12-HxCDF 678	0.97	99.8	0.54	41:01	
13C12-HxCDD 678	0.95	98.3	1.23	42:08	
13C12-HpCDF 678	0.83	85.7	0.47	45:30	
13C12-HpCDD 678	0.74	76.4	1.09	47:06	
13C12-OCDD	1.2	61.1	0.85	52:44	

DH 11/7/90

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TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b)

11/07/90

FILE NAME....: T904053 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-1
CONCAL (VER).: T904048 SAMPLE ID....: CFM-37 Pre-Test
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: SB ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.290 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPX23710 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			0.22			
12378-PeCDD	1.6				1.62	37:11	
123478-HxCDD	2.5				1.22	42:00	
123678-HxCDD	4.8				1.24	42:08	
123789-HxCDD	5.3				1.24	42:33	B
1234678-HpCDD	31.6				1.06	47:06	B
OCDD	43.9				0.86	52:43	B
2378-TCDF	8.3				0.89	30:57	S,B
12378-PeCDF	4.7				1.66	35:42	
23478-PeCDF	12.8				1.33	36:42	B
123478-HxCDF	EMPC			30.0			B
123678-HxCDF	14.4				1.07	41:01	Q,B
234678-HxCDF	21.2				1.09	41:48	Q,B
123789-HxCDF	0.28				1.41	42:59	Q
1234678-HpCDF	60.4				0.90	45:30	B
1234789-HpCDF	5.8				0.94	47:48	
OCDF	30.5				0.95	52:59	B
TOTAL TCDD	26.4	12		26.6	0.80		
TOTAL PeCDD	34.0	11		56.0	1.57		S
TOTAL HxCDD	93.3	7		93.3	1.21		SQ
TOTAL HpCDD	82.0	2			1.06		
TOTAL TCDF	75.2	16		83.1	0.79		S
TOTAL PeCDF	60.5	11		122	1.59		S
TOTAL HxCDF	69.7	9		160	1.14		SQ
TOTAL HpCDF	110	4			0.92		

DH 11/7/90

X237_RPT rev:3.03

TRIANGLE LABORATORIES, INC.
PCDD/PCDF 2378X ANALYSIS (b) QA/QC SUMMARY

FILE NAME....: T904053
CONCAL (VER).: T904048
PROJECT NUMBER: 16403
ANALYST.....: SB
SAMPLE SIZE..: 10.290 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPX23710

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-37 Pre-Test
ICAL DATE....: 09/13/90
ANALYSIS DATE: 09/26/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-1
SAMPLE ORIGIN: CAPE FEAR
SHIPMENT NO...: MW1-2

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.96	99.1		31:43	—
13C12-PeCDF 234	0.98	100	1.53	36:40	—
13C12-HxCDF 478	0.68	70.4	0.55	40:50	Q
13C12-HxCDD 478	0.71	72.5	1.20	41:59	—
13C12-HpCDF 789	0.14	14.0	0.39	47:47	V

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.22	22.3	0.50	42:59	V
13C12-HxCDF 234	0.35	36.1	0.54	41:48	V

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.1	109	0.78	30:54	—
13C12-2378-TCDD	0.96	98.6	0.80	31:42	—
13C12-PeCDF 123	0.90	92.7	1.51	35:42	—
13C12-PeCDD 123	0.83	84.9	1.53	37:09	—
13C12-HxCDF 678	0.46	47.6	0.54	40:59	—
13C12-HxCDD 678	0.54	55.5	1.21	42:07	—
13C12-HpCDF 678	0.17	17.3	0.48	45:29	V
13C12-HpCDD 678	0.17	17.6	1.00	47:05	V
13C12-OCDD	0.17	8.80	1.00	52:42	V

DH 11/7/90

X237_RPT rev:3.03

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FILE NAME....: T904052 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: T904048 SAMPLE ID....: TLI BLANK #1
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: SB ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.000 g SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: n/a

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.001				
12378-PeCDD	ND		0.003				
123478-HxCDD	ND		0.001				
123678-HxCDD	ND		0.001				
123789-HxCDD	ND		0.001				
1234678-HpCDD	ND		0.003				
OCDD	EMPC			0.009			
2378-TCDF	EMPC			0.002			
12378-PeCDF	ND		0.001				
23478-PeCDF	ND		0.001				
123478-HxCDF	ND		0.001				
123678-HxCDF	ND		0.001				
234678-HxCDF	0.002				1.11	41:49	
123789-HxCDF	ND		0.001				
1234678-HpCDF	ND		0.001				
1234789-HpCDF	ND		0.001				
OCDF	ND		0.003				
TOTAL TCDD	ND		0.001				
TOTAL PeCDD	ND		0.003				
TOTAL HxCDD	ND		0.001				
TOTAL HpCDD	ND		0.003				
TOTAL TCDF	0.005	3		0.01	0.75		
TOTAL PeCDF	ND		0.001				
TOTAL HxCDF	0.002	1			1.11		
TOTAL HpCDF	ND		0.001				

11/7/90

FILE NAME....: T904052 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: T904048 SAMPLE ID....: TLI BLANK #1
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: SB ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.000 g SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: n/a

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.88	88.3		31:43	
13C12-PeCDF 234	0.89	88.7	1.57	36:40	
13C12-HxCDF 478	0.74	74.0	0.52	40:50	
13C12-HxCDD 478	1.1	108	1.24	41:59	
13C12-HpCDF 789	0.62	62.3	0.44	47:47	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.84	83.6	0.52	42:59	
13C12-HxCDF 234	1.1	113	0.50	41:48	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.80	79.7	0.77	30:54	
13C12-2378-TCDD	0.74	73.8	0.81	31:42	
13C12-PeCDF 123	0.78	77.6	1.53	35:42	
13C12-PeCDD 123	0.98	98.1	1.53	37:09	
13C12-HxCDF 678	0.68	67.8	0.52	41:00	
13C12-HxCDD 678	0.93	93.3	1.23	42:07	
13C12-HpCDF 678	0.64	63.6	0.43	45:29	
13C12-HpCDD 678	0.61	60.8	1.06	47:05	
13C12-OCDD	0.99	49.7	0.86	52:43	

[signature] 11/7/90

FILE NAME....: T904067 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: T904060 SAMPLE ID....: TLI BLANK #2
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.000 g SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: n/a

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.003				
12378-PeCDD	ND		0.005				
123478-HxCDD	ND		0.003				
123678-HxCDD	ND		0.003				
123789-HxCDD	ND		0.003				
1234678-HpCDD	0.006				1.14	47:09	
OCDD	EMPC			0.03			
2378-TCDF	EMPC			0.007			
12378-PeCDF	ND		0.003				
23478-PeCDF	0.005				1.62	36:43	
123478-HxCDF	0.02				1.26	40:51	
123678-HxCDF	0.004				1.35	41:03	
234678-HxCDF	EMPC			0.01			
123789-HxCDF	ND		0.003				
1234678-HpCDF	0.04				1.05	45:33	
1234789-HpCDF	ND		0.003				
OCDF	0.02				0.84	53:04	
TOTAL TCDD	ND		0.003				
TOTAL PeCDD	ND		0.005				
TOTAL HxCDD	EMPC			0.006			
TOTAL HpCDD	0.02	2			1.12		
TOTAL TCDF	0.004	1		0.01	0.73		
TOTAL PeCDF	0.02	2		0.03	1.58		
TOTAL HxCDF	0.04	4		0.05	1.21		
TOTAL HpCDF	0.05	2		0.06	1.04		

DH 11/7/90

FILE NAME....: T904067 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: T904060 SAMPLE ID....: TLI BLANK #2
PROJECT NUMBER: 16403 ICAL DATE....: 09/13/90
ANALYST.....: CD ANALYSIS DATE: 09/26/90
SAMPLE SIZE..: 10.000 g SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPX23710 SHIPMENT NO...: n/a

SURROGATE RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.58	57.5		31:45	____
13C12-PeCDF 234	0.71	70.9	1.61	36:43	____
13C12-HxCDF 478	0.76	76.0	0.53	40:53	____
13C12-HxCDD 478	0.91	91.1	1.19	42:02	____
13C12-HpCDF 789	0.72	71.9	0.46	47:50	____

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-HxCDF 789	0.78	78.1	0.53	43:01	____
13C12-HxCDF 234	0.86	85.7	0.52	41:51	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.50	49.6	0.74	30:57	____
13C12-2378-TCDD	0.57	57.0	0.81	31:44	____
13C12-PeCDF 123	0.63	63.3	1.55	35:45	____
13C12-PeCDD 123	0.76	76.4	1.56	37:12	____
13C12-HxCDF 678	0.77	76.7	0.53	41:02	____
13C12-HxCDD 678	0.91	90.6	1.25	42:10	____
13C12-HpCDF 678	0.72	71.9	0.44	45:32	____
13C12-HpCDD 678	0.80	80.2	0.94	47:08	____
13C12-OCDD	1.4	67.8	0.85	52:47	____

DH 11/7/90

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TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902707 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-2
CONCAL (VER).: W902702 SAMPLE ID....: CFM-68 Run 1
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: SB ANALYSIS DATE: 10/13/90
SAMPLE SIZE..: 10.510 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			0.15			PR
2378-TCDF	1.2				0.82	20:11	
TOTAL TCDD	6.6	14		6.8	0.77		
TOTAL TCDF	53.2	18		53.5	0.78		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.78	82.3		18:49	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.94	98.3	0.78	20:11	
13C12-2378-TCDD	0.78	81.9	0.81	18:47	

11/1/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902708 CLIENT ID....: RADIAN Run 2 TLI NUMBER....: 36-20-3
CONCAL (VER).: W902702 SAMPLE ID....: CFM-76
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: VC ANALYSIS DATE: 10/13/90
SAMPLE SIZE..: 10.050 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.008				U
2378-TCDF	0.50				0.72	20:11	
TOTAL TCDD	11.6	13			0.78		
TOTAL TCDF	31.8	18			0.76		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.96	96.5		18:49	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.2	116	0.78	20:11	
13C12-2378-TCDD	0.97	97.4	0.81	18:47	

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902709 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-7
CONCAL (VER).: W902702 SAMPLE ID....: CFM-185 Run 5
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: SB ANALYSIS DATE: 10/13/90
SAMPLE SIZE..: 10.240 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.01				U
2378-TCDF	3.3				0.78	20:11	
TOTAL TCDD	29.4	15			0.78		
TOTAL TCDF	172	19		172	0.78		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.95	96.9		18:49	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.1	115	0.79	20:11	
13C12-2378-TCDD	0.92	94.4	0.73	18:48	

11/1/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902899 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-6
CONCAL (VER).: W902895 SAMPLE ID....: CFM-191 b
PROJECT NUMBER: 16403 ICAL DATE....: 10/20/90
ANALYST.....: SB ANALYSIS DATE: 10/19/90
SAMPLE SIZE..: 10.420 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	EMPC			0.08			PR
2378-TCDF	0.79				0.78	20:37	
TOTAL TCDD	4.5	11		4.7	0.79		
TOTAL TCDF	32.7	20			0.81		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.83	86.0		19:12	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.0	104	0.80	20:37	
13C12-2378-TCDD	0.72	74.7	0.75	19:11	

[signature] 11/1/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902896 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-8
CONCAL (VER).: W902895 SAMPLE ID....: CFM-238 - Run 7
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: SB ANALYSIS DATE: 10/19/90
SAMPLE SIZE..: 10.240 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.12				0.84	19:19	____
2378-TCDF	1.3				0.79	20:45	____
TOTAL TCDD	9.0	15			0.79		____
TOTAL TCDF	57.6	19		58.0	0.80		____

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.83	84.8		19:20	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.1	114	0.82	20:45	____
13C12-2378-TCDD	0.76	77.9	0.82	19:19	____

[signature] 11/1/90

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902898 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-10
CONCAL (VER).: W902895 SAMPLE ID....: CFM-261 Run8
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: SB ANALYSIS DATE: 10/20/90
SAMPLE SIZE..: 10.400 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.06				0.89	19:12	____
2378-TCDF	1.2				0.80	20:38	____
TOTAL TCDD	10.3	14		10.4	0.78		____
TOTAL TCDF	56.7	20			0.81		____

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.79	82.6		19:14	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.96	99.9	0.82	20:38	____
13C12-2378-TCDD	0.72	74.6	0.80	19:12	____

[signature] 11/1/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902897 CLIENT ID....: RADIAN TLI NUMBER....: 36-20-9
CONCAL (VER).: W902895 SAMPLE ID....: CFM-289 Run 1
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: SB ANALYSIS DATE: 10/19/90
SAMPLE SIZE..: 10.300 g SAMPLE MATRIX: ASH SAMPLE ORIGIN: CAPE FEAR
DATE RECEIVED.: 09/01/90 DATE COLLECTED: 08/28/90
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	0.10				0.89	19:13	____
2378-TCDF	0.99				0.79	20:40	____
TOTAL TCDD	7.3	14		7.4	0.81		____
TOTAL TCDF	45.2	19		45.5	0.81		____

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.85	87.6		19:14	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	1.1	111	0.84	20:40	____
13C12-2378-TCDD	0.78	79.9	0.79	19:13	____

11/1/90

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902876 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: W902873 SAMPLE ID....: TLI BLANK #1
PROJECT NUMBER: 16403 ICAL DATE....: 05/15/90
ANALYST.....: SB ANALYSIS DATE: 10/19/90
SAMPLE SIZE..: 10.000 g SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: n/a

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.001				____
2378-TCDF	ND		0.001				____
TOTAL TCDD	EMPC			0.004			____
TOTAL TCDF	0.002	2		0.005	0.82		____

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.87	86.6		17:42	____

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.91	91.2	0.79	19:02	____
13C12-2378-TCDD	0.75	74.5	0.78	17:41	____

11/1/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/07/90

FILE NAME....: W902706
CONCAL (VER).: W902702
PROJECT NUMBER: 16403
ANALYST.....: SB
SAMPLE SIZE..: 10.290 g
DATE RECEIVED.: 09/01/90
SPIKE FILE...: SPC2NF1X

CLIENT ID....: RADIAN
SAMPLE ID....: CFM-37 - Pre Test
ICAL DATE....: 05/15/90
ANALYSIS DATE: 10/13/90
SAMPLE MATRIX: ASH
DATE COLLECTED: 08/28/90

TLI NUMBER....: 36-20-1

SAMPLE ORIGIN: CAPE FEAR

SHIPMENT NO...: MW1-2

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.005				U
2378-TCDF	2.5				0.79	20:11	
TOTAL TCDD	25.9	13		32.8	0.78		
TOTAL TCDF	130	20			0.78		

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.76	77.9		18:49	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.91	93.8	0.81	20:11	
13C12-2378-TCDD	0.74	75.6	0.77	18:48	

DH 11/7/90

C2NF_RPT rev:3.01

TRIANGLE LABORATORIES, INC.
CONFIRMATION ANALYSIS (DB-225)

11/01/90

FILE NAME....: W902900 CLIENT ID....: RADIAN TLI NUMBER....: n/a
CONCAL (VER).: W902895 SAMPLE ID....: TLI BLANK #2
PROJECT NUMBER: 16403 ICAL DATE....: 10/20/90
ANALYST.....: SB ANALYSIS DATE: 10/19/90
SAMPLE SIZE..: 10.000 g SAMPLE MATRIX: n/a SAMPLE ORIGIN: n/a
DATE RECEIVED.: / / DATE COLLECTED: / /
SPIKE FILE...: SPC2NF10 SHIPMENT NO...: n/a

NAME	CONC(ppb)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
2378-TCDD	ND		0.02				
2378-TCDF	ND		0.01				
TOTAL TCDD	ND		0.02				
TOTAL TCDF	ND		0.01				

SURROGATE STD. RECOVERY SUMMARY (TYPE B)

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
37Cl-TCDD	0.60	60.1		19:11	

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	CONC (ppb)	% REC.	RATIO	RT	FLAGS
13C12-2378-TCDF	0.63	63.3	0.83	20:36	
13C12-2378-TCDD	0.54	53.8	0.82	19:10	

C2NF_RPT rev:3.01

E

CASE NARRATIVE

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

DATE: October 26, 1990

CLIENT P.O. NO: S1 060 87

TLI NO: 16486

OBJECTIVE: Analysis of one MM5 train sample for polyaromatic hydrocarbons, chlorobenzenes, and chlorophenols.

METHOD

The MM5 trap was pre-spiked with 50 micrograms of terphenyl-d_{14}. Prior to extraction, the MM5 was spiked with 100 micrograms of phenol-d_5 and 2-fluorophenol. The probe rinses, filters, and XAD portions of the sample were Soxhlett extracted with methylene chloride and toluene. The impinger water was extracted with methylene chloride using a separatory funnel. The extracts were split and combined according to the flow chart found in the project information packet located on the top of the complete data package.

The internal standards, 1,4-dichlorobenzene-d_4, naphthalene-d_8, acenaphthene-d_{10}, phenanthrene-d_{10}, chrysene-d_{12} and perylene-d_{12} were added in an amount such that the final concentration was 40 micrograms per milliliter immediately prior to analysis by GC/MS.

The GC/MS analysis conditions are listed below:

GC CONDITIONS:

Column:	J&W DB-5, 30m x .32mm x 25micron film thickness
Program:	40C hold 3 min to 300C at 8C/min hold 4.5 min

MS CONDITIONS:

Instrument:	TRIO-1, Lab Base data system
Scan:	35-510 amu at 1s/scan
Ion Source:	180C
Interface:	Capillary 275C

CASE NARRATIVE
Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

REPORT

Included with the case narrative are the chain of custody sheets, instrument log pages and tracking forms and wet laboratory information.

The data are reported as quantitation reports, chromatograms, interim reports, and spectra of detected compounds. The quantitation report header describes the sample and calibration injection ID, 'data file' and 'RF file' respectively. The sample name, dilution factor, TLI project number, date of report, and analysis date are also listed in the quantitation report header. The raw areas and scan numbers found on the quantitation report are from the interim report. The RF is from the continuing calibration. All initial and continuing calibration data is located in the back of the data package. The ISID is the internal standard identifier. Those compounds matched to naphthalene-d_8, for example, are flagged with ISID number 18. The amounts for the target compounds are reported in ug. The sample calculations are listed below in the SAMPLE CALCULATIONS section of the narrative. If the target compound is detected, a code of 'D' is reported. If the target compound is detected but the amount is below the quantitation limit, a code of 'E' or estimated is reported. If the target compound is not detected, a code of 'ND' is reported. Amounts reported for target compounds that are not detected are calculated using an area of 20 counts. Compounds flagged with the code 'IS' are internal standards.

RESULTS

The recovery of the surrogate terphenyl-d_{14} was very good in the polyaromatic hydrocarbon analysis. There was some naphthalene detected as a contaminant in the laboratory blank, SBLK 0981890. This analyte is a known constituent in both the XAD resin and the toluene used in the extraction. The level of naphthalene in the sample is much higher (almost 10 times higher and at a level above the calibration range of the analysis) than the level in the associated blank. Naphthalene should be considered present in the native sample at the estimated level listed on the quantitation report.

The recovery of the surrogates phenol-d_5 and 2-fluorophenol were lower than normal in the laboratory blank and the sample for the chlorobenzenes and chlorophenols analysis. Low surrogate recoveries may imply that target compounds similar in structure and properties to the surrogates may not have been efficiently recovered from the MM5 matrix. There were no target compounds found in any of the samples in this analysis.

CASE NARRATIVE
Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

SAMPLE CALCULATIONS

Response Factor, RF:

$$RF = \frac{(\text{Area X} * \text{Amount Int Std})}{(\text{Area Int Std} * \text{Amount X})}$$

Amount in samples, ug:

$$\text{Amount, ug} = \frac{(\text{Area X} * \text{Amt Int Std} * \text{Dilution Factor})}{(\text{Area Int Std} * \text{RF X})}$$

where:

X = Analyte
Int Std = Internal Standard
Amt Int Std = amount of internal standard = 40 ug
RF X = response factor for X from the continuing calibration

Valerie Evans	Penny Brock	Nancy Bragg
Laboratory Manager	QA/QC Specialist	Report Generation Manager

TRIANGLE LABORATORIES, INC.
801-10 Capitola Drive
Research Triangle Park, NC 27713
Telephone: (919) 544-5729

DATA FILE: FC28507 SAMPLE ID SBLK 091890
RF FILE: FC28501 DILN FACTOR 2
DATE: 10/17/90
TLI Project Number: 16486
ANALYSIS DATE: 10/09/90

Q U A N T I T A T I O N R E P O R T

NAME	AREA	RF	SCAN	ISID	AMOUNT, ug	CODE	QUAN LIMIT
Naphthalene	8292	1.0305	442	18	66.27	D	20
2-Methylnaphthalene	0	.5979	0	18	.28	ND	20
2-Chloronaphthalene	0	1.1403	0	43	.29	ND	20
Acenaphthylene	0	1.8030	0	43	.19	ND	20
Acenaphthene	0	1.2277	0	43	.27	ND	20
Fluorene	0	1.2607	0	43	.27	ND	20
Phenanthrene	0	1.1006	0	72	.18	ND	20
Anthracene	0	1.0555	0	72	.19	ND	20
Fluoranthene	0	1.2252	0	72	.17	ND	20
Pyrene	0	1.2809	0	82	.14	ND	20
Benzo(a)anthracene	0	1.0951	0	82	.16	ND	20
Chrysene	0	1.1420	0	82	.15	ND	20
Benzo(b)fluoranthene	0	1.1347	0	91	.19	ND	20
Benzo(k)fluoranthene	0	1.1860	0	91	.18	ND	20
Benzo(a)pyrene	0	1.1111	0	91	.19	ND	20
Benzo(e)pyrene	0	1.0186	0	91	.21	ND	20
Perylene	0	.6413	0	91	.33	ND	20
Indeno(1,2,3-cd)pyrene	0	.8217	0	91	.26	ND	20
Dibenz(a,h)anthracene	0	.9041	0	91	.23	ND	20
Benzo(g,h,i)perylene	0	1.0032	0	91	.21	ND	20

SURROGATE SUMMARY	AREA	RF	SCAN	ISID	AMOUNT	CODE	% RECOVERY
Terphenyl-d14	4499	.7643	1304	82	51.10	D	102.2

1,4-Dichlorobenzene-d4	2226	233	1	IS
Naphthalene-d8	9714	439	18	IS
Acenaphthene-d10	4778	744	43	IS
Phenanthrene-d10	7895	1001	72	IS
Chrysene-d12	9216	1458	82	IS
Perylene-d12	7596	1656	91	IS

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

TRIANGLE LABORATORIES, INC.
801-10 Capitola Drive
Research Triangle Park, NC 27713
Telephone: (919) 544-5729

DATA FILE: FC28507 SAMPLE ID SBLK 091890
RF FILE: FC28501 DILN FACTOR 2
DATE: 10/17/90
TLI Project Number: 15486
ANALYSIS DATE: 10/09/90

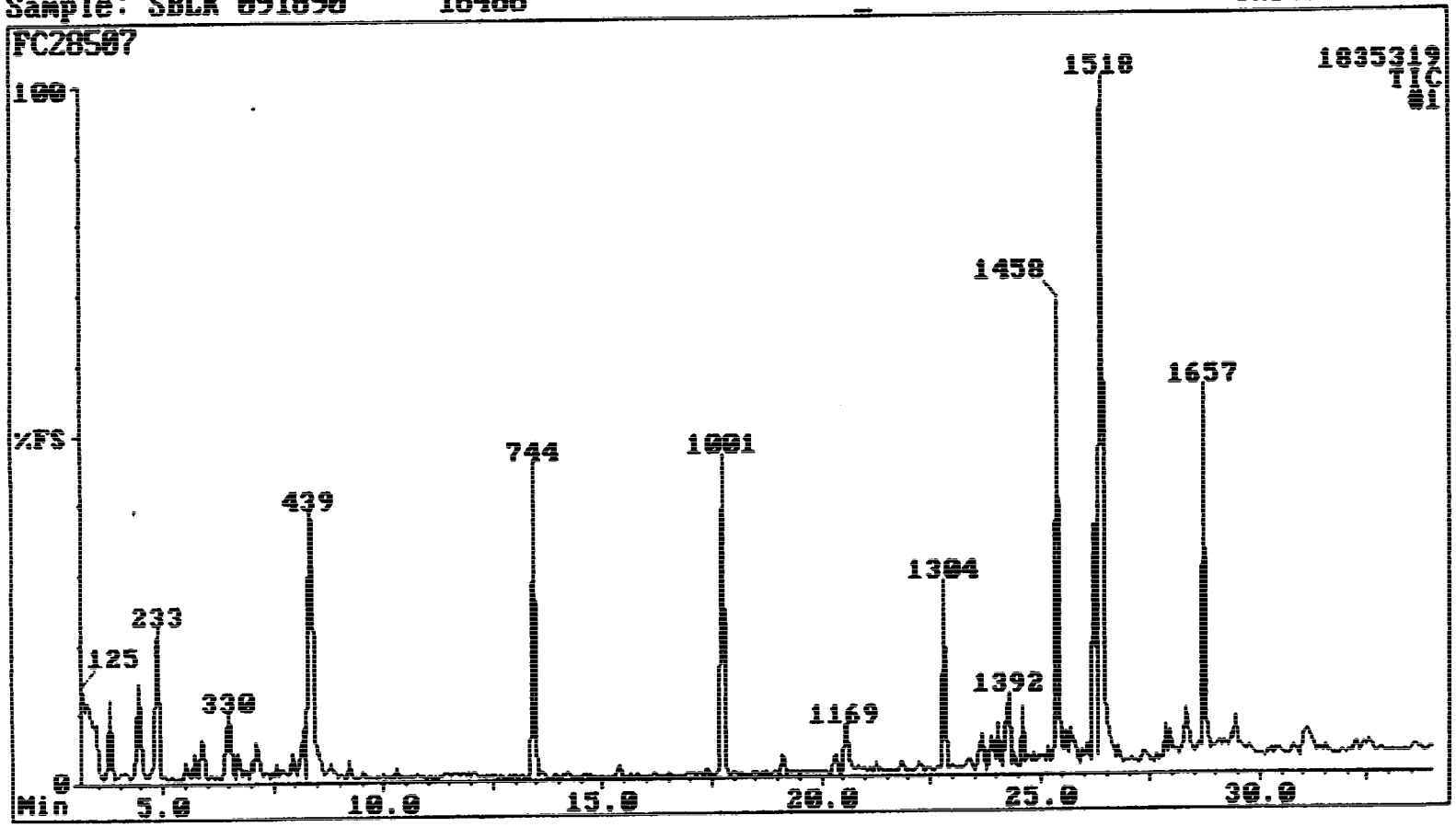
Q U A N T I T A T I O N R E P O R T

NAME	AREA	RF	SCAN	ISID	AMOUNT, ug	CODE	QUAN LIMIT
2-Chlorophenol	0	1.5059	0	1	.48	ND	20
3-Chlorophenol	0	.3693	0	18	.44	ND	20
4-Chlorophenol	0	.3693	0	18	.44	ND	20
2,4-Dichlorophenol	0	.2396	0	18	.69	ND	20
2,5-Dichlorophenol	0	.2396	0	18	.69	ND	20
2,3-Dichlorophenol	0	.5092	0	18	.32	ND	20
2,6-Dichlorophenol	0	.2534	0	18	.65	ND	20
3,5-Dichlorophenol	0	.5477	0	43	.61	ND	20
3,4-Dichlorophenol	0	.5451	0	43	.61	ND	20
2,3,5-Trichlorophenol	0	.1569	0	18	1.05	ND	20
2,4,6-Trichlorophenol	0	.3340	0	43	1.00	ND	20
2,4,5-Trichlorophenol	0	.4034	0	43	.83	ND	20
2,3,4-Trichlorophenol	0	.3676	0	43	.91	ND	20
2,3,6-Trichlorophenol	0	.3326	0	43	1.01	ND	20
2,3,5,6-Tetrachlorophenol	0	.2934	0	43	1.14	ND	20
2,3,4,6-Tetrachlorophenol	0	.3007	0	43	1.11	ND	20
Pentachlorophenol	0	.1257	0	72	1.61	ND	20
1,3-Dichlorobenzene	0	1.6104	0	1	.45	ND	20
1,4-Dichlorobenzene	0	1.7173	0	1	.42	ND	20
1,2-Dichlorobenzene	0	1.5934	0	1	.45	ND	20
1,3,5-Trichlorobenzene	0	.2593	0	18	.64	ND	20
1,2,4-Trichlorobenzene	0	.2637	0	18	.62	ND	20
1,2,3-Trichlorobenzene	0	.2565	0	18	.64	ND	20
1,2,3,5-Tetrachlorobenzene	0	.4757	0	18	.35	ND	20
1,2,4,5-Tetrachlorobenzene	0	.3544	0	18	.46	ND	20
1,2,3,4-Tetrachlorobenzene	0	.6164	0	43	.54	ND	20
Pentachlorobenzene	0	.4415	0	43	.76	ND	20
Hexachlorobenzene	0	.2223	0	72	.91	ND	20

SURROGATE SUMMARY	AREA	RF	SCAN	ISID	AMOUNT	CODE	% RECOVERY
Phenol-d5	2541	1.9555	206	1	46.69	D	46.7
2-Fluorophenol	953	1.2052	67	1	28.41	D	28.4
1,4-Dichlorobenzene-d4	2226		233	1		IS	
Napthalene-d8	9714		439	18		IS	
Acenaphthene-d10	4778		744	43		IS	
Phenanthrene-d10	7895		1001	72		IS	
Chrysene-d12	9216		1458	82		IS	

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

09-Oct-98 01:57 Triangle Labs, Inc. (919) 544-5729
Sample: SBLK 091898 16486 Instrument F



NJ

...terim Report — LAB-BASE FIND — 09-Oct-90 15:16

aw Datafile : FC28507
ind DB : CBCP_PAH

Quan DB : FC28507
Scan DB : NONE

ww 10/10/90

No.	Spectrum Scan MAT	FOR	REV	Diff	Peak Area	Flgs	Scan Found	Pred	QM	Compound Name
1	100	82	99	2	322612	bv	233	231	152	1,4-Dichlorobenzene-d4
2	*** No Trace Found ***				95284		67	64	112	2-Fluorophenol ww 10/10/90
3	100	82	97	-1	254092	bv	206	207	99	Phenol-d5
4	*** No Trace Found ***							455	240	1,4-Dibromobenzene-d4
5	*** No Trace Found ***							202	128	2-Chlorophenol
6	*** No Trace Found ***							221	146	1,3-Dichlorobenzene
7	*** No Trace Found ***							236	146	1,4-Dichlorobenzene
8	*** No Trace Found ***							256	146	1,2-Dichlorobenzene
9	100	89	96	-4	971380	bv	439	443	136	Naphthalene-d8
10	*** No Trace Found ***					*		380	82	Nitrobenzene-d5
11	*** No Trace Found ***							431	162	2,4-Dichlorophenol
12	*** No Trace Found ***							435	180	1,2,4-Trichlorobenzene
13	100	86	98	-1	829208	bv	442	443	128	Naphthalene
14	*** No Trace Found ***							567	142	2-Methylnaphthalene
15	100	94	99	1	477780	bb	744	743	164	Acenaphthene-d10
16	*** No Trace Found ***					*		644	172	2-Fluorobiphenyl
17	*** No Trace Found ***							886	330	2,4,6-Tribromophenol
18	*** No Trace Found ***							629	196	2,4,6-Trichlorophenol
19	*** No Trace Found ***							634	196	2,4,5-Trichlorophenol
20	*** No Trace Found ***							649	162	2-Chloronaphthalene
21	*** No Trace Found ***							717	152	Acenaphthylene
22	*** No Trace Found ***							750	153	Acenaphthene
23	*** No Trace Found ***							842	166	Fluorene
24	100	89	96	0	789490	bv	1001	1001	188	Phenanthrene-d10
25	88	88	93	-10	789490	bv	~~1001~~	1011	188	Anthracene-d10
26	*** No Trace Found ***						9w 10/9/90	934	284	Hexachlorobenzene
27	*** No Trace Found ***							980	266	Pentachlorophenol
28	*** No Trace Found ***							1006	178	Phenanthrene
29	*** No Trace Found ***							1015	178	Anthracene
30	*** No Trace Found ***							1213	202	Fluoranthene
31	100	85	95	-1	921612	vv	1458	1459	240	Chrysene-d12
32	100	85	98	0	449915	vb	1304	1304	244	Terphenyl-d14
33	*** No Trace Found ***							1247	202	Pyrene
34	*** No Trace Found ***							1457	228	Benzo(a)anthracene
35	*** No Trace Found ***							1462	228	Chrysene
36	100	81	93	0	759590	bv	1656	1656	264	Perylene-d12 --
37	*** No Trace Found ***							1610	252	Benzo(b)fluoranthene
38	*** No Trace Found ***							1614	252	Benzo(k)fluoranthene
39	*** No Trace Found ***							1643	252	Benzo(e)pyrene
40	*** No Trace Found ***							1649	252	Benzo(a)pyrene
41	*** No Trace Found ***							1660	252	Perylene
42	*** No Trace Found ***							1778	276	Indeno(1,2,3-cd)pyrene
43	*** No Trace Found ***							1785	278	Dibenz(a,h)anthracene
44	*** No Trace Found ***							1803	276	Benzo(g,h,i)perylene
45	*** No Trace Found ***							481	128	3-Chlorophenol
46	*** No Trace Found ***							481	128	4-Chlorophenol
47	*** No Trace Found ***							431	162	2,5-Dichlorophenol
48	*** No Trace Found ***							435	162	2,3-Dichlorophenol
49	*** No Trace Found ***							467	162	2,6-Dichlorophenol
50	*** No Trace Found ***							608	196	2,3,5-Trichlorophenol

52	*** No Trace Found ***		594	216	1,2,3,5-Tetrachlorobenzene
53	*** No Trace Found ***		597	216	1,2,4,5-Tetrachlorobenzene
54	*** No Trace Found ***		685	162	3,5-Dichlorophenol
55	*** No Trace Found ***		705	162	3,4-Dichlorophenol
56	*** No Trace Found ***		640	196	2,3,4-Trichlorophenol
57	*** No Trace Found ***		657	196	2,3,6-Trichlorophenol
58	*** No Trace Found ***		807	232	2,3,4,6-Tetrachlorophenol
59	*** No Trace Found ***		814	232	2,3,5,6-Tetrachlorophenol
60	*** No Trace Found ***		644	216	1,2,3,4-Tetrachlorobenzene
61	*** No Trace Found ***		774	250	Pentachlorobenzene
62	*** No Trace Found ***		782	168	Dibenzofuran
63	*** No Trace Found ***				

10/30/90

TRIANGLE LABORATORIES, INC.
801-10 Capitola Drive
Research Triangle Park, NC 27713
Telephone: (919) 544-5729

DATA FILE: FC28508 SAMPLE ID RUN 8
RF FILE: FC28501 DILN FACTOR 2
DATE: 10/17/90
TLI Project Number: 16486
ANALYSIS DATE: 10/09/90

Q U A N T I T A T I O N R E P O R T

NAME	AREA	RF	SCAN	ISID	AMOUNT, ug	CODE	QUAN LIMIT
Naphthalene	89317	1.0305	445	18	607.01	D	20
2-Methylnaphthalene	0	.5979	0	18	.23	ND	20
2-Chloronaphthalene	0	1.1403	0	43	.29	ND	20
Acenaphthylene	2246	1.8030	717	43	20.26	D	20
Acenaphthene	0	1.2277	0	43	.26	ND	20
Fluorene	0	1.2607	0	43	.26	ND	20
Phenanthrene	8990	1.1006	1005	72	72.31	D	20
Anthracene	0	1.0555	0	72	.17	ND	20
Fluoranthene	10645	1.2252	1213	72	76.91	D	20
Pyrene	0	1.2809	0	82	.09	ND	20
Benzo(a)anthracene	0	1.0951	0	82	.10	ND	20
Chrysene	0	1.1420	0	82	.10	ND	20
Benzo(b)fluoranthene	0	1.1347	0	91	.14	ND	20
Benzo(k)fluoranthene	0	1.1860	0	91	.14	ND	20
Benzo(a)pyrene	0	1.1111	0	91	.15	ND	20
Benzo(e)pyrene	0	1.0186	0	91	.16	ND	20
Perylene	0	.6413	0	91	.26	ND	20
Indeno(1,2,3-cd)pyrene	0	.8217	0	91	.20	ND	20
Dibenz(a,h)anthracene	0	.9041	0	91	.18	ND	20
Benzo(g,h,i)perylene	0	1.0032	0	91	.16	ND	20

SURROGATE SUMMARY	AREA	RF	SCAN	ISID	AMOUNT	CODE	% RECOVERY
Terphenyl-d14	5358	.7643	1305	82	39.09	D	78.2

1,4-Dichlorobenzene-d4	2585	234	1	IS
Napthalene-d8	11423	441	18	IS
Acenaphthene-d10	4920	744	43	IS
Phenanthrene-d10	9037	1001	72	IS
Chrysene-d12	14350	1459	82	IS
Perylene-d12	9769	1658	91	IS

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

09-Oct-90 01:57
Triangle Labs, Inc.
(919) 544-5729
Sample: SBLK 091090
164B6
Instrument F
FC285B7 442 (8.403)
2867208
FC285B7 442 (8.403)
2826224
(CBCP_PAH 13 (8.414) Naphthalene
FIND
m/z
%FS
51
64
75
102
127
128
129

TRIANGLE LABORATORIES, INC.
801-10 Capitola Drive
Research Triangle Park, NC 27713
Telephone: (919) 544-5729

DATA FILE: FC28508 SAMPLE ID RUN 8
RF FILE: FC28501 DILN FACTOR 2
DATE: 10/17/90
TLI Project Number: 16486
ANALYSIS DATE: 10/09/90

Q U A N T I T A T I O N R E P O R T

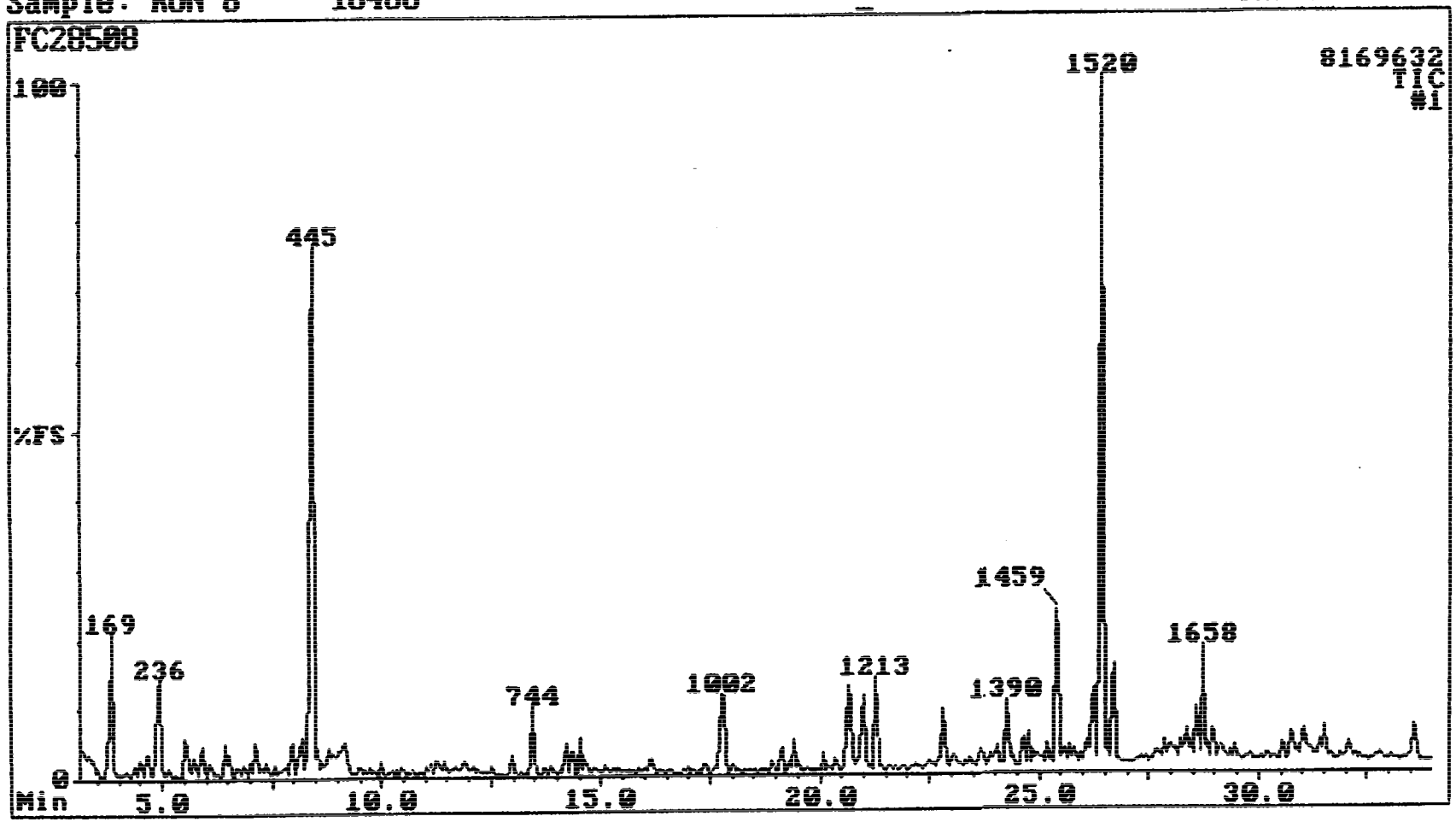
NAME	AREA	RF	SCAN	ISID	AMOUNT, ug	CODE	QUAN LIMIT
2-Chlorophenol	0	1.5059	0	1	.41	ND	20
3-Chlorophenol	0	.3693	0	18	.38	ND	20
4-Chlorophenol	0	.3693	0	18	.38	ND	20
2,4-Dichlorophenol	0	.2396	0	18	.58	ND	20
2,5-Dichlorophenol	0	.2396	0	18	.58	ND	20
2,3-Dichlorophenol	0	.5092	0	18	.28	ND	20
2,6-Dichlorophenol	0	.2534	0	18	.55	ND	20
3,5-Dichlorophenol	0	.5477	0	43	.59	ND	20
3,4-Dichlorophenol	0	.5451	0	43	.60	ND	20
2,3,5-Trichlorophenol	0	.1569	0	18	.89	ND	20
2,4,6-Trichlorophenol	0	.3340	0	43	.97	ND	20
2,4,5-Trichlorophenol	0	.4034	0	43	.81	ND	20
2,3,4-Trichlorophenol	0	.3676	0	43	.88	ND	20
2,3,6-Trichlorophenol	0	.3326	0	43	.98	ND	20
2,3,5,6-Tetrachlorophenol	0	.2934	0	43	1.11	ND	20
2,3,4,6-Tetrachlorophenol	0	.3007	0	43	1.08	ND	20
Pentachlorophenol	0	.1257	0	72	1.41	ND	20
1,3-Dichlorobenzene	0	1.6104	0	1	.38	ND	20
1,4-Dichlorobenzene	0	1.7173	0	1	.36	ND	20
1,2-Dichlorobenzene	0	1.5934	0	1	.39	ND	20
1,3,5-Trichlorobenzene	0	.2593	0	18	.54	ND	20
1,2,4-Trichlorobenzene	0	.2637	0	18	.53	ND	20
1,2,3-Trichlorobenzene	0	.2585	0	18	.55	ND	20
1,2,3,5-Tetrachlorobenzene	0	.4757	0	18	.29	ND	20
1,2,4,5-Tetrachlorobenzene	0	.3544	0	18	.40	ND	20
1,2,3,4-Tetrachlorobenzene	0	.6164	0	43	.53	ND	20
Pentachlorobenzene	0	.4415	0	43	.74	ND	20
Hexachlorobenzene	0	.2223	0	72	.80	ND	20

SURROGATE SUMMARY	AREA	RF	SCAN	ISID	AMOUNT	CODE	% RECOVERY
Phenol-d5	829	1.9555	209	1	13.13	D	13.1
2-Fluorophenol	297	1.2052	70	1	7.62	D	7.6

1,4-Dichlorobenzene-d4	2585	234	1	IS
Napthalene-d8	11423	441	18	IS
Acenaphthene-d10	4920	744	43	IS
Phenanthrene-d10	9037	1001	72	IS
Chrysene-d12	14350	1459	82	IS

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

09-Oct-90 02:39 Triangle Labs, Inc. (919) 544-5729
Sample: RUN 8 16486 Instrument F



fw

[illegible]

Data File : FC18508
Acq On : [illegible]

Operator : [illegible]
Sample : [illegible]
Misc Info : CBCP_PAH
Vial # : [illegible]
Quant Time: [illegible]
Quant Method : [illegible]
Quant Title : [illegible]
QLast Update : [illegible]
Response via : [illegible]
DataAcq Meth : [illegible]
Scan 53 : FC18508
Scan 68 : None

No.	Spectrum Scan MAT	FOR	REV	Diff	Peak Area	Flgs	Scan Found	Pred	QN	Compound Name
1	86	48	99	3	258452	bv	234	231	152	1,4-Dichlorobenzene-d4
2	*** No Trace Found ***				25660		70	64	112	2-Fluorophenol uw 10/10/90
3	*** No Trace Found ***				82930		209	208	99	Phenol-d5 uw 10/10/90
4	*** No Trace Found ***							456	240	1,4-Dibromobenzene-d4
5	*** No Trace Found ***							203	128	2-Chlorophenol
6	*** No Trace Found ***							222	146	1,3-Dichlorobenzene
7	*** No Trace Found ***							237	146	1,4-Dichlorobenzene
8	*** No Trace Found ***							257	146	1,2-Dichlorobenzene
9	92	71	97	-4	1142344	bv	441	445	136	Naphthalene-d8
10	*** No Trace Found ***							382	82	Nitrobenzene-d5
11	*** No Trace Found ***							433	162	2,4-Dichlorophenol
12	*** No Trace Found ***							437	180	1,2,4-Trichlorobenzene
13	100	88	98	0	8931656	vv	445	445	128	Naphthalene
14	*** No Trace Found ***					*		569	142	2-Methylnaphthalene
15	100	92	99	-3	492034	bb	744	747	164	Acenaphthene-d10
16	*** No Trace Found ***					*		644	172	2-Fluorobiphenyl
17	*** No Trace Found ***							886	330	2,4,6-Tribromophenol
18	*** No Trace Found ***							629	196	2,4,6-Trichlorophenol
19	*** No Trace Found ***							634	196	2,4,5-Trichlorophenol
20	*** No Trace Found ***							649	162	2-Chloronaphthalene
21	100	77	98	0	224642	bb	717	717	152	Acenaphthylene
22	*** No Trace Found ***							750	153	Acenaphthene
23	*** No Trace Found ***							842	166	Fluorene
24	100	85	97	0	903724	vv	1001	1001	188	Phenanthrene-d10
25	89	83	96	-10	903724	vv	[illegible]	1011	188	Anthracene-d10
26	*** No Trace Found ***							934	284	Hexachlorobenzene
27	*** No Trace Found ***							980	266	Pentachlorophenol
28	100	89	98	-1	898968	vv	1005	1006	178	Phenanthrene
29	91	89	99	-10	898968	vv	[illegible]	1015	178	Anthracene
30	100	99	98	0	1064506	vv	1213	1213	202	Fluoranthene
31	100	81	95	0	1435007	vv	1459	1459	240	Chrysene-d12
32	*** No Trace Found ***				535844		1305	1305	244	Terphenyl-d14 uw 10/10/90
33	*** No Trace Found ***							1248	202	Pyrene
34	*** No Trace Found ***							1458	228	Benzo(a)anthracene
35	*** No Trace Found ***							1463	228	Chrysene
36	100	74	92	1	976949	vv	1653	1657	264	Perylene-d12
37	*** No Trace Found ***							1612	252	Benzo(b)fluoranthene
38	*** No Trace Found ***							1616	252	Benzo(k)fluoranthene
39	*** No Trace Found ***							1645	252	Benzo(e)pyrene
40	*** No Trace Found ***							1651	252	Benzo(a)pyrene
41	*** No Trace Found ***							1662	252	Perylene
42	*** No Trace Found ***							1780	276	Indeno(1,2,3-cd)pyrene
43	*** No Trace Found ***							1781	278	Dibenz(a,h)anthracene
44	*** No Trace Found ***							1803	276	Benzo(g,h,i)perylene
45	*** No Trace Found ***							486	128	3-Chlorophenol
46	*** No Trace Found ***							483	128	4-Chlorophenol
47	*** No Trace Found ***							132	162	2,6-Dichlorophenol
48	*** No Trace Found ***							137	162	2,3-Dichlorophenol
49	*** No Trace Found ***							139	162	2,5-Dichlorophenol

51	*** No Trace Found ***
54	*** No Trace Found ***
55	*** No Trace Found ***
56	*** No Trace Found ***
57	*** No Trace Found ***
58	*** No Trace Found ***
59	*** No Trace Found ***
60	*** No Trace Found ***
61	*** No Trace Found ***
62	*** No Trace Found ***
63	*** No Trace Found ***

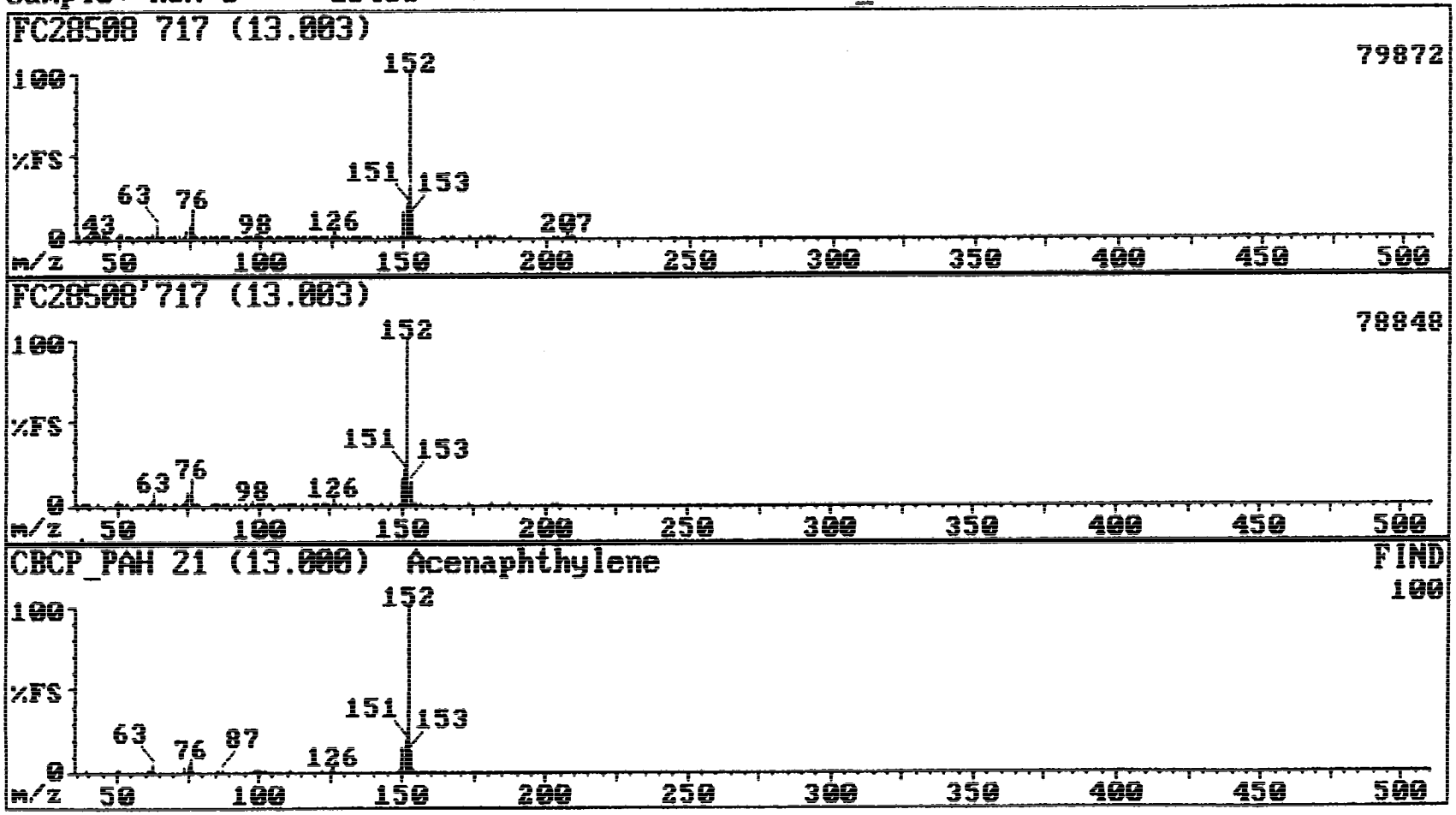
9[illegible]	21c	[illegible]
[illegible]	21c	[illegible]
690	182	2,5-Dichlorobiphenyl
705	182	3,4-Dichlorobiphenyl
840	154	2,2',4-Trichlorobiphenyl
857	186	2,4,6-Trichlorobiphenyl
907	232	2,3,4,6-Tetrachlorobiphenyl
914	232	2,3,5,6-Tetrachlorobiphenyl
944	21c	1,2,3,4-Tetrachlorodibenzofuran
[illegible]74	250	Pentachlorodibenzofuran
702	168	Dibenzofuran

Mark Phillips
10/10/90

09-Oct-98 02:39
Triangle Labs, Inc.
(919) 544-5729
Sample: RUN 8
164B6
Instrument F
FC285B8 445 (8.450)
%FS
100
0
51
64
75
102
127
128
129
M/z
50
100
150
200
250
300
350
400
450
500
26869976
FC285B8 445 (8.450)
26705592
CBCP PAH 13 (8.414) Naphthalene
FIND

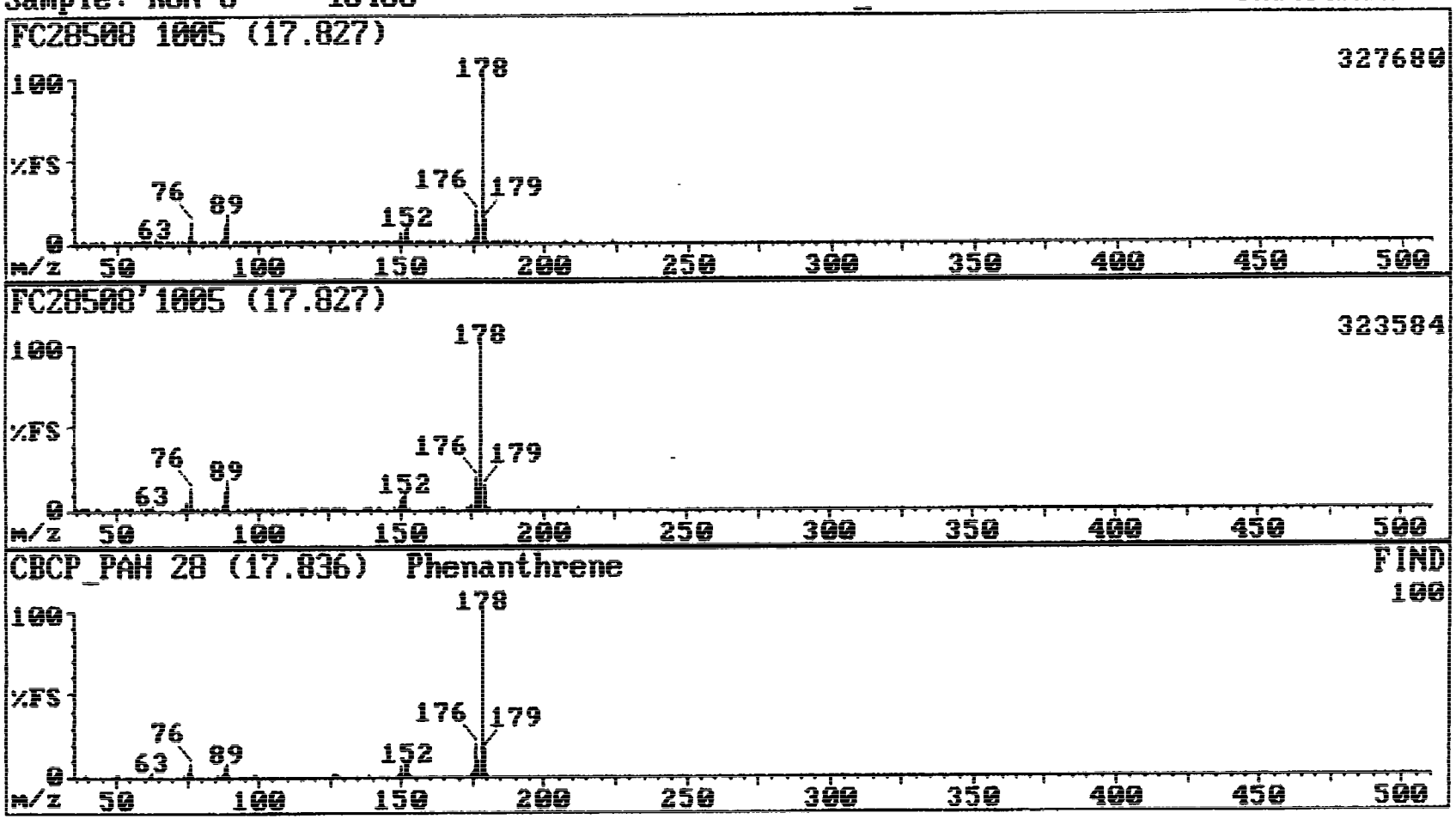
/w

09-Oct-90 02:39 Triangle Labs, Inc. (919) 544-5729
Sample: RUN 8 16486 Instrument F



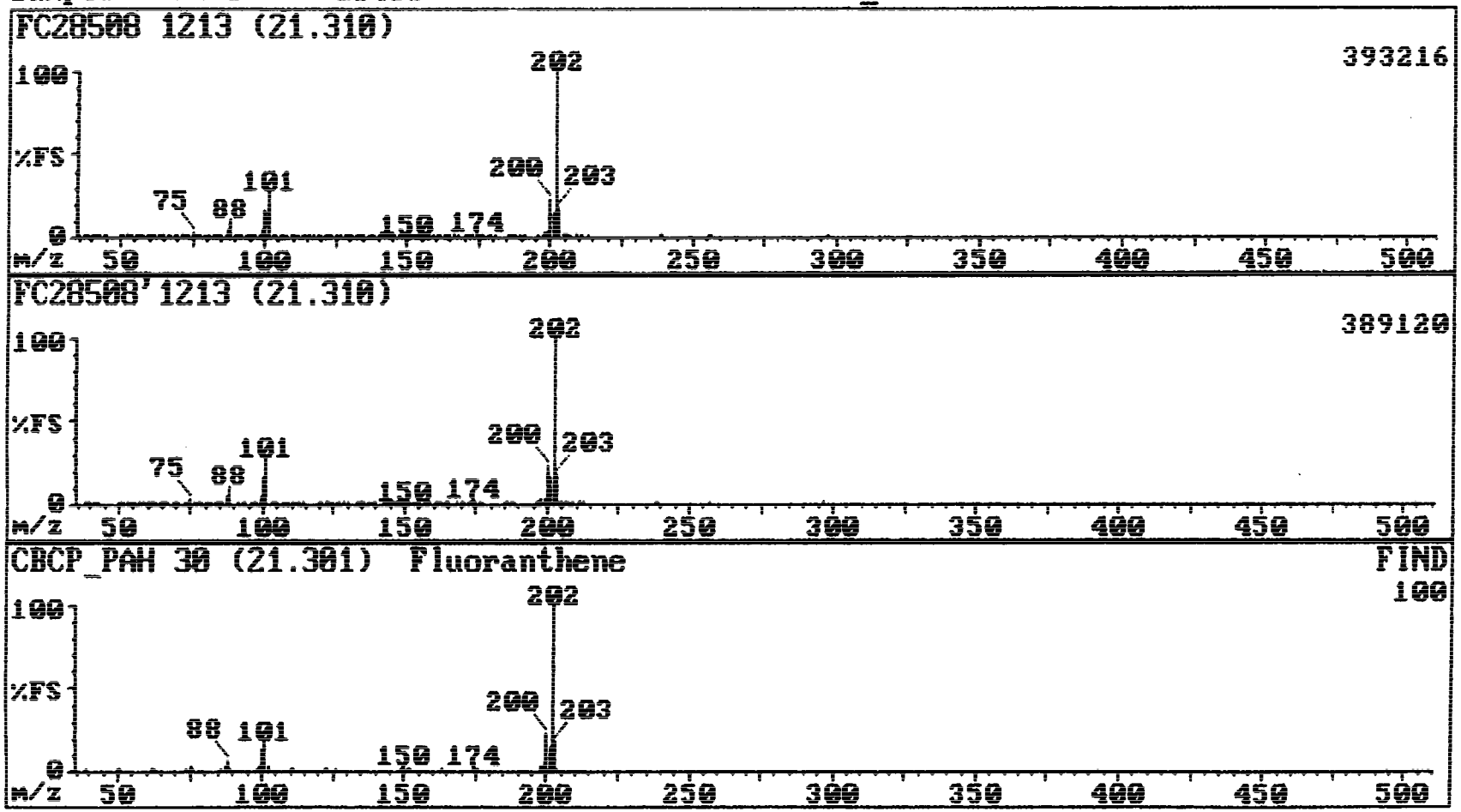
09-Oct-90 02:39 Triangle Labs, Inc. (919) 544-5729

Sample: RUN 8 16486 Instrument F



09-Oct-90 02:39 Triangle Labs, Inc. (919) 544-5729

Sample: RUN 8 16486 Instrument F



CASE NARRATIVE
TRIANGLE LABORATORIES, INC.
801-10 Capitola Dr.
Research Triangle Park, N.C. 27713
919-544-5729

DATE: October 23, 1990
CLIENT P.O. NO.: S1 060 87
TLI NO.: 16486

OBJECTIVE: Determine the polychlorobiphenyl content of one MM5 train sample.

METHOD:

The analysis was done on a VG TRIO-1 quadrupole mass spectrometer, and HP 5890 gas chromatograph. The mass spectrometer was operated at an ionizing energy of 70eV, in selected ion recording mode. A 30m DB-5 column (0.32mm id; 0.25u film) directly inserted into the ion source was used for the analyses. A 1.0 uL aliquot of the extract was injected splitless onto the column at 50 deg. C (1 min hold), programmed at 30deg./minute to 150 deg, and 8 deg/min to 300 deg.

The MM5 train was analyzed according to EPA Method 680. The MM5 sample was Soxhlett extracted for 16 hours with methylene chloride and then toluene. Prior to extraction, the sample was spiked with 1 microgram of $^{13}C_{12}$ 343'4'octachloro-PCB and $^{13}C_{12}$-22335566 octachloro-PCB, as internal standard. The final extract from the MM5 train sample was split 50:50 with dioxin prior to analysis. Immediately prior to GC/MS analysis, 0.2 micrograms of the recovery standard chrysene-d_{12} was added to 0.2 milliliters of the extract.

A calibration curve for the mono-deca chlorinated PCBs was generated using a mixture of specific isomers (EPA Method 680; *Anal. Chem.*, 58, 2014-2022, 1986). Also included was the 223344566-nonachloroPCB isomer. The response factors for the mono-penta PCBs (versus the $^{13}C_{12}$-3434 tetrachlorobiphenyl) and for the hexa-deca PCBs (versus the $^{13}C_{12}$-22335566 octachlorobiphenyl) were calculated using the following equation:

$$RF = \frac{(\text{Area M} + \text{Area M+2}) * \text{Amt. Int. Std}}{(\text{Area IS M} + \text{Area IS M+2}) * \text{Amt. Analyte}}$$

Area M = the area of the peak corresponding to the mass M
Area M+2 = the area of the peak corresponding to the mass M+2
Amt. Int. Std. = the amount of internal standard added = 1 ug
Amt. Analyte = the amount of analyte in the calibration point

In order to maximize sensitivity, the hexa-deca PCBs use the areas of the M+2 and M+4 ions to calculate their response factors.

CASE NARRATIVE
TRIANGLE LABORATORIES, INC.
801-10 Capitola Dr.
Research Triangle Park, N.C. 27713
919-544-5729

A response factor for the internal standards versus chrysene-d_{12} was calculated in order to measure the recovery of the standards. The response factors are summarized in the initial calibration table. All calibration data is located in the rear of the data package.

Any PCBs found in the samples were quantitated using the following equation:

$$\text{Amt (ug)} = \frac{(\text{Area M} + \text{Area M+2}) * \text{Amt. Int.Std (ug)}}{(\text{Area IS M} + \text{Area IS M+2}) * \text{RF}}$$

In the case of the hexa-deca PCBs, the areas of the M+2 and M+4 peaks are used for quantitation.

A continuing calibration was demonstrated prior to each sample analyses, with the response factors in the continuing calibration within 30% of those in the initial calibration. The response factors from the initial calibration were used for all sample calculations.

The retention time windows for each degree of chlorination was established by means of a retention window mixture supplied from Cambridge Isotope Labs. This mixture contains the first and last eluting isomers for each degree of chlorination when analyzed on a DB-5 column. The compounds contained in this mixture are: 2-PCB; 4-PCB; 2,6-PCB; 4,4'-PCB; 2,4,6-PCB; 3,4,4'-PCB; 2,2',6,6'-PCB; 3,3'4,4'-PCB; 2,2',4,6,6'-PCB; 3,3',4,4',5-PCB; 2,2',4,4',6,6'-PCB; 3,3',4,4',5,5'-PCB; 2,2',3,4',5,6,6'-PCB; 2,3,3',4,4',5,5'-PCB; 2,2',3,3',5,5',6,6'-PCB; 2,3,3',4,4',5,5',6-PCB; 2,2',3,3',4,5,5',6,6'-PCB; 2,2',3,3',4,4',5,5',6-PCB; and decachloroPCB. The retention time window data is included in the calibration data located at the rear of the data package.

If no signal is observed in a given mass channel, the detection limit is estimated by using a summed peak area of 20 counts, calculating the corresponding amount of PCB and multiplying by a factor of 2.5 . If signals are observed in the correct retention time window that do not have the appropriate ion mass ratios for a true PCB, the estimated maximum possible concentration (EMPC) is calculated using the summed areas of the observed peaks. If one peak is much larger than the other, thus causing artificially high EMPC values, the summed area is based upon the smaller peak area, and the other area is calculated using the theoretical PCB isotope ratio. The channel will be flagged with 'RECALC' in this case. If peaks are detected as PCBs, and others are observed

with an incorrect ratio, the EMPC is the sum of these two values.

RESULTS:

On the quantitation report for each sample, the results are expressed as amounts in micrograms (ug), and have been corrected for the internal standard recovery. The "Number" is the number of PCB isomers observed for a given degree of chlorination; "DL" is the detection limit in ug; "EMPC" is the estimated maximum possible concentration in the same units.

"Ratio" is the measured ratio of the M to M+2 ions (or M+2 to M+4 for the hexa through deca PCBs) and "RT" is the retention time in minutes and seconds for any specific isomers. The acceptable range of ratios for the isomers are:

	RATIOS (M/ M+2)		RATIOS (M+2/ M+4)
mono	2.51 - 3.62	hexa	1.01 - 1.45
di	1.25 - 1.81	hepta	0.84 - 1.21
tri	0.84 - 1.21	octa	0.72 - 1.03
tetra	0.63 - 0.91	nona	0.64 - 0.92
penta	0.50 - 0.72	deca	0.56 - 0.81

The recoveries of the $^{13}C_{12}$-PCB internal standards were normal for MM5 train sample and the laboratory blank.

There was no PCB contamination found in the laboratory blank, SBLK 091890.

Valerie Evans
Laboratory Manager

Penny Brock
QA/QC Specialist

Nancy Bragg
Report Generation Manager

Triangle Laboratories, Inc.
PCB ANALYSIS

10/16/90

FILE NAME....:	FC27407	CLIENT ID....:	RADIAN	TLI NUMBER....:	
CONCAL.....:	FC27203	SAMPLE ID....:	SBLK 091890		
ANALYST.....:	MW	ANALYSIS DATE:	10/06/90	PROJECT NUMBER:	16486
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	09/12/90
ICAL DATE....:	10/06/90	SAMPLE ORIGIN:		DATE COLLECTED:	/ /
SPIKE FILE...:	SPPCBE02			SHIPMENT NO...:	n/a

NAME	AMT(ug)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
TOTAL MONO PCB	ND		0.008				------
TOTAL DI PCB	ND		0.02				------
TOTAL TRI PCB	ND		0.02				------
TOTAL TETRA PCB	ND		0.02				------
TOTAL PENTA PCB	ND		0.02				------
TOTAL HEXA PCB	ND		0.03				------
TOTAL HEPTA PCB	ND		0.02				------
TOTAL OCTA PCB	ND		0.02				------
TOTAL NONA PCB	ND		0.02				------
DECA PCB	ND		0.02				------

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ug)	% REC.	RATIO	RT	FLAGS
3434-13C PCB	0.54	54.2	0.77	10:25	------
2233556613C PCB	0.41	41.2	0.89	12:48	------

CE 10/16/90

PCBE_RPT rev:3.00

10/16/90

Listing of FC27407I.dbf File
Raw Mass, Retention Time and Data Area

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
290	10:18	243.80						
302	10:25	1730.29						
304	10:25	2256.37						
360	12:23	230.13	12:45	245.92				
362	9:56	240.88						
440	12:48	910.37						
442	12:48	1021.67						
240	12:47	3628.89						

*** End of Report ***

Listing of FC27407B.dbf

10/16/90

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
240		0.00	12:47	3628.89	T	T	1.000	CE
240		*** Total ***		3628.89	# of Peaks:		1	
302		0.77	10:25	3986.66	T	T	1.000	CE
302		*** Total ***		3986.66	# of Peaks:		1	
440		0.89	12:48	1932.04	T	T	1.000	CE
440		*** Total ***		1932.04	# of Peaks:		1	

*** End of Report ***

QUAN DB : FC27407 LAB-BASE QUAN 09-Oct-90 15:34

No.	QM	RT	Area	Name			
1	224	7.34	23021	~~290~~	~~9.86~~	~~1688~~	CE 10/11/90
2	258	6.36	38121				
3	290	10.29	24380	324	12.76	2112	
4	302	10.41	173029				
5	304	10.41	225637	326	12.76	2609	
6	326	12.39	88825				
7	360	12.39	23013				
8	360	12.76	24592				
9	362	9.93	24088				
10	396	14.01	43823				
11	430	13.69	31479				
12	440	12.81	91037				
13	442	12.81	102167				
14	240	12.79	362889				

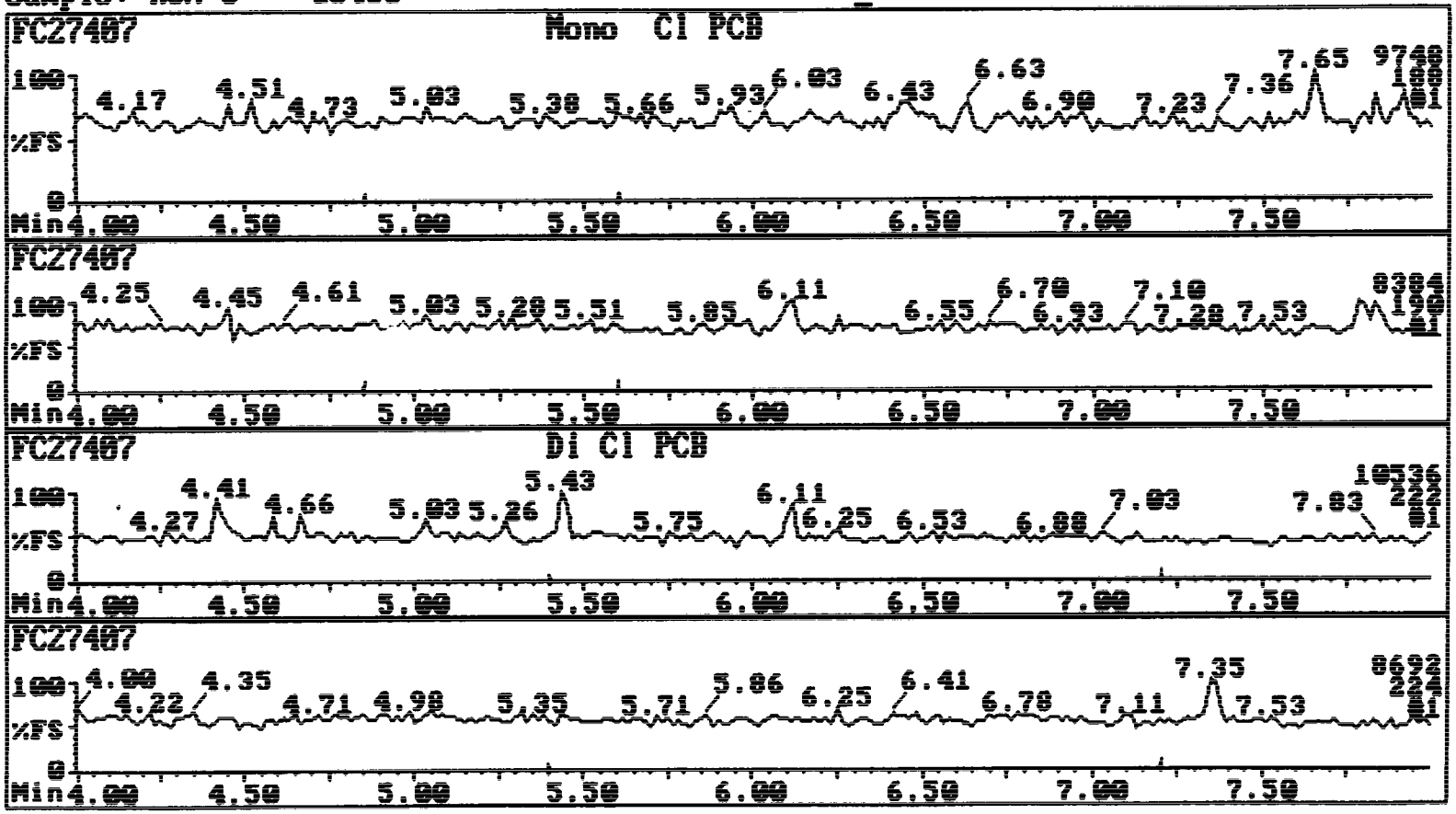
Mark P. Waugh
10/10/90

CE
10/12/90

SBLK 10/9/90

~~06~~-Oct-~~90~~ 22:18 Triangle Labs, Inc. (919) 544-5729

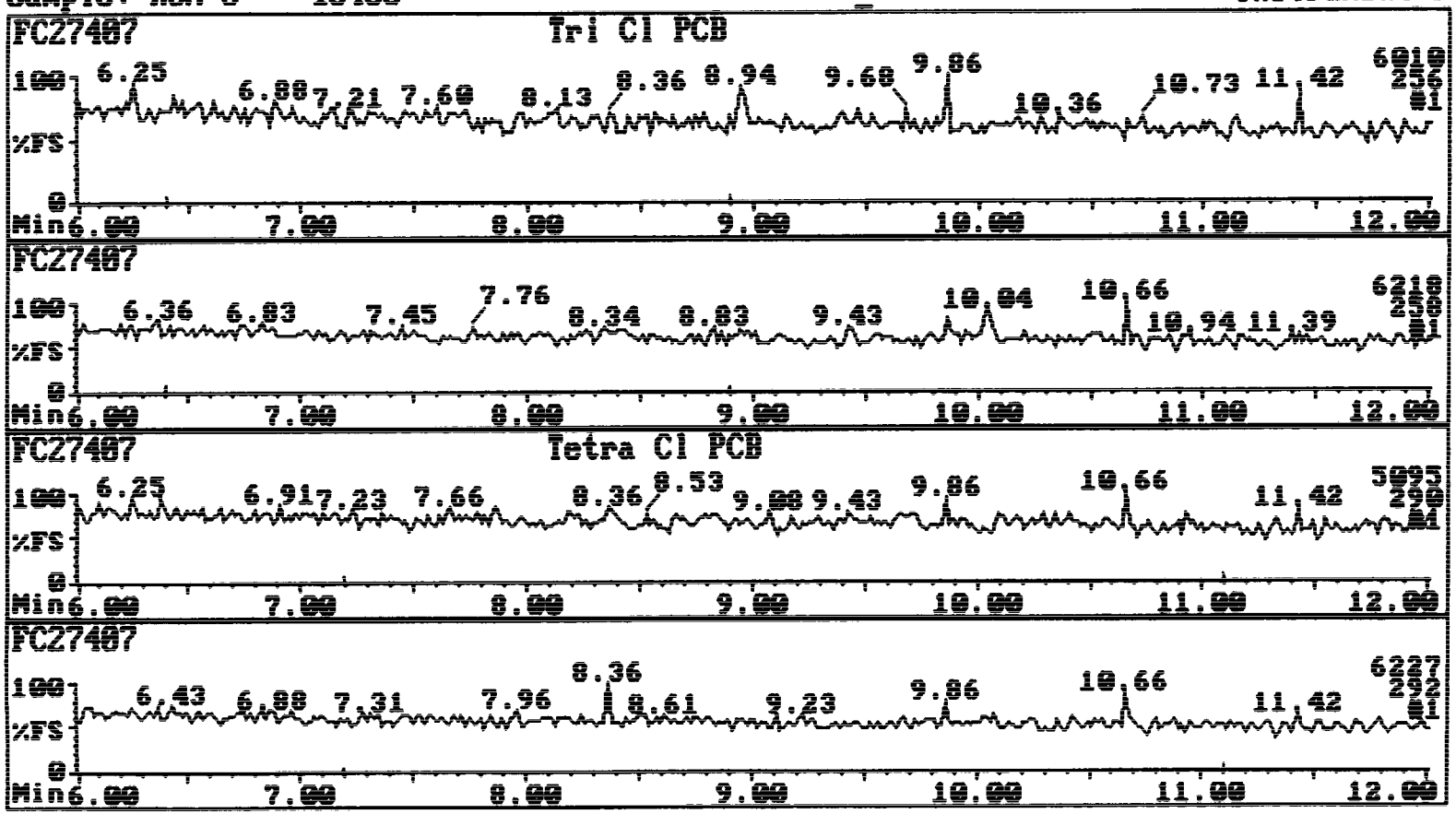
Sample: ~~RUN 8~~ 16486 Instrument F



SBLK 10/4/90

06-Oct-90 22:18 Triangle Labs, Inc. (919) 544-5729

Sample: MW-8 16486 Instrument F



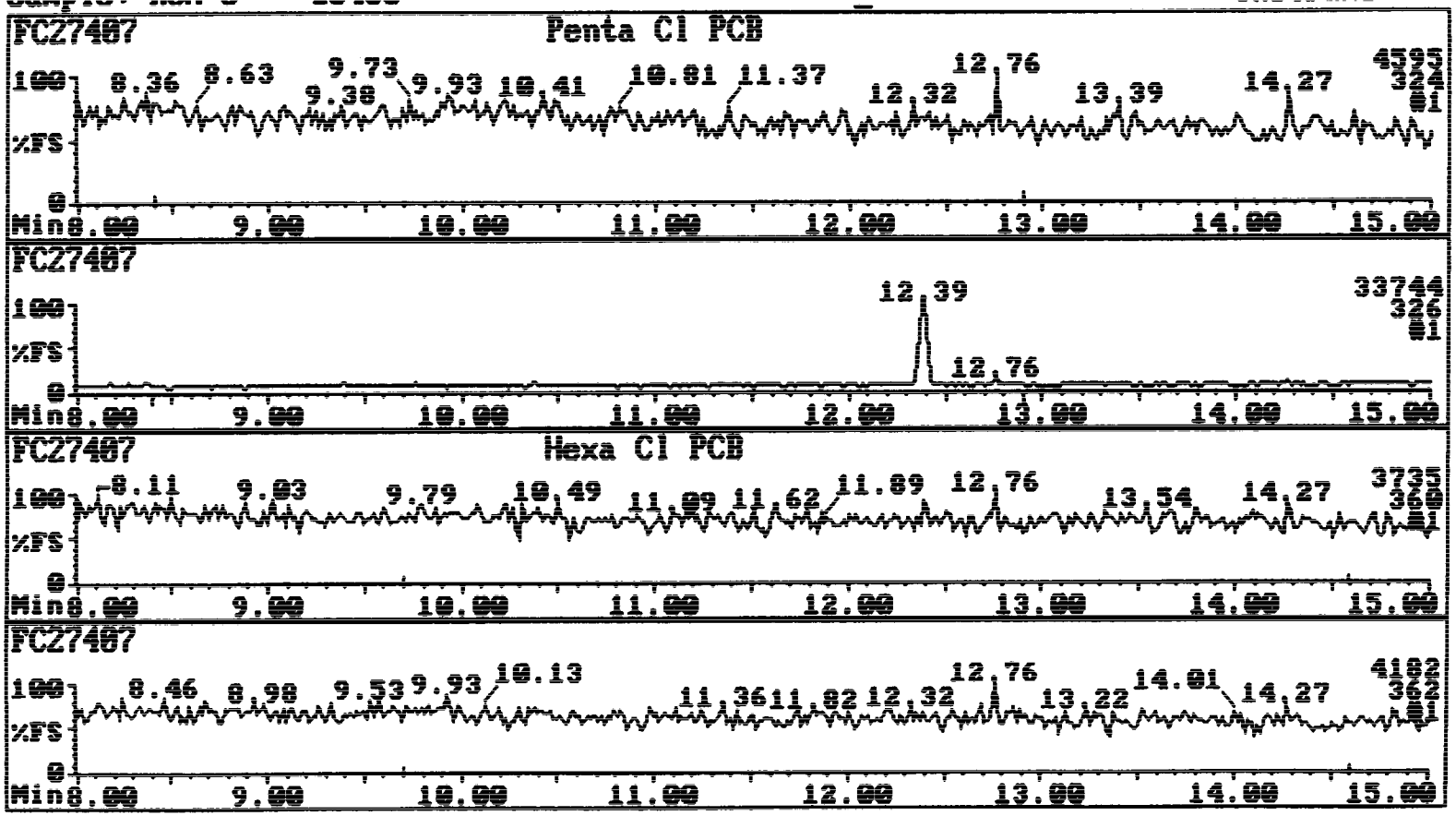
Triangle Labs, Inc.
(919) 544-5729
Instrument 1
Sample: MW-8
Operator: KWH
09-Oct-98 22:18
Min 0.59
9.98
19.37
29.76
39.15
49.54
59.93
69.32
79.71
89.10
98.49
108.88
118.27
127.66
137.05
146.44
155.83
165.22
174.61
184.00
193.39
202.78
212.17
221.56
230.95
240.34
249.73
259.12
268.51
277.90
287.29
296.68
306.07
315.46
324.85
334.24
343.63
353.02
362.41
371.80
381.19
390.58
399.97
409.36
418.75
428.14
437.53
446.92
456.31
465.70
475.09

N

SBLK 10/6/98

06-Oct-98 22:18 Triangle Labs, Inc. (919) 544-5729

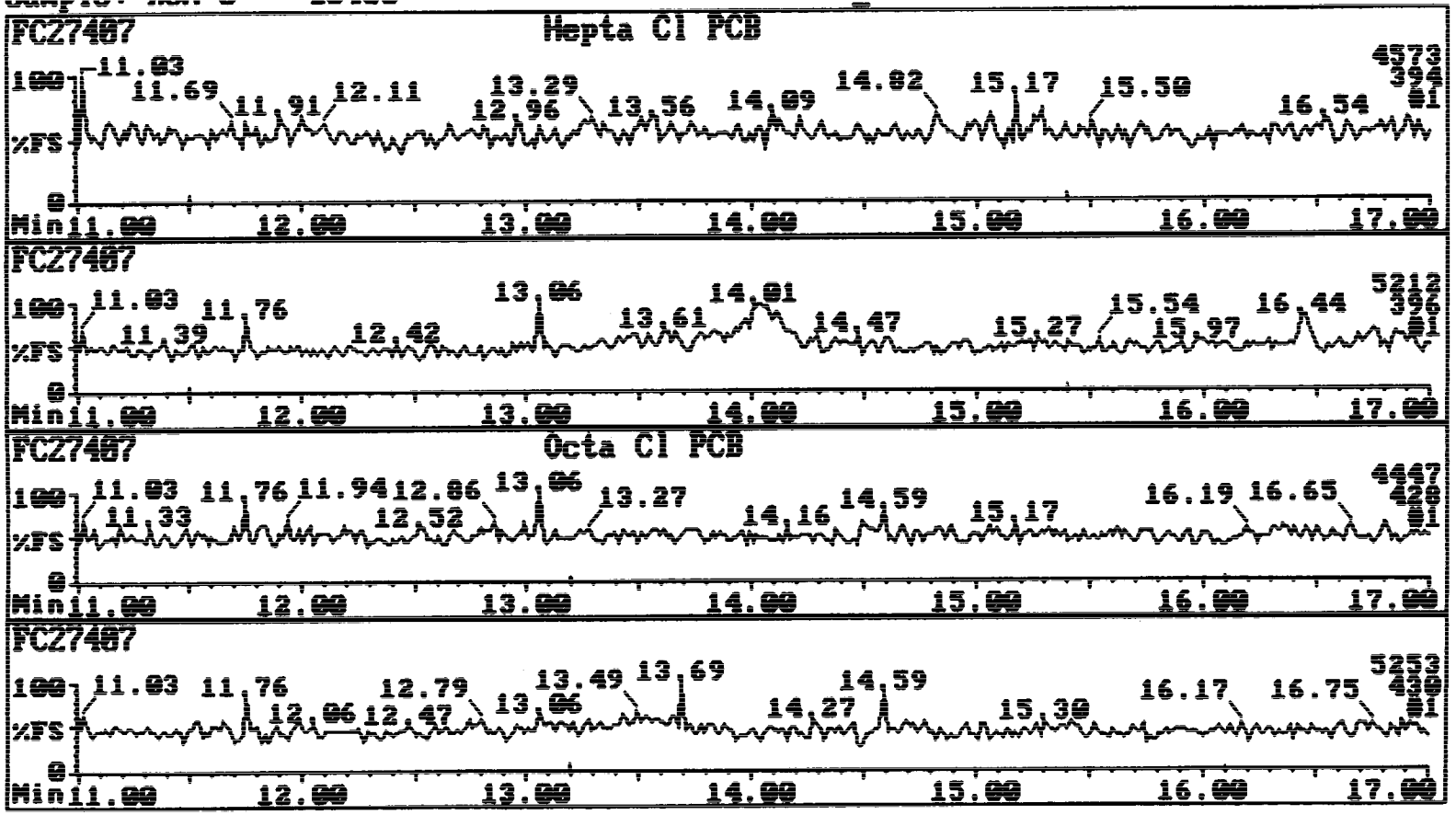
Sample: ~~RUN 8~~ 16486 Instrument F



SBLK 11/9/90

06-Oct-90 22:18 Triangle Labs, Inc. (919) 544-5729

Sample: RUN 8 16486 Instrument F

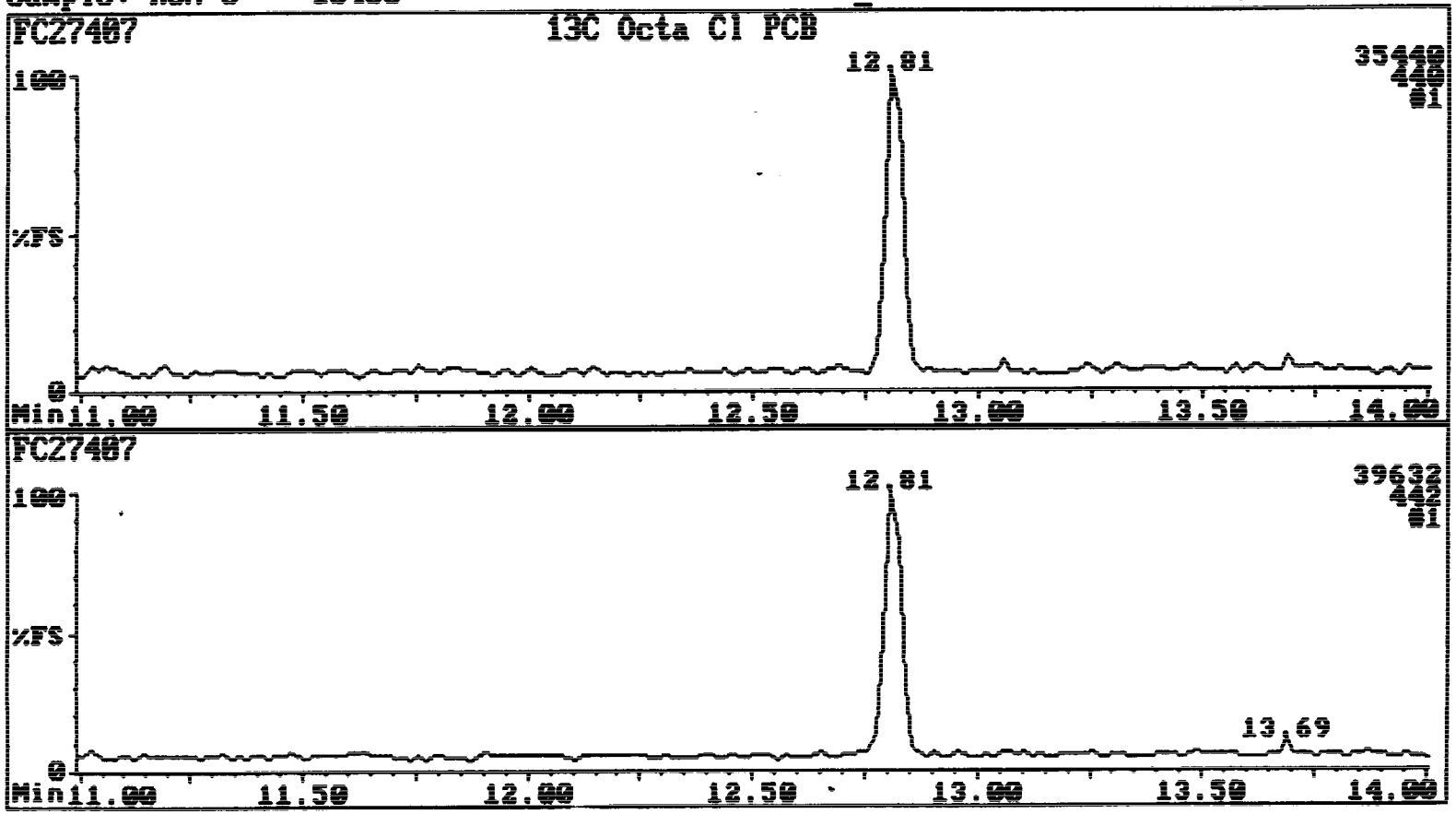


N

~ 11/1/90
SDLK

06-Oct-90 22:18 Triangle Labs, Inc. (919) 544-5729

Sample: RUN 8 16486 Instrument F



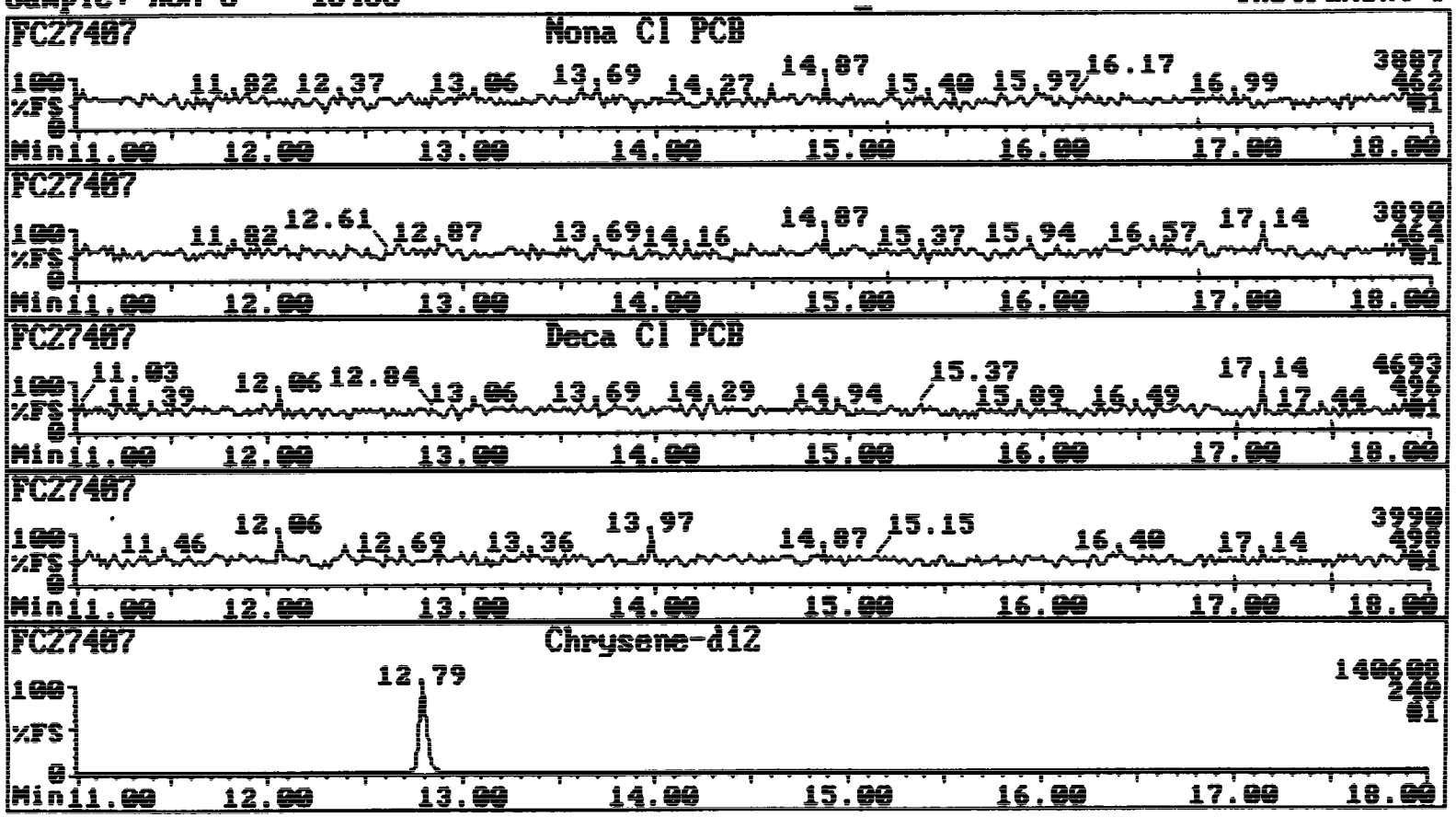
M

CBLK

M
10/4/96

06-Oct-98 22:18 Triangle Labs, Inc. (919) 544-5729

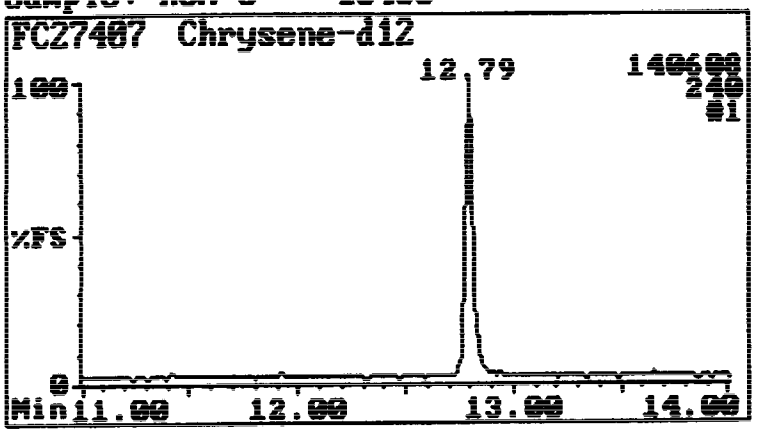
Sample: MBN-8 16486 Instrument F

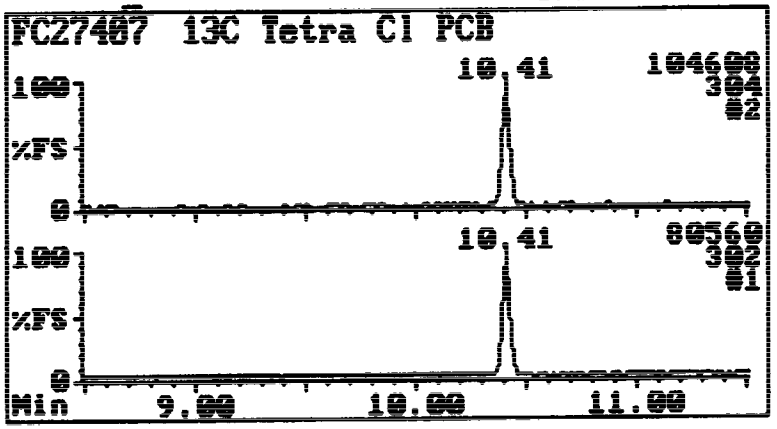


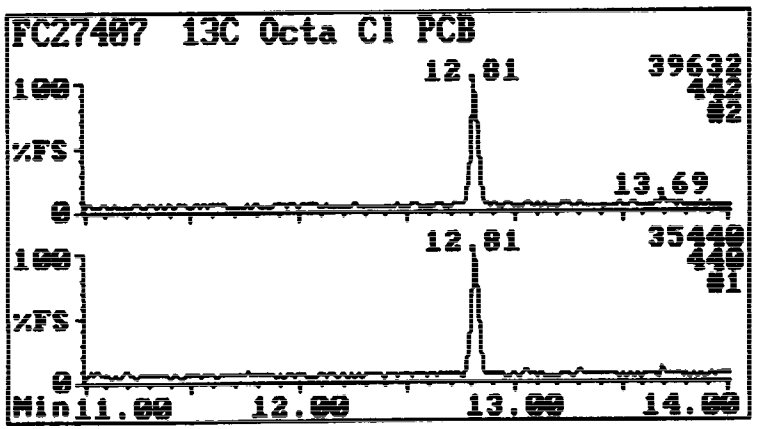
SPLK 10/9/90

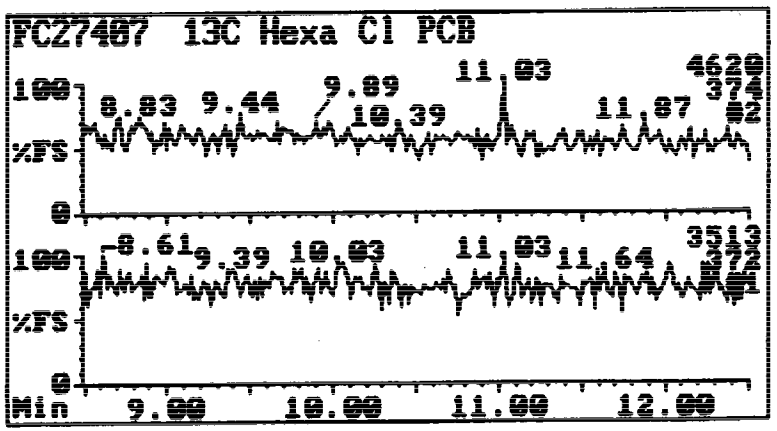
06-Oct-90 22:18 Triangle Labs, Inc. (919) 544-5729

Sample: ~~RUN 8~~ 16486 Instrument F









Triangle Laboratories, Inc.
PCB ANALYSIS

10/16/90

FILE NAME....: FC27406 CLIENT ID....: RADIAN TLI NUMBER....: 36-18-4
CONCAL.....: FC27203 SAMPLE ID....: RUN 8
ANALYST.....: MW ANALYSIS DATE: 10/06/90 PROJECT NUMBER: 16486
SAMPLE SIZE..: 1.00 SAMPLE MATRIX: MMS DATE RECEIVED.: 09/12/90
ICAL DATE....: 10/06/90 SAMPLE ORIGIN: DATE COLLECTED: / /
SPIKE FILE...: SPPCBE02 SHIPMENT NO...: n/a

NAME	AMT(ug)	NUMBER	DL	EMPC	RATIO	RT	FLAGS
TOTAL MONO PCB	ND		0.008				------
TOTAL DI PCB	ND		0.01				------
TOTAL TRI PCB	ND		0.02				------
TOTAL TETRA PCB	EMPC			0.55			------
TOTAL PENTA PCB	EMPC			0.37			------
TOTAL HEXA PCB	ND		0.03				------
TOTAL HEPTA PCB	ND		0.02				------
TOTAL OCTA PCB	0.03	1			0.99		------
TOTAL NONA PCB	ND		0.02				------
DECA PCB	ND		0.02				------

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ug)	% REC.	RATIO	RT	FLAGS
3434-13C PCB	0.39	39.4	0.74	10:25	------
2233556613C PCB	0.28	28.1	0.93	12:49	------

1 CE 10/16/90

M_Z	mm:ss	Data Area.....	mm:ss	Data Area.....	mm:ss	Data Area.....	mm:ss	Data Area.....
222	5:32	866.91						
290	6:47	93.35	7:07	136.45	8:58	55.66		
	7:01	332.82	7:44	250.26				
292	6:47	60.30	7:07	60.33	8:58	44.03		
	7:01	214.56	7:44	168.37				
302	10:25	1991.43						
304	10:25	2677.59						
324	8:34	568.87	11:01	1427.97				
326	8:34	464.98	12:23	1576.82				
394	11:38	211.46						
396	14:05	291.39						
428	15:08	31.28						
430	15:08	31.62						
440	12:49	1021.43						
442	12:48	1101.79						
240	12:47	5843.32						

*** End of Report ***

 Listing of FC274068.dbf
10/16/90

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
240		0.00	12:47	5843.32	T	T	1.000	CE
240		*** Total ***		5843.32	# of Peaks:		1	
290		1.55	6:47	153.65	F	F	0.635	
		1.55	7:01	547.38	F	F	0.657	
		2.26	7:07	196.78	F	F	0.666	
		1.49	7:44	418.63	F	F	0.724	
		1.26	8:58	99.69	F	F	0.839	
290		*** Total ***		1416.13	# of Peaks:		5	
302		0.74	10:25	4669.02	T	T	1.000	CE
302		*** Total ***		4669.02	# of Peaks:		1	
324		1.22	8:34	1033.85	F	F	0.802	
324		*** Total ***		1033.85	# of Peaks:		1	
428		0.99	15:08	62.90	T	F	1.134	
428		*** Total ***		62.90	# of Peaks:		1	
440		0.93	12:49	2123.22	T	T	1.000	CE
440		*** Total ***		2123.22	# of Peaks:		1	

*** End of Report ***

QUAN DB : FC27406 LAB-BASE QUAN 09-Oct-90 15:14

No.	QM	RT	Area	Name			
1	188	5.63	1036470		292	7.73	16837
2	222	5.53	86691		290	8.96	5566
3	222	6.71	76550				
4	222	6.88	680602		292	8.96	4403
5	222	7.88	67372				
6	224	6.75	527957				
7	224	6.88	110198				
8	256	8.96	14891765		360	11.01	2688
9	258	8.96	5217053				
10	~~290~~	~~7.01~~	~~37022~~		362	11.01	2164
11	290	7.73	25026 ~~55256~~				
12	~~292~~	~~7.01~~	~~24205~~				
13	~~302~~	~~9.28~~	~~24061~~		428	15.14	3128
14	~~302~~	~~9.99~~	~~22954~~				
15	~~302~~	~~10.25~~	~~72456~~	CE	430	15.14	3162
16	302	10.41	199143	10/11/90			
17	~~304~~	~~10.25~~	~~130073~~				
18	304	10.41	267759		290	6.78	9335
19	324	8.56	56887			7.01	33282
20	324	11.01	142797			7.11	13645
21	326	8.56	46498				
22	326	12.39	157682				
23	394	11.64	21146		292	6.78	6030
24	396	14.09	29139			7.01	21456
25	440	12.82	102143			7.11	6033
26	442	12.81	110179				
27	~~240~~	~~11.69~~	~~93109~~				
28	240	12.79	~~500910~~ 584332				
29	~~240~~	~~12.99~~	~~42935~~				
30	~~240~~	~~13.46~~	~~35267~~	CE			
31	~~240~~	~~13.56~~	~~102709~~	10/11/90			

CE 10/16/90

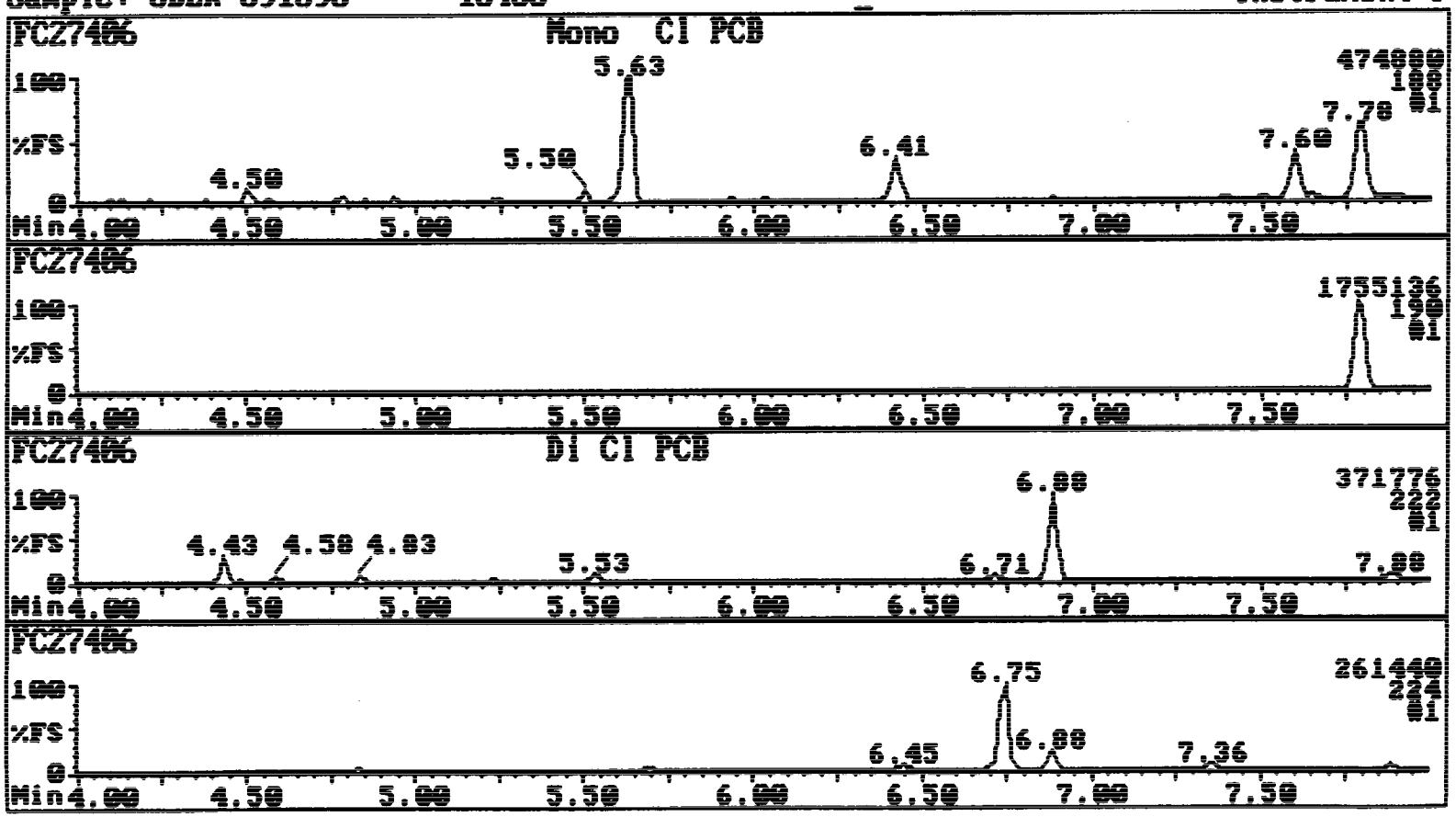
Mark P Wyh
10/12/90

CE
10/12/90

Multi Chlor

06-Oct-98 21:52 Run 9 Triangle Labs, Inc. (919) 544-5729

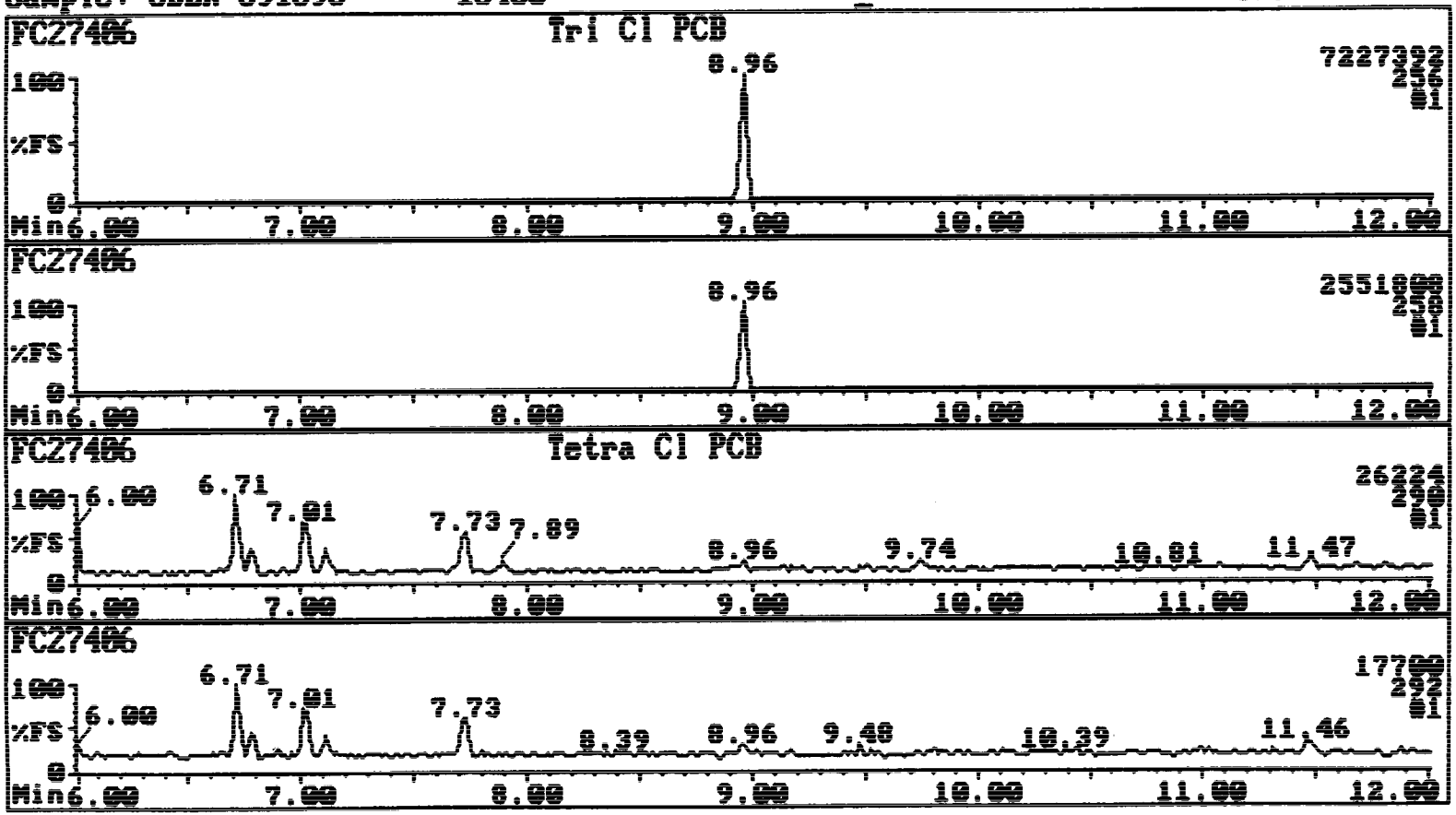
Sample: SBLK-091698 16486 Instrument F



Aw

06-Oct-90 21:52 Run 9 Triangle Labs, Inc. (919) 544-5729

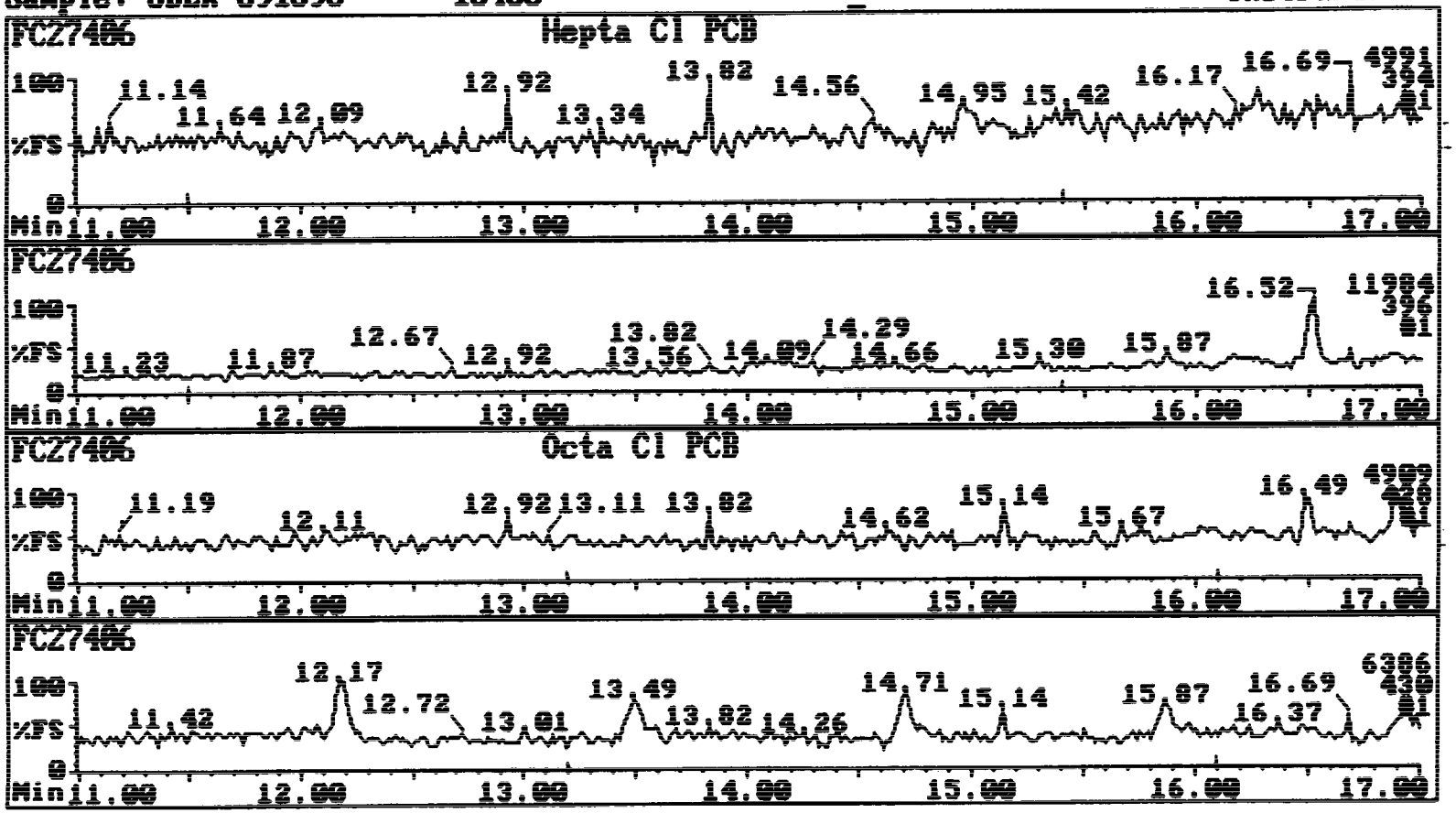
Sample: SBLK 091890 16486 Instrument F



26-Oct-98 21:52
Triangle Labs, Inc.
Sample: SRM-08405
1540
Instrument 7
(919) 544-5729
RTX-1 Tetra Cl PCB
RTX-1 Tetra Cl PCB
RUN 1
RUN 2
FID1A
FID2A
pA
Min
9.59
10.00
10.59
11.00
11.59
10.04
10.23
10.41
9.28
9.69
9.99

05-Oct-98 21:52
Triangle Labs, Inc.
(919) 544-5729
Sample: SMUK-991025
16486
Penta Cl POB
Instrument F
RUN7486
%FS
Hexa Cl POB
8.56
12.39
13.34
14.62
8.69
9.59
9.78
11.26
11.97
12.94
13.84
14.29
9.88
9.18
9.91
11.37
12.36
13.09
13.34
13.94
14.71
15.05

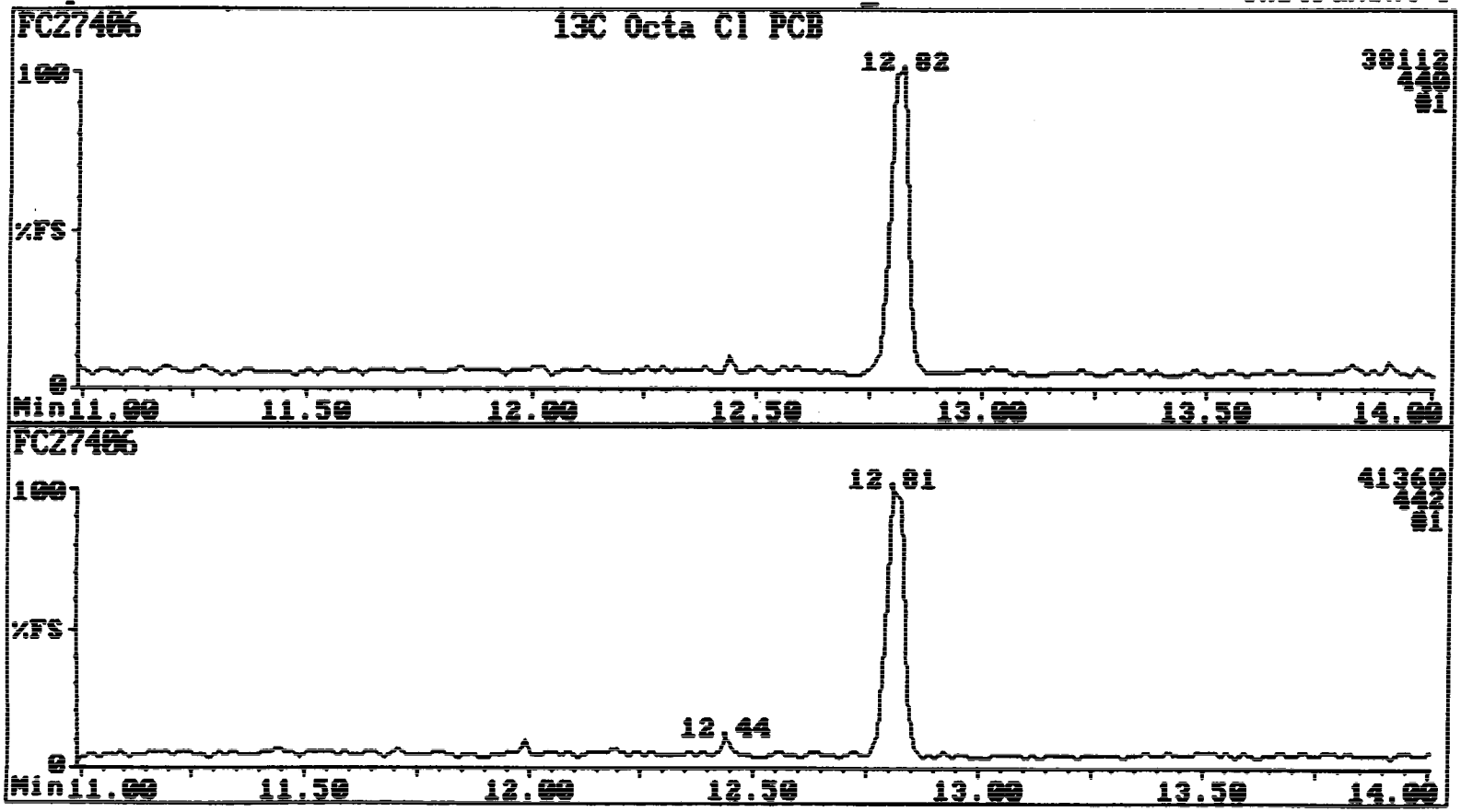
06-Oct-98 21:52 Run 8 10ppb Triangle Labs, Inc. (919) 544-5729
Sample: SBLK 091098 16486 Instrument F



Run 6 10/9/90

06-Oct-90 21:52 Triangle Labs, Inc. (919) 544-5729

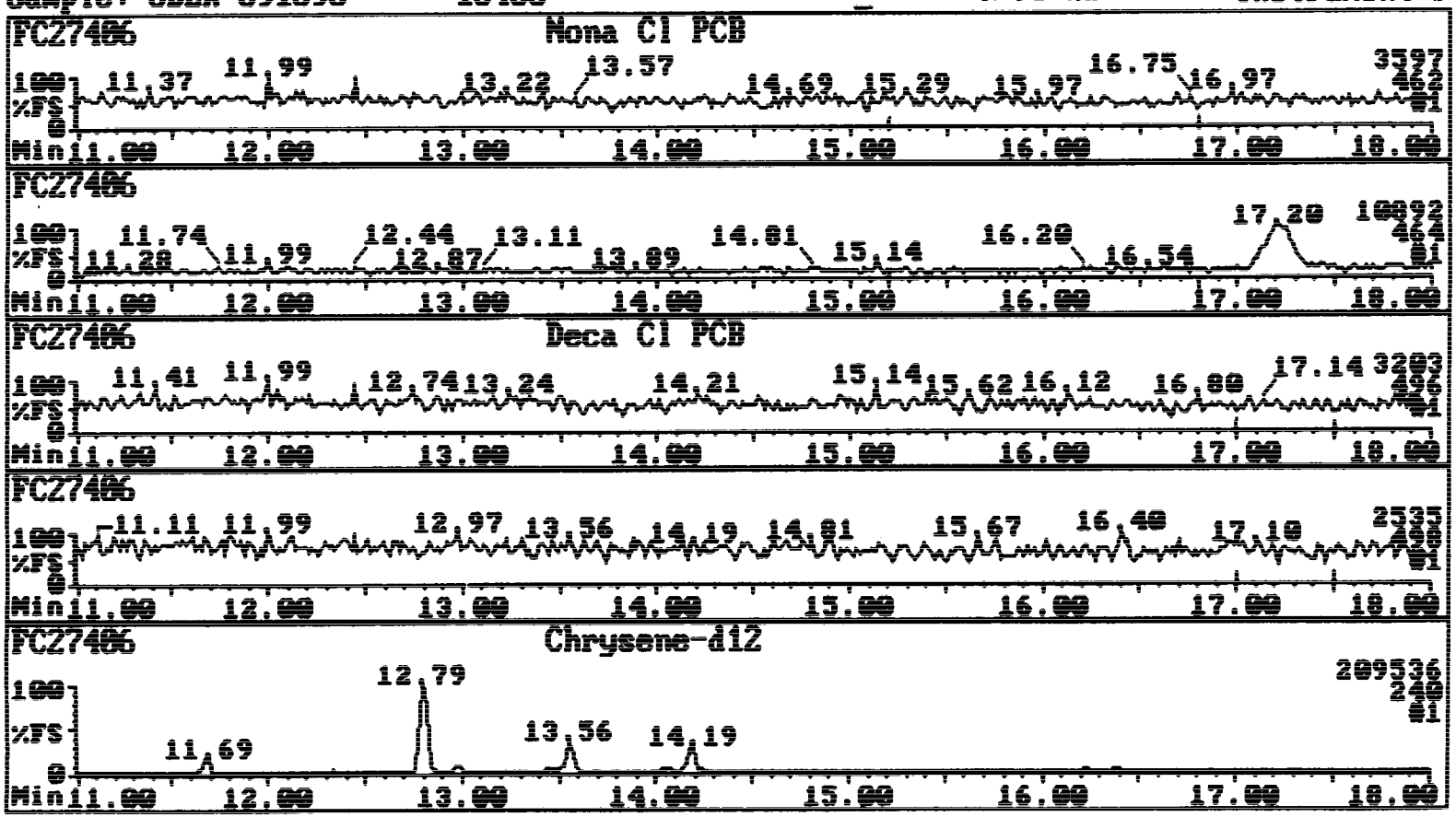
Sample: ~~CBLK 091090~~ 16486 Instrument F



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06-Oct-98 21:52 Triangle Labs, Inc. (919) 544-5729

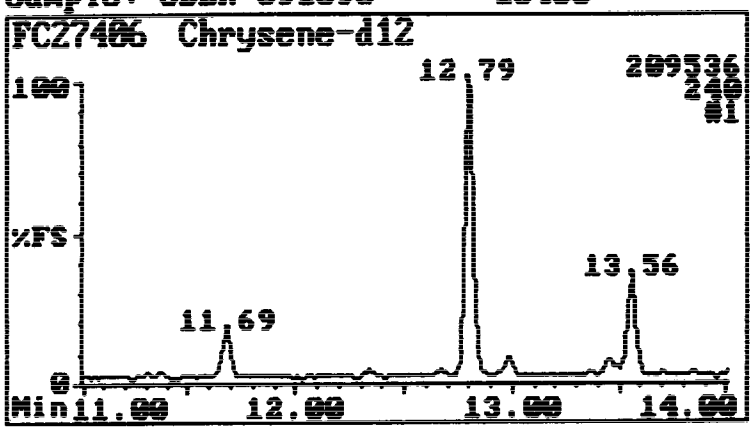
Sample: SBLK 091098 16486 Instrument F

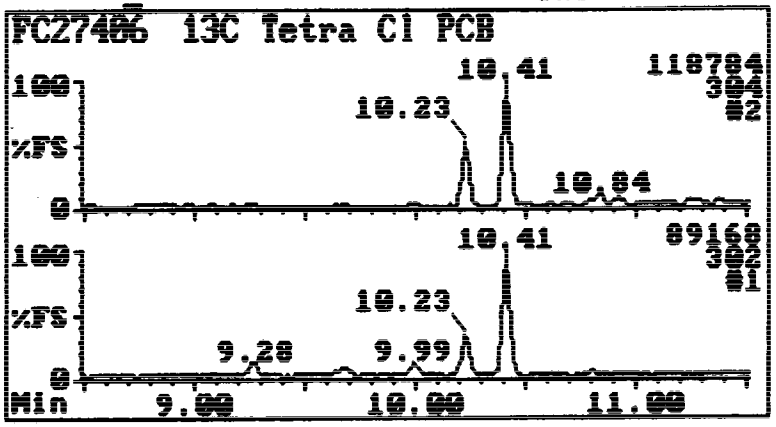


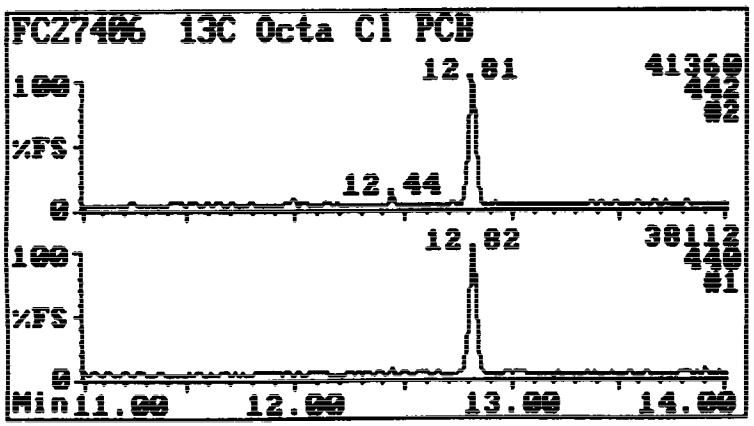
10/9/90

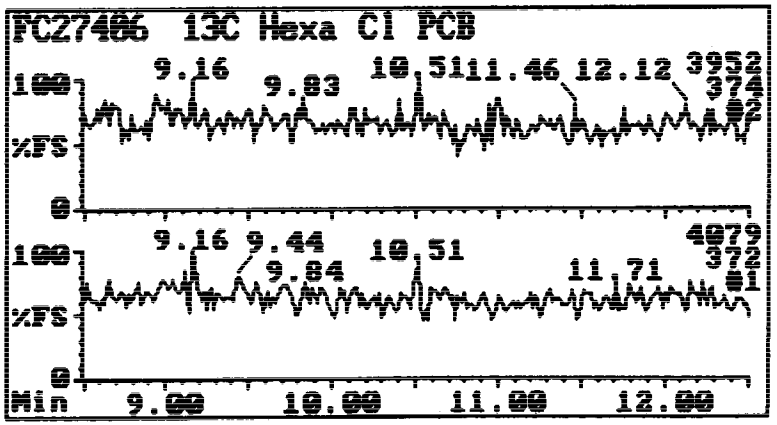
06-Oct-90 21:52 Triangle Labs, Inc. (919) 544-5729

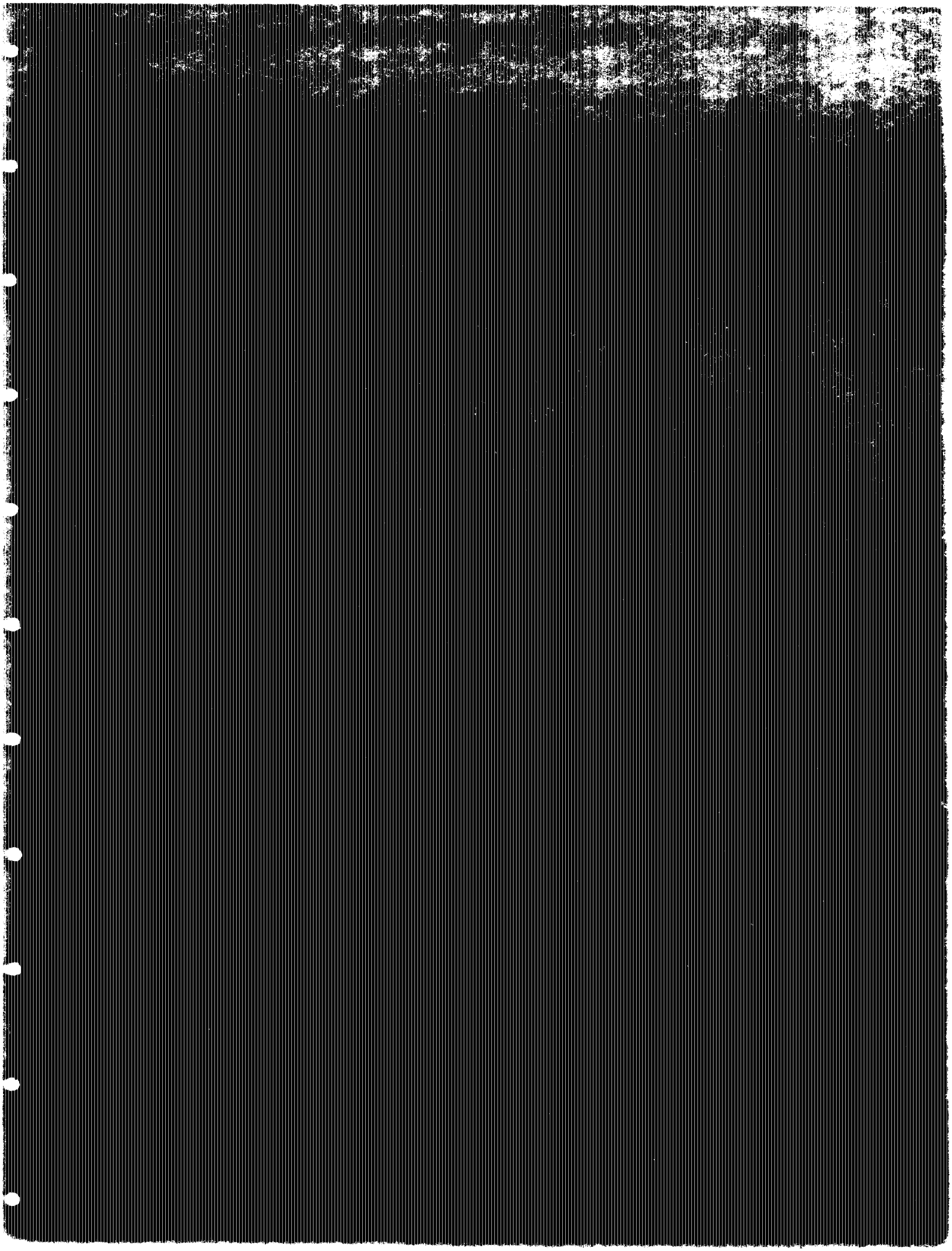
Sample: SBLK-091090 16486 Instrument F











RADIAN CORPORATION

Radian Work Order PO-09-138

Analytical Report
11/05/90

EPA EMB

EPA EMB
Radian Corporation
3200 E. Chapel Hill Road
RTP, NC 27709
Winton Kelly

Customer Work Identification Cape Fear Memorial Hospital
Purchase Order Number 275-026-11-25 (LABOR)

Contents:

1 Analytical Data Summary
2 Sample History
3 Comments Summary
4 Notes and Definitions

Radian Analytical Services
900 Perimeter Park
Morrisville, NC 27560

919-481-0212

Client Services Coordinator: JDLOPEZ

Certified by:

RADIAN CORPORATION

Analytical Data Summary

EPA EMB
Radian Work Orders: P0-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Front 1/2

	Run 1	Run 2	Run 3	Run 4
Sample ID:	CFN-40, CFN-41, CFN-42	CFN-87, CFN-88, CFN-90	CFN-103, CFN-104, CFN-105	CFN-125, CFN-126, CFN-127
Factor:	0.75	0.75	0.75	0.75
Results in:	total ug	total ug	total ug	total ug
	01A	02A	03A	04A
Matrix:	front1/2	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	44.6	3.0	37.5	3.0	52.0	3.0	78.3	3.0

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Front 1/2

	Run 5	Run 6	Run 7	Run 8
Sample ID:	CFM-140, CFM--141, CFM-142	CFM-155, CFM--156, CFM-,157	CFM-201, CFM--202, CFM-203	CFM-222, CFM--223, CFM-224
Factor:	0.75	0.75	0.75	0.75
Results in:	total ug	total ug	total ug	total ug
	05A	06A	07A	08A
Matrix:	front1/2	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	26.8	3.0	16.1	3.0	23.9	3.0	18.7	3.0

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Front 1/2 Run 9 FB

Sample ID:	CFM-246, CFM-247, CFM-248	CFM-18, CFM-25, CFM-26	MATRIX SPIKE	MATRIX SPIKE DUP
Factor:	0.75	0.75	0	0
Results in:	total ug	total ug	% rec	% rec
	09A	10A	11A	12A
Matrix:	front1/2	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	27.5	3.0	ND	3.0	90.6		97.6	

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Front 1/2
Sample ID: METHOD BLANK

Factor: 0.75
Results in: total ug
13A
Matrix: front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	ND	3.0						

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Back 1/2

Sample ID:	Run 1 CFM-43	Run 2 CFM-91	Run 3 CFM-106	Run 4 CFM-128
Factors:	0.53	0.52	0.53	0.535
Results in:	total ug	total ug	total ug	total ug
	14A	15A	16A	17A
Matrix:	back1/2	back1/2	back1/2	back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	7.50 @	2.1	5.91 @	2.1	23.9	2.1	15.3	2.1
Lead	ND	1.6	ND	1.6	2.16 @	1.6	2.44 @	1.6

@ Est. result less than 5 times detection limit ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Back 1/2

Sample ID:	Run 5 CFM-143	Run 6 CFM-158	Run 7 CFM-204	Run 8 CFM-225
Factor:	0.535	0.353	0.353	0.353
Results in:	total ug	total ug	total ug	total ug
	18A	19A	20A	21A
Matrix:	back1/2	back1/2	back1/2	back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	6.83 @	2.1	ND	1.4	4.18 @	1.6	11.3	1.4
Lead	2.17 @	1.6	1.61 @	1.1	ND	1.1	ND	1.1

@ Est. result less than 5 times detection limit

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Back 1/2 Run 9 CPB

Sample ID:	CFM-249	CFM-19	MATRIX SPIKE	MATRIX SPIKE DUP
Factor:	0.353	0.55	0	0
Results in:	total ug	total ug	% rec	% rec
	22A	23A	24A	25A
Matrix:	back1/2	back1/2	back1/2	back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	20.0	1.4	ND	2.2	98.0		94.8	
Lead	1.89 a	1.1	1.95 a	1.6	102		97.6	

a Est. result less than 5 times detection limit ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:Metals by GF - Trains (1)
List:GF Metals - EPA EMB-Back 1/2
Sample ID: METHOD BLANK

Factor: 0.610
Results in: total ug
26A
Matrix: back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	ND	2.4						
Lead	ND	1.8						

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: P0-09-138

Method:ICP Total Metals - Trains (1)				
List:ICP Metals - EPA EMB -Back 1/2	Run 1	Run 2	Run 3	Run 4
Sample ID:	CFM-43	CFM-91	CFM-106	CFM-128
Factor:	0.106	0.105	0.106	0.107
Results in:	total ug	total ug	total ug	total ug
	14A	15A	16A	17A
Matrix:	back1/2	back1/2	back1/2	back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	4920	6.8	2090	6.7	4470	6.8	2920	6.8
Barium	30.8	0.21	30.4	0.21	34.4	0.21	143	0.21
Beryllium	ND	0.21	ND	0.21	ND	0.21	ND	0.21
Cadmium	ND	0.53	ND	0.52	ND	0.53	ND	0.54
Chromium	8.72	1.1	6.22	1.0	5.33 @	1.1	10.1	1.1
Nickel	ND	2.1	ND	2.1	ND	2.1	ND	2.1
Silver	18.1	3.5	52.1	3.5	57.8	3.5	34.1	3.5
Thallium	ND	5.7	ND	5.7	ND	5.7	16.0 @	5.8

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: P0-09-138

Method: ICP Total Metals - Trains (1)				
List: ICP Metals - EPA EMB -Back 1/2	Run 5	Run 6	Run 7	Run 8
Sample ID:	CFN-143	CFN-158	CFN-204	CFN-225
Factor:	0.107	0.107	0.107	0.107
Results in:	total ug	total ug	total ug	total ug
	18A	19A	20A	21A
Matrix:	back1/2	back1/2	back1/2	back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	1580	6.0	264	6.0	912	6.0	2200	6.0
Barium	58.2	0.21	11.7	0.21	17.2	0.21	43.2	0.21
Beryllium	ND	0.21	ND	0.21	ND	0.21	ND	0.21
Cadmium	ND	0.54	ND	0.54	ND	0.54	ND	0.54
Chromium	5.44 @	1.1	3.20 @	1.1	6.50	1.1	5.97	1.1
Nickel	ND	2.1	3.09 @	2.1	ND	2.1	ND	2.1
Silver	44.5	3.5	8.32 @	3.5	17.0 @	3.5	26.5	3.5
Thallium	ND	5.0	ND	5.0	ND	5.0	ND	5.0

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:ICP Total Metals - Trains (1)
List:ICP Metals - EPA EMB -Back 1/2 Run 9 LPB

Sample ID:	CFM-249	CFM-19	MATRIX SPIKE	MATRIX SPIKE DUP
Factor:	0.107	0.11	0	0
Results in:	total ug	total ug	% rec	% rec
	22A	23A	24A	25A
Matrix:	back1/2	back1/2	back1/2	back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	3750	6.8	ND	7.0	92.8		82.0	
Barium	33.3	0.21	3.42	0.22	94.2		92.0	
Beryllium	ND	0.21	ND	0.22	103		100	
Cadmium	ND	0.54	ND	0.55	105		100	
Chromium	5.33 @	1.1	2.65 @	1.1	112		104	
Nickel	2.35 @	2.1	3.20 @	2.2	97.0		92.4	
Silver	21.6	3.5	ND	3.6	NC		NC	
Thallium	ND	5.8	ND	5.9	83.2		82.6	

ND Not detected at specified detection limit
@ Est. result less than 5 times detection limit
NC Not calculated

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:ICP Total Metals - Trains (1)
List:ICP Metals - EPA EMB -Back 1/2
Sample ID: METHOD BLANK

Factor: 0.112
Results in: total ug
26A
Matrix: back1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	ND	7.2						
Barium	ND	0.22						
Beryllium	ND	0.22						
Cadmium	ND	0.56						
Chromium	ND	1.1						
Nickel	ND	2.2						
Silver	ND	1.7						
Thallium	ND	6.8						

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:ICP Total Metals - Trains (1)
List:ICP Metals - EPA EMB-front 1/2

	Run 1	Run 2	Run 3	Run 4
Sample ID:	CFM-40, CFM-4-1, CFM-42	CFM-87, CFM-8-8, CFM-90	CFM-103, CFM--104, CFM-105	CFM-125, CFM--126, CFM-127
Factor:	0.25	0.25	0.25	0.25
Results in:	total ug	total ug	total ug	total ug
	01A	02A	03A	04A
Matrix:	front1/2	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	2900	16	1090	16	1520	16	1360	16
Barium	1110	0.50	1610	0.50	1430	0.50	1890	0.50
Beryllium	ND	0.50	ND	0.50	ND	0.50	ND	0.50
Cadmium	772	1.2	878	1.2	1100	1.2	1270	1.2
Chromium	70.5	2.5	72.5	2.5	92.5	2.5	98.0	2.5
Lead	12400	25	11800	25	18000	25	23700	25
Nickel	12.5 @	5.0	18.8 @	5.0	22.5 @	5.0	23.0 @	5.0
Silver	ND	8.2	ND	8.2	ND	8.2	ND	8.2
Thallium	205	14	247	14	282	14	488	14

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:ICP Total Metals - Trains (1)
List:ICP Metals - EPA EMB-front 1/2

	Run 5	Run 6	Run 7	Run 8
Sample ID:	CFM-140, CFM-141, CFM-142	CFM-155, CFM-156, CFM-157	CFM-201, CFM-202, CFM-203	CFM-222, CFM-223, CFM-224
Factor:	0.25	0.25	0.25	0.25
Results in:	total ug	total ug	total ug	total ug
	05A	06A	07A	08A
Matrix:	front1/2	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	1250	16	411	16	1610	16	582	16
Barium	589	0.50	388	0.50	431	0.50	529	0.50
Beryllium	ND	0.50	ND	0.50	2.75	0.50	ND	0.50
Cadmium	1090	1.2	639	1.2	1560	1.2	1020	1.2
Chromium	151	2.5	55.3	2.5	57.3	2.5	45.5	2.5
Lead	20700	25	8740	25	9210	25	12700	25
Nickel	89.0	5.0	22.8 a	5.0	21.8 a	5.0	17.5 a	5.0
Silver	ND	8.2	ND	8.2	ND	8.2	ND	8.2
Thallium	441	14	369	14	1320	14	342	14

ND Not detected at specified detection limit

a Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:ICP Total Metals - Trains (1)
List:ICP Metals - EPA EMB-front 1/2 Run 9 RB

Sample ID:	CFM-246, CFM-247, CFM-248	CFM-18, CFM-2-5, CFM-26	MATRIX SPIKE	MATRIX SPIKE DUP
Factor:	0.25	0.25	0	0
Results in:	total ug	total ug	% rec	% rec
	09A	10A	11A	12A
Matrix:	front1/2	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	2070	16	ND	16	89.2		84.0	
Barium	784	0.50	7.25	0.50	94.0		93.8	
Beryllium	ND	0.50	ND	0.50	101		102	
Cadmium	1010	1.2	ND	1.2	98.6		98.6	
Chromium	48.0	2.5	5.75 @	2.5	101		102	
Lead	10100	25	ND	25	87.4		94.6	
Nickel	16.0 @	5.0	ND	5.0	93.0		92.2	
Silver	ND	8.2	19.8 @	8.2	NC		NC	
Thallium	676	16	ND	16	72.4		72.2	

ND Not detected at specified detection limit
@ Est. result less than 5 times detection limit
NC Not calculated

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-138

Method:ICP Total Metals - Trains (1)
List:ICP Metals - EPA EMB+front 1/2
Sample ID: METHOD BLANK

Factor: 0.25
Results in: total ug
13A
Matrix: front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	ND	16						
Barium	ND	0.50						
Beryllium	ND	0.50						
Cadmium	ND	1.2						
Chromium	ND	2.5						
Lead	ND	25						
Nickel	ND	5.0						
Silver	ND	8.2						
Thallium	ND	14						

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 1 CFM-40, CFM-4-1, CFM-42	Run 2 CFM-87, CFM-8-8, CFM-90	Run 3 CFM-103, CFM-104, CFM-105
	01	02	03
Matrix	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Hg cold vapor AA - trains						
Mercury	8.40 @	total ug 2.4	24.5	total ug 2.4	151	total ug 2.4

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 4 CFM-125, CFM-126, CFM-127	Run 5 CFM-140, CFM-141, CFM-142	Run 6 CFM-155, CFM-156, CFM-157
	04	05	06
Matrix	front1/2	front1/2	front1/2

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Hg cold vapor AA - trains						
Mercury	10.9 a	total ug 2.4	42.0	total ug 2.4	7.80 a	total ug 2.4

a Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 7 CFM-201, CFM-202, CFM-203	Run 8 CFM-222, CFM-223, CFM-224	Run 9 CFM-246, CFM-247, CFM-248
	07	08	09
Matrix	front1/2	front1/2	front1/2
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	434 total ug 2.4	104 total ug 2.4	570 total ug 2.4

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA ENB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identification: CFN-18, CFN-2-5, CFN-26 10 front1/2	MATRIX SPIKE 11 front1/2	MATRIX SPIKE DUP 12 front1/2
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	ND total ug 2.4	112 % rec	126 % rec

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-135

Method/Analyte	Sample Identifications		
	METHOD BLANK	Run 1 CFM-43	Run 2 CFM-91
	13	14	15
Matrix	front1/2	back 1/2	back 1/2
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	ND total ug 2.4	735 total ug 17	1590 total ug 16

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 3 CFM-106	Run 4 CFM-128	Run 5 CFM-143
	16	17	18
Matrix	back 1/2	back 1/2	back 1/2
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	1940 total ug 17	112 total ug 17	348 total ug 17

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 6 CFM-158	Run 7 CFM-204	Run 8 CFM-225
	19	20	21
Matrix	back 1/2	back 1/2	back 1/2
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	438 total ug 17	11500 total ug 17	1390 total ug 17

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-138

Method/Analyte	Sample Identifications		
	Run 1 CFN-249	LP6 CFN-19	MATRIX SPIKE
	22	23	24
Matrix	back 1/2	back 1/2	back 1/2
	Result / Det. Limit	Result / Det. Limit	Result / Det. Limit
Hg cold vapor AA - trains			
Mercury	517 total ug 17	ND total ug 21	94.3 % rec

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-138

Method/Analyte	Sample Identification: MATRIX SPIKE DUP	METHOD BLANK	CFM-44 Run 1
	25	26	27
Matrix	back 1/2	back 1/2	back_Hg
	Result / Det. Limit	Result / Det. Limit	Result / Det. Limit
Hg cold vapor AA - trains			
Mercury	89.1 % rec	ND total ug 18	3.48 a total ug 0.79

ND Not detected at specified detection limit

a Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 2 CFM-92	Run 3 CFM-107A	Run 4 CFM-129
	28	29	30
Matrix	back_Hg	back_Hg	back_Hg
	Result / Det. Limit	Result / Det. Limit	Result / Det. Limit
Hg cold vapor AA - trains			
Mercury	1.48 @ total ug 0.60	12.6 total ug 0.69	2.70 @ total ug 0.72

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-138

Method/Analyte	Sample Identification: Run 5 CFH-144	Run 6 CFH-159	Run 7 CFH-205
	31	32	33
Matrix	back_Hg	back_Hg	back_Hg
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	ND total ug 0.01	0.940 @ total ug 0.01	2030 total ug 0.70

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identifications		
	Run 3 CFN-226	Run 1 CFN-250	RB CFN-55
	34	35	36
Matrix	back_Hg	back_Hg	back_Hg
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Hg cold vapor AA - trains			
Mercury	53.3 total ug 0.69	3.65 @ total ug 0.76	ND total ug 1.1

@ Est. result less than 5 times detection limit

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-138

Method/Analyte	Sample Identification: MATRIX SPIKE		MATRIX SPIKE DUP		METHOD BLANK	
	37		38		39	
Matrix	back_Hg		back_Hg		back_Hg	
	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Hg cold vapor AA - trains						
Mercury	96.8	% rec	95.8	% rec	ND	total ug 0.70

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

RADIAN CORPORATION

Radian Work Order PO-09-155

Analytical Report
10/23/90

EPA ENB

EPA ENB
Radian Corporation
3200 E. Chapel Hill Road
RTP, NC 27709
Winton Kelly

Customer Work Identification Cape Fear-Wilmington
Purchase Order Number 275-026-11-25

Contents:

1 Analytical Data Summary
2 Sample History
3 Comments Summary
4 Notes and Definitions

Radian Analytical Services
900 Perimeter Park
Morrisville, NC 27560

919-481-0212

Client Services Coordinator: JDLOPEZ

Certified by:

RADIAN

Analytical Data Summary

EPA EMB
Radian Work Order: P0-09-155

Method:Metals by GF - Soil (1)				
List:GF Metals - Cape Fear Mem Hosp	Run 1	Baseline	Run 4	Run 7
Sample ID:	CFM 67	CFM 36	CFM 180	CFM 237
Factor:	1.0	1.0	1.0	1.0
Results in:	mg/kg	mg/kg	mg/kg	mg/kg
	01A	02A	03A	04A
Matrix:	ash	ash	ash	ash

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	69.6	4.0	83.8	4.0	35.2	4.0	174	4.0
Selenium	ND	5.0	ND	5.0	ND	5.0	ND	5.0

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-155

Method:Metals by GF - Soil (1)
List:GF Metals - Capa Four Mem Hoop

Sample ID:	Run 3 CFM 262	Run 6 CFM 190	Run 7 CFM 75	Run 9 CFM 288
Factor:	1.0	1.0	1.0	1.0
Results in:	mg/kg	mg/kg	mg/kg	mg/kg
	05A	06A	07A	08A
Matrix:	ash	ash	ash	ash

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	37.5	4.0	82.3	4.0	53.7	4.0	69.6	4.0
Selenium	ND	5.0	ND	5.0	ND	5.0	ND	5.0

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PQ-09-155

Method:Metals by GF - Soil (1)
List:GF Metals - Cape Fear Nam Hoop

Sample ID:	CFM 184 Run 5	CFM 117 Run 3	METHOD BLANK	MATRIX SPIKE
Factor:	1.0	1.0	1.0	0
Results in:	mg/kg	mg/kg	mg/kg	% rec
	09A	10A	11A	12A
Matrix:	ash	ash	ash	ash

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	72.2	4.0	27.4	4.0	ND	4.0	92.6	
Selenium	ND	5.0	ND	5.0	ND	5.0	92.2	

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA ENB
Radian Work Order: P0-09-155

Method:Metals by GF - Soil (1)
List:GF Metals - Cape Fear Nam Heap

Sample ID:	MATRIX SPIKE			
	DUP			
Factor:	0			
Results in:	% rec			
	13A			
Matrix:	soil			

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Arsenic	84.2							
Selenium	87.8							

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-155

Method:6010, 25 element ICP scan (1)
List:ICP Metals - Cape Fear

Sample ID:	Run 1 CFM 67	Baseline CFM 36	Run 4 CFM 180	Run 7 CFM 237
Factor:	1.0	1.0	1.0	1.0
Results in:	mg/kg	mg/kg	mg/kg	mg/kg
	01A	02A	03A	04A
Matrix:	ash	ash	ash	ash

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	ND	32	ND	32	ND	32	ND	32
Barium	29000	0.20	12700	0.20	25000	0.20	10700	0.20
Beryllium	ND	0.20	ND	0.20	ND	0.20	0.300 @	0.20
Cadmium	12.0 @	5.0	20.0 @	5.0	12.0 @	5.0	8.00 @	5.0
Chromium	58.0	10	65.0	10	62.0	10	49.0 @	10
Lead	935	10	576	10	86700	10	3580	10
Nickel	1960	20	36.0 @	20	ND	20	ND	20
Silver	ND	33	ND	33	ND	33	ND	33
Thallium	ND	54	ND	54	ND	54	ND	54

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-155

Method:6010, 25 element ICP scan (1)
List:ICP Metals - Cape Fear

Sample ID:	Run 8 CFM 262	Run 6 CFM 190	Run 7 CFM 75	Run 9 CFM 288
Factor:	1.0	1.0	1.0	1.0
Results in:	mg/kg	mg/kg	mg/kg	mg/kg
	05A	06A	07A	08A
Matrix:	ash	ash	ash	ash

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	ND	32	ND	32	ND	32	ND	32
Barium	38400	0.20	20700	0.20	12900	0.20	28100	0.20
Beryllium	ND	0.20	ND	0.20	ND	0.20	ND	0.20
Cadmium	ND	5.0	10.0 a	5.0	10.0 a	5.0	13.0 a	5.0
Chromium	48.0 a	10	37.0 a	10	52.0	10	89.0	10
Lead	249	10	396	10	268	10	163	10
Nickel	ND	20	ND	20	ND	20	485	20
Silver	ND	33	ND	33	ND	33	ND	33
Thallium	ND	54	ND	54	ND	54	ND	54

ND Not detected at specified detection limit

a Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMI
Radian Work Order: PO-09-135

Method:6010, 25 element ICP scan (1)
List:ICP Metals - Copy Four

Sample ID:	Run 5 CFM 184	Run 3 CFM 117	METHOD BLANK	MATRIX SPIKE
Factor:	1.0	1.0	1.0	0
Results in:	mg/kg	mg/kg	mg/kg	% rec
	09A	10A	11A	12A
Matrix:	ash	ash	ash	ash

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	ND	32	ND	32	ND	32	NC	
Barium	2700	0.20	7910	0.20	4.30	0.20	NC	
Beryllium	ND	0.20	ND	0.20	ND	0.20	106	
Cadmium	14.0 @	5.0	ND	5.0	ND	5.0	108	
Chromium	130	10	28.0 @	10	ND	10	111	
Lead	1160	10	5360	10	ND	10	NC	
Nickel	28.0 @	20	ND	20	ND	20	NC	
Silver	ND	33	ND	33	ND	33	NC	
Thallium	ND	54	ND	54	ND	54	NC	

ND Not detected at specified detection limit
@ Est. result less than 5 times detection limit
NC Not calculated

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-155

Method:6010, 25 element ICP ucm (1)
List:ICP Metals - Cape Fear

Sample ID:	MATRIX SPIKE			
	DUP			
Factor:	0			
Results in:	% rec			
	13A			
Matrix:	mnh			

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Antimony	NC							
Barium	NC							
Beryllium	108							
Cadmium	108							
Chromium	124							
Lead	NC							
Nickel	NC							
Silver	NC							
Thallium	NC							

NC Not calculated

(1) For a detailed description of flags and technical terms in this report refer to Appendix A in this report.

EPA EMB
Radian Work Order: PO-09-155

Method/Analyte	Sample Identifications: Run 1 CPM 67	Blank CPM 36	Run 4 CPM 180
	01	02	03
Matrix	ash	ash	ash
	Result / Det. Limit	Result / Det. Limit	Result / Det. Limit
EPA 245.1,Hg cold vapor AA			
Mercury	0.132 a mg/kg 0.009	0.0512 a mg/kg 0.009	0.177 a mg/kg 0.039

a Det. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-155

Method/Analyte	Sample Identification: Run 7 CFH 237			Run 8 CFH 262			Run 6 CFH 190		
Matrix	04 ash			05 ash			06 ash		
EPA 245.1,Hg cold vapor AA	Result		Det. Limit	Result		Det. Limit	Result		Det. Limit
Mercury	0.222	mg/kg	0.039	ND	mg/kg	0.039	0.156 a	mg/kg	0.039

ND Not detected at specified detection limit

a Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PB-09-155

Method/Analyte	Sample Identification: Rum 2 CFM 75			Rum 9 CFM 284			Rum 5 CFM 184		
Matrix	07 ash			08 ash			09 ash		
	Result		Det. Limit	Result		Det. Limit	Result		Det. Limit
EPA 245.1,Hg cold vapor AA									
Mercury	ND	mg/kg	0.039	ND	mg/kg	0.039	ND	mg/kg	0.039

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-155

Method/Analyte	Sample Identification: CFM 117 Run 3	METHOD BLANK	MATRIX SPIKE
	10	11	12
Matrix	ash	ash	ash
	Result / Det. Limit	Result / Det. Limit	Result / Det. Limit
EPA 245.1,Hg cold vapor AA			
Mercury	ND mg/kg 0.039	ND mg/kg 0.039	NC % rec

ND Not detected at specified detection limit NC Not calculated

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

Wilmington Hospital Waste Incinerator

Sample ID	Volume (ml)	Correction (g)	Tare Weight	Final Weight	Sample Weight	Comments
Filters						
Run 1	n/a	n/a	0.8900	1.2367		Filter #
	n/a	n/a	0.8898	1.2370	0.34695	MP-71
Run 2	n/a	n/a	0.8986	1.3314		Filter #
	n/a	n/a	0.8982	1.3318	0.43320	MP-70
Run 3	n/a	n/a	0.8930	1.8591		Filter #
	n/a	n/a	0.8927	1.8589	0.96615	MP-75
Run 4	n/a	n/a	0.8980	1.9181		Filter #
	n/a	n/a	0.8978	1.9184	1.02035	MP-72
Run 5	n/a	n/a	0.8996	1.3125		Filter #
	n/a	n/a	0.8991	1.3129	0.41335	MP-69
Run 6	n/a	n/a	0.8887	1.0506		Filter #
	n/a	n/a	0.8883	1.0506	0.16210	MP-82
Run 7	n/a	n/a	0.8988	1.3444		Filter #
	n/a	n/a	0.8987	1.3450	0.44595	MP-79
Run 8	n/a	n/a	0.8992	1.3953		Filter #
	n/a	n/a	0.8988	1.3957	0.49650	MP-83
Run 9	n/a	n/a	0.8989	1.6894		Filter #
	n/a	n/a	0.8985	1.6899	0.79095	MP-85
Lab Proof			0.8854	0.8850		Filter #
Blank 1			0.8850	0.8851	-0.00015	MP-77
Lab Proof			0.8754	0.8751		Filter #
Blank 2			0.8750	0.8753	0.00000	MP-76
Filter			0.9042	0.9041		Filter #
Blank			0.9038	0.9040	0.00005	MP-74
Field			0.8883	0.8880		Filter #
Blank			0.8880	0.8878	-0.00025	MP-81

Wilmington Hospital Waste Incinerator

Sample ID	Volume (ml)	Correction (g)	Tare Weight	Final Weight	Sample Weight	Comments
Acetone Samples						
Run 1	540		92.5919	92.9137		Beaker B44
			92.5916	92.9138	0.32146	
Run 2	335		101.3340	101.4741		Beaker A4
			101.3341	101.4742	0.13976	
Run 3	305		92.8427	93.3934		Beaker B40
			92.8429	93.3936	0.55039	
Run 4	535		93.1471	93.7105		Beaker B28
			93.1473	93.7108	0.56291	
Run 5	410		105.4415	105.7308		Beaker A7
			105.4410	105.7310	0.28924	
Run 6	395		100.8732	101.0036		Beaker F96
			100.8735	101.0040	0.13005	
Run 7	325		104.8709	105.1941		Beaker A6
			104.8703	105.1941	0.32317	
Run 8	325		105.9277	106.2718		Beaker A2
			105.9272	106.2720	0.34412	
Run 9	440		92.1236	92.5398		Beaker B25
			92.1231	92.5400	0.41611	
Lab Proof Blank 1	210		92.5862	92.5869		Beaker A3
			92.5861	92.5869	0.00054	
Lab Proof Blank 2	165		108.3507	108.3513		Beaker A11
			108.3513	108.3515	0.00023	
Field Blank	300		93.7513	93.7523		Beaker B12
			93.7511	93.7525	0.00090	
Reagent Blank	200		109.2724	109.2729		Beaker A9
			109.2730	109.2729	0.00020	

Acetone Correction Factor 0.0000010



CAPE FEAR MEMORIAL HOSPITAL

ASH SAMPLES, CFU/g

CODE	REP 1	REP 2	REP 3	
CFM-001	0	0	0	Pretest (7/10)
CFM-035	<1E2	0	<1E2	Pretest (7/14)
CFM-066	<1E2	<1E2	<1E2	Run 1
CFM-074	<2E2	<1E2	<1E2	Run 2
CFM-116	0	0	0	Run 3
CFM-179	0	0	0	Run 4
CFM-183	0	0	0	Run 5
CFM-188	<1E2	0	0	Run 6
CFM-189	0	0	0	Run 6
CFM-236	0	0	0	Run 7
CFM-287	0	0	0	Run 9

IMPINGER SAMPLES

RUN	CODE	CFU's
1 (FB)	CFM-058	0
1	CFM-061	0
2	CFM-77,78	<1/100mL
3	CFM-79,80	0
4	CFM-164,165	<1/100mL
5	CFM-166-168	0
6	CFM-169,170	<1/100mL
FB	CFM-276,277	<1/100mL
7	CFM-278,279	0
8	CFM-280,281	0
9	CFM-282,283	0

PIPE SAMPLES

CODE	CFUs	
CFM-063	0	Exp Run 1A
CFM-064	0	1B
CFM-069*	37	AMBIENT
CFM-070	53	RUN 2A
CFM-071	1	2B
CFM-072	TNTC	2C
CFM-112	ON CLUMPS	3A
CFM-113	0	3B
CFM-114	0	3C
CFM-171	0	4A
CFM-172	3	4B
CFM-173	0	4C
CFM-174	0	4D
CFM-175	0	5A
CFM-176	0	5B
CFM-177	0	5C
CFM-192	1	6A
CFM-193	0	6B
CFM-194	2	6C
CFM-232	20	7A
CFM-233	5	7B
CFM-234	2	7C
CFM-255	20	8A
CFM-256	3	8B
CFM-257*	35	8C
CFM-291	TNTC	9A
CFM-292	3	9B
CFM-293	1	9C

* = AMBIENT
TNTC = Too Numerous to Count >200 spores/pipe

CFM-DS, DRY SPORE VIAL
2.3E6 SPORES/VIAL

CFM-SS, SPORE SUSPENSION
LABELED 7.875E8 SPORES/mL
ANALYZED 7.7E8 SPORES/mL

SAMPLE ID: SPORE SUSPENSION

SAMPLE ID NUMBER: CFM - SS

SAMPLE DESCRIPT: SPORE SUSPENSION IN PLASTIC TUBE

SITE USED: CAPE FEAR MEMORIAL HOSPITAL

ANALYSIS DATE: 10-2-90

COMMENTS: REPORTED CONCENTRATION: 7.875E8/ml
A 1ml aliquot was aseptically pipetted into 99ml sterile water. Three consecutive 1:100 serial dilutions were then made. Three 1ml and 10ml aliquots were then filtered and incubated at 65 degrees C.

CALCULATIONS OF CONCENTRATION AS ANALYZED:

The spore suspension was labled:	7.875E8 spores/ml
Three 1ml replicates:	5.0E8 + 2.0E8 spores/ml
Three 10ml replicates:	7.7E8 + 1.7E8 spores/ml

RESULTS

SAMPLE	ALIQUOT-REP (ml) #	NO. COLONIES 21 Hrs.	NO. COLONIES 48 Hrs.
CFM - SS	1-1	6	6
	-2	3	3
	-3	6	6
CFM - SS	10-1	68	72
	-2	63	63
	-3	91	96

SAMPLE ID: DRY SPORE VIAL

SAMPLE ID NUMBER: CFM - DS

SAMPLE DESCRIPT: DRY SPORES IN A GLASS VIAL

SITE USED: CAPE FEAR MEMORIAL HOSPITAL

ANALYSIS DATE: 10-8-90

COMMENTS: The entire contents of a vial containing dry spores were aseptically pipetted into 100ml sterile water. Two consecutive 1:100 serial dilutions were then made. Three 1ml and 10ml aliquots of the last dilution were then filtered and incubated at 65 degrees C.

CALCULATIONS OF CONCENTRATION AS ANALYZED:

Three 10ml replicates: 2.3E6 +6.0E5 spores/vial

RESULTS

SAMPLE	ALIQUOT-REP (ml) #	NO. COLONIES 18 Hrs.	NO. COLONIES 42 Hrs.
CFM - DS	1-1	7	9
	-2	1	1
	-3	2	2
CFM - DS	10-1	22	29
	-2	13	21
	-3	13	18

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-1 (July pre-test)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOF

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-24-90

COMMENTS: DILUTION 1A. 1B. AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH. filtered 1 ml

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 47 hr
CFM-1-1A - 1.01g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 47 hr
CFM-1-1B - 0.99g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2,	0	0
	-3	0	0
CFM-1-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-35 8/13 - Pre test

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE RECEIVED / ANALYZED: 8-17-90 / 8-28-90

COMMENTS: DILUTION 1A. 1B. AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 16 hrs.	NO. COLONIES 40 hrs.
CFM-35-1A - 1.03g ASH/100ml BUFFER			
FILTER #	-1	1 - 1cm	1 - 2cm
	-2	0	0
	-3	0	0
CFM-35-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	GROWTH AROUND FILTER
	-2	0	0
	-3	0	0
CFM-35-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1
CFM-35-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 47 hrs.
CFM-1-1C - 1.01g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-1-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 16 hrs.	NO. COLONIES 40 hrs.
CFM-35-1B - 1.06g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 16 hrs.	NO. COLONIES 40 hrs.
CFM-35-1C - 0.95g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-35-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	1	1
	-2	1	1
	-3	0	0
CFM-35-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	1	1 - 1cm

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-66 Run 1

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE RECEIVED / ANALYZED: 8-17-90 / 8-30-90

COMMENTS: DILUTION 1A, 1B, AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.
RESULTS OF THIS ANALYSIS WERE INCONSISTENT.
THEREFORE, SOME OF THE DILUTIONS WERE
RE-ANALYZED.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 20 hrs.	NO. COLONIES 44 hrs.
CFM-66-1A - 1.13g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	TNTC
	-2	0	0
	-3	0	1 IN AGAR
CFM-66-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1 IN AGAR
CFM-66-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 20 hrs.	NO. COLONIES 44 hrs.
CFM-66-1B - 1.08g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	1 ON AGAR
	-3	0	1 ON AGAR
CFM-66-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	TNTC
	-2	0	0
	-3	0	0
CFM-66-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	1 ON AGAR
	-3	0	0
CFM-66-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	GROWTH AROUND FILTER
	-2	0	0
	-3	0	1 ON AGAR

SAMPLE-DIL-QUAN		NO. COLONIES 20 hrs.	NO. COLONIES 44 hrs.
CFM-66-1C - 1.09g ASH/100ml BUFFER			
FILTER #	-1	0	0 ON AGAR
	-2	0	0
	-3	0	ON AGAR
CFM-66-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	1 ON AGAR
	-3	0	2 ON AGAR
CFM-66-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1 ON AGAR
CFM-66-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1 ON AGAR

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-74 (Run 2)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE RECEIVED / ANALYZED: 8-17-90 / 8-30-90

COMMENTS: DILUTION 1A. 1B. AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.
RESULTS OF THIS ANALYSIS WERE INCONSISTENT. THEREFORE. SOME OF THE DILUTIONS WERE RE-ANALYZED.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 20 hrs.	NO. COLONIES 44 hrs.
CFM-74-1A - 1.05g ASH/100ml BUFFER			
FILTER #	-1	0	2 - 2cm
	-2	0	0
	-3	0	0
CFM-74-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	1 IN AGAR
	-3	0	0
CFM-74-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	1
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 20 hrs.	NO. COLONIES 44 hrs.
CFM-74-1B - 1.02g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	1 IN AGAR
	-2	0	0
	-3	0	1 IN AGAR
CFM-74-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	LARGE MASS OF GROWTH
	-3	0	0
CFM-74-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	2
	-2	0	0
	-3	0	0
CFM-74-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	1
	-2	0	GROWTH AROUND FILTER
	-3	0	1

SAMPLE-DIL-QUAN		NO. COLONIES 20 hrs.	NO. COLONIES 44 hrs.
CFM-74-1C - 1.01g ASH/100ml BUFFER			
FILTER #	-1	0	' ON AGAR
	-2	0	0
	-3	0	0
CFM-74-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1 ON AGAR
CFM-74-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1 ON AGAR
CFM-74-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	' ON AGAR
	-2	0	0
	-3	0	0
CFM-74-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	1
	-3	0	1 - 1cm

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM 74, CFM 66

(Run 2) Run 1

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE RECEIVED/ANALYZED: 8-17-90 / 9-04-90

COMMENTS: THE ORIGINAL RESULTS OF THESE ANALYSES WERE INCONSISTENT. THEREFORE, THE FOLLOWING DILUTIONS WERE RE-ANALYZED: CFM-74 1A, 4A, 6A; CFM-74 6B; CFM-74 2C, 4C, 6C; CFM-66 2B, 3B, 5B, 6B; CFM-66 1C, 3C, 5C, 6C.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-74-1A - 1.08g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-74-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-74-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-6B - 10mL 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-66-1C - 1.09ml ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	1 - 2cm
	-3	0	0
CFM-66-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	1 - 1cm
	-2	0	0
	-3	0	0
CFM-66-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-66-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-116 (Run 3)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-24-90/9-20-90

COMMENTS: DILUTION 1A. 1B. AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 17 hrs.	NO. COLONIES 99 hrs.
CFM-116-1A - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 17 hrs.	NO. COLONIES 99 hrs.
CFM-116-1B - 1.01g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 17 hrs.	NO. COLONIES 99 hrs.
CFM-116-1C - 1.01g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-116-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-179 (Run 4)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-24-90/9-21-90

COMMENTS: DILUTION 1A, 1B, AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 65 hrs.
CFM-179-1A - 0.96g ASH/100ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-2A - 10ml 1A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-3A - 10ml 2A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-4A - 10ml 3A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-5A - 10ml 4A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-6A - 10ml 5A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0

SAMPLE-DIL-QUAN		NO. COLONIES 65 mm.
CFM-179-1B - 1.25g ASH/100ml BUFFER		
FILTER #	-1	C
	-2	C
	-3	C
CFM-179-2B - 10ml 1B/90ml BUFFER		
FILTER #	-1	C
	-2	C
	-3	C
CFM-179-3B - 10ml 2B/90ml BUFFER		
FILTER #	-1	C
	-2	C
	-3	C
CFM-179-4B - 10ml 3B/90ml BUFFER		
FILTER #	-1	C
	-2	C
	-3	C
CFM-179-5B - 10ml 4B/90ml BUFFER		
FILTER #	-1	C
	-2	C
	-3	C
CFM-179-6B - 10ml 5B/90ml BUFFER		
FILTER #	-1	C
	-2	C
	-3	C

SAMPLE-DIL-QUAN		NO. COLONIES 65 hrs.
CFM-179-1C - 0.99g ASH/100ml BUFFER		
FILTER #	-1	C
	-2	0
	-3	0
CFM-179-2C - 10ml 1C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-3C - 10ml 2C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-4C - 10ml 3C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-5C - 10ml 4C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-179-6C - 10ml 5C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-183 (Run 5)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-24-90/9-21-90

COMMENTS: DILUTION 1A, 1B, AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 65 hrs.
CFM-183-1A - 1.00g ASH/100ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-2A - 10ml 1A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-3A - 10ml 2A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-4A - 10ml 3A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-5A - 10ml 4A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-6A - 10ml 5A/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0

SAMPLE-DIL-QUAN		NO. COLONIES 65 hrs.
CFM-183-1B - 0.96g ASH/100ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-2B - 10ml 1B/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-3B - 10ml 2B/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-4B - 10ml 3B/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-5B - 10ml 4B/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-6B - 10ml 5B/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0

SAMPLE-DIL-QUAN		NO. COLONIES 65 mm
CFM-183-1C - 1.10g ASH/100ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-2C - 10ml 1C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-3C - 10ml 2C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-4C - 10ml 3C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-5C - 10ml 4C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0
CFM-183-6C - 10ml 5C/90ml BUFFER		
FILTER #	-1	0
	-2	0
	-3	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-188 (Run 6)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE RECEIVED/ANALYZED: 8-24-90/9-13-90

COMMENTS: DILUTION 1A. FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 17 hrs.	NO. COLONIES 88 hrs.
CFM-188-1A - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	2	2
	-2	1	1
	-3	0	GROWTH AROUND FILTER
CFM-188-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	1	1
	-2	0	0
	-3	0	0
CFM-188-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	1
CFM-188-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	2
	-2	0	0
	-3	1	2
CFM-188-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	GROWTH AROUND FILTER
	-2	0	1
	-3	1	1

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-188 (Run 6)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-24-90/9-17-90

COMMENTS: DILUTION 1B. AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 45 hrs.
CFM-188-1B - 1.03g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 47 hrs.
CFM-188-1C - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-188-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-189 (Run 6)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-24-90/9-18-90

COMMENTS: DILUTION 1A. 1B. AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 17 hrs.	NO. COLONIES 42 hrs.
CFM-189-1A - 1.03g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 47 hrs.
CFM-189-1B - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 21 hrs.	NO. COLONIES 47 hrs.
CFM-189-1C - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-189-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-236 (Run 7)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-29-90/9-24-90

COMMENTS: DILUTION 1A, 1B, AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-236-1A - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-236-1B - 0.97g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-236-1C - 1.02g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-236-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID: RADIAN INCINERATOR ASH

SAMPLE ID NUMBERS: CFM-287 (Run 9)

SAMPLE DESCRIPT: ASH FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 8-29-90/9-24-90

COMMENTS: DILUTION 1A, 1B, AND 1C FILTERS ALL HAD A LIGHT COAT OF ASH.

RESULTS

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-287-1A - 1.00g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-2A - 10ml 1A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-3A - 10ml 2A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-4A - 10ml 3A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-5A - 10ml 4A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-6A - 10ml 5A/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-287-1B - 1.03g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-2B - 10ml 1B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-3B - 10ml 2B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-4B - 10ml 3B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-5B - 10ml 4B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-6B - 10ml 5B/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE-DIL-QUAN		NO. COLONIES 18 hrs.	NO. COLONIES 42 hrs.
CFM-287-1C - 1.13g ASH/100ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-2C - 10ml 1C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-3C - 10ml 2C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-4C - 10ml 3C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-5C - 10ml 4C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0
CFM-287-6C - 10ml 5C/90ml BUFFER			
FILTER #	-1	0	0
	-2	0	0
	-3	0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN1/CFM-61
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-17-90/9-12-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 41 hrs.
CFM 61-10ml -	1	0	0
	2	0	0
	3	0	0
CFM-61-100ml -	1	0	0
	2	0	0
	3	0	0
CFM-61-1/3 - 218.2a		0	0
CFM-61-2/3 - 223.4a		0	0
CFM-61-3/3 - 222.8a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 2/CFM-77-78
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-20-90/9-12-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 41 hrs.
RUN 2 - 10ml	- 1	0	GROWTH AROUND FILT
	2	0	0
	3	0	0
RUN 2- 100ml	- 1	0	2
	2	0	0
	3	0	0
RUN 2 -1/3 - 223.4a		0	0
RUN 2 -2/3 - 246.5c		0	2
RUN 2 -3/3 - 224.2a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 3/CFM-79-80
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-20-90/9-12-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN REP#	NO. COLONIES 17 hrs.	NO. COLONIES 41 hrs.
RUN 3 - 10ml - 1	0	0
2	0	0
3	0	0
RUN 3- 100ml - 1	0	0
2	0	0
3	0	0
RUN 3 -1/3 - 140.2a	0	0
RUN 3 -2/3 - 132.0a	0	0
RUN 3 -3/3 - 120.6a	0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 4/CFM-164-165
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-24-90/9-17-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 21 hrs.	NO. COLONIES 45 hrs.
RUN 4 - 10ml	- 1	0	0
	2	0	0
	3	0	0
RUN 4- 100ml	- 1	0	0
	2	0	0
	3	0	0
RUN 4 -1/3 - 218.7a		0	0
RUN 4 -2/3 - 244.8a		0	0
RUN 4 -3/3 - 253.8a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 5/CFM-166-167-168
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-24-90/9-18-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 42 hrs.
RUN 5 - 10ml	1	0	0
	2	0	0
	3	0	0
RUN 5- 100ml	1	0	0
	2	0	0
	3	0	0
RUN 5 -1/3 - 219.8a		0	0
RUN 5 -2/3 - 221.5a		0	0
RUN 5 -3/3 - 259.1a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 6/CFM-169-170
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-24-90/9-18-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 42 hrs.
RUN 6 - 10ml	1	0	0
	2	0	0
	3	0	0
RUN 6- 100ml	1	0	0
	2	0	0
	3	0	0
RUN 6 -1/3 - 259.3		0	0
RUN 6 -2/3 - 246.2a		0	1
RUN 6 -3/3 - 261.2a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 7/CFM-278-279
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-29-90/9-18-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 42 hrs.
RUN 7 - 10ml	- 1	0	0
	2	0	0
	3	0	0
RUN 7- 100ml	- 1	0	0
	2	0	0
	3	0	0
RUN 7 -1/3 - 240.3a		0	0
RUN 7 -2/3 - 256.4a		0	0
RUN 7 -3/3 - 304.6a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 8/CFM-280-281
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-29-90/9-18-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 42 hrs.
RUN 8 - 10ml	1	0	0
	2	0	0
	3	0	0
RUN 8- 100ml	1	0	0
	2	0	0
	3	0	0
RUN 8 -1/3 - 289.2a		0	0
RUN 8 -2/3 - 269.4a		0	0
RUN 8 -3/3 - 272.2a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 9/CFM-282-283
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-29-90/9-18-90
COMMENTS:	FLUID WAS VERY BLACK AND OPAQUE. ALL FILTERS HAD DARK DEPOSITS

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 22 hrs.	NO. COLONIES 46 hrs.
RUN 9 - 10ml	1	0	0
	2	0	0
	3	0	0
RUN 9- 100ml	1	0	0
	2	0	0
	3	0	0
RUN 9 -1/3 - 233.0a		0	0
RUN 9 -2/3 - 265.5a		0	0
RUN 9 -3/3 - 229.4a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN FB/CFM-276-277
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	8-29-90/9-20-90
COMMENTS:	FLUID WAS CLEAR. DEPOSITS ON FILTERS GREY.

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 99 hrs.
RUN FB - 10m	1	0	0
	2	0	0
	3	0	0
RUN FB- 100m	1	0	0
	2	0	0
	3	0	TNTC
RUN FB -1/3 - 395.6a		0	0
RUN FB -2/3 - 407.7a		0	0
RUN FB -3/3 - 418.8a		0	0

SAMPLE ID:	RADIAN IMPINGER SAMPLES
SAMPLE ID NUMBERS:	RUN 1/CFM-58 (~~FIELD~~ BLANK)
SAMPLE DESCRIPT:	IMPINGER SAMPLES FROM MEDICAL WASTE INCINERATOR
SAMPLE SITE:	CAPE FEAR MEMORIAL HOSPITAL
DATE RECEIVED/ANALYZED:	9-17-90/9-12-90
COMMENTS:	FLUID WAS CLEAR. DEPOSITS ON FILTERS GREY.

RESULTS

SAMPLE-QUAN	REP#	NO. COLONIES 17 hrs.	NO. COLONIES 41 hrs.
CFM 58-10ml	1	0	0
	2	0	0
	3	0	0
CFM-58-100ml	1	0	0
	2	0	0
	3	0	0
CFM-58-1/3 - 250.0c		0	0
CFM-58-2/3 - 232.5a		0	0
CFM-58-3/3 - 229.4a		0	0

Pipes

SAMPLE ID: RADIAN SPORE PIPES

SAMPLE ID NUMBERS: SEE BELOW

SAMPLE DESCRIPT: INDICATOR SPORE PIPES FROM MEDICAL WASTE INCINERATOR

SAMPLE SITE: CAPE FEAR MEMORIAL HOSPITAL

DATE ANALYZED: 9-13-90

COMMENTS: SOME PIPES CONTAINED CLUMPS OF CHARRED MATTER AND OTHERS CONTAINED CLUMPS AND METALLIC FLAKES (HEREAFTER REFERRED TO AS CLUMPS OR FLAKES).

RESULTS

PIPE SAMPLE #	FILTER CONTENTS	NO. COLONIES 17 hrs.	NO. COLONIES 88 hrs.
CFM 63 1A	DARK ASH COAT	0	0
CFM 64 1B	METALLIC FLAKES	0	0
CFM 69(AMBIENT)	WHITE POWDER	35	37
CFM 70 2A	LITE ASH COAT	48	53
CFM 71 2B	LITE ASH/FLAKES	1	1
CFM 72 2C	DARK ASH COAT	LARGE PATCHES OF GROWTH ON FILTER (TNTC)	
CFM 192 5A	LITE ASH/CLUMPS	1	1
CFM 193 6A	HEAVY ASH COAT	0	0
CFM 194 6C	ORANGISH ASH COAT	2	2
CFM 112 3A	ASH/CLUMPS	0	GROWTH AROUND CLUMPS ON AGAR
CFM 113 3B	ASH/CLUMPS/FLAKES	0	0
CFM 114 3C	HEAVY ASH COAT	0	0
CFM 171 4A	LITE ASH/FLAKES	0	0
CFM 172 4C	LITE ASH/CLUMPS	2	3

PIPE SAMPLE #	FILTER CONTENTS	NO. COLONIES 17 hrs.	NO. COLONIES 88 hrs.
CFM 173	FLAKES/CLUMPS	0	0
CFM 174	DUSTY ASH COAT	0	0
CFM 175	FLAKES	0	0
CFM 176	LITE ASH/FLAKES	0	0
CFM 177	LITE ASH COAT	0	0
CFM 255	ASH/CLUMPS	12	20
CFM 256	ASH/CLUMPS	0	3
CFM 257(AMBIENT)	WHITE POWDER	14	35
CFM 232	ASH/CLUMPS	10	20
CFM 233	ASH/CLUMPS	3	5
CFM 234	ASH/CLUMPS	1	2
CFM 291	ASH/CLUMPS	3	TNTC
CFM 292	ASH/CLUMPS	0	3
CFM 293	ASH/CLUMPS	0	1



RADIAN CORPORATION

Radian Work Order PO-09-056

Analytical Report
10/01/90

EPA EMB

EPA EMB
Radian Corporation
3200 E. Chapel Hill Road
RTP, NC 27709
Winton Kelly

Customer Work Identification Cape Fear - Wilmington
Purchase Order Number 275-026-11-25 LABOR

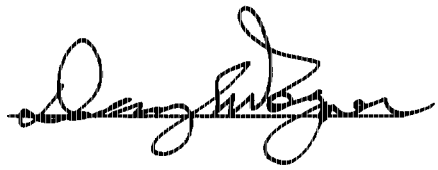
Contents:

1 Analytical Data Summary
2 Sample History
3 Comments Summary
4 Notes and Definitions

Radian Analytical Services
900 Perimeter Park
Morrisville, NC 27560

919-481-0212

Client Services Coordinator: JDLOPEZ

Certified by: 

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications		
	01A CFM-51	02D CFM-53	03B CFM-52
Matrix	01 HCltrain	02 HCltrain	03 HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	0.935	total mg 0.013	ND	total mg 0.013	0.592	total mg 0.013
Chloride, by IC - Trains						
Chloride	139	total mg 0.011	33.8	total mg 0.011	195	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	0.795	total mg 0.040	ND	total mg 0.040	0.477	total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications		
	L PB-1 CFM-13	RB-NaOH CFM-28	RB H2SO4 CFM-27
Matrix	04 HCltrain	05 HCltrain	06 HCltrain
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Bromide, IC - Trains			
Bromide	ND total mg 0.013	ND total mg 0.013	ND total mg 0.013
Chloride, by IC - Trains			
Chloride	ND total mg 0.011	0.154 total mg 0.011	10.8 total mg 0.011
Fluoride, by IC - Trains			
Fluoride	ND total mg 0.040	ND total mg 0.040	ND total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-056

Method/Analyte	Sample Identifications		
	07C	08B - NaOH	09A
	CFM-253	CFM-254	CFM-212
	07	08	09
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	ND	total mg 0.013	ND	total mg 0.013	ND	total mg 0.013
Chloride, by IC - Trains						
Chloride	285	total mg 0.011	9.64	total mg 0.011	253	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	3.13	total mg 0.040	ND	total mg 0.040	0.322	total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications 07B CFM-213	07C CFM-214	07B-M.CH CFM-215
	10	11	12
Matrix	HCltrain	HCltrain	HCltrain
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Bromide, IC - Trains			
Bromide	ND total mg 0.013	ND total mg 0.013	ND total mg 0.013
Chloride, by IC - Trains			
Chloride	269 total mg 0.011	133 total mg 0.011	16.2 total mg 0.011
Fluoride, by IC - Trains			
Fluoride	0.486 total mg 0.040	0.932 total mg 0.040	ND total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications		
	08A	08B	08B - Matt
	CFM-227	CFM-228	CFM-230
	13	14	15
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	ND	total mg 0.013	ND	total mg 0.013	ND	total mg 0.013
Chloride, by IC - Trains						
Chloride	168	total mg 0.011	303	total mg 0.011	15.6	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	0.897	total mg 0.040	0.0637 @	total mg 0.040	ND	total mg 0.040

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-056

Method/Analyte	Sample Identifications		
	01A	01B	02A
	CFM-251	CFM-252	CFM-93
	16	17	18
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	0.142	total mg 0.013	0.180	total mg 0.013	0.167	total mg 0.013
Chloride, by IC - Trains						
Chloride	230	total mg 0.011	232	total mg 0.011	242	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	0.558	total mg 0.040	0.343	total mg 0.040	0.990	total mg 0.040

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

RADIAN CORPORATION

Analytical Data Summary

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications 02B CFM-94	02C CFM-95	02B-Rinse CFM-96
Matrix	19 HCltrain	20 HCltrain	21 HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	0.0382 @	total mg 0.013	ND	total mg 0.013	0.0270 @	total mg 0.013
Chloride, by IC - Trains						
Chloride	139	total mg 0.011	114	total mg 0.011	21.2	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	0.900	total mg 0.040	0.696	total mg 0.040	0.0570 @	total mg 0.040

@ Est. result less than 5 times detection limit

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications 03A-1	03A-2	03B
	CFM-107B	CFM-108	CFM-109
	22	23	24
Matrix	HCltrain	HCltrain	HCltrain
	Result Det. Limit	Result Det. Limit	Result Det. Limit
Bromide, IC - Trains			
Bromide	0.550 total mg 0.013	ND total mg 0.013	0.414 total mg 0.013
Chloride, by IC - Trains			
Chloride	213 total mg 0.011	9.46 total mg 0.011	197 total mg 0.011
Fluoride, by IC - Trains			
Fluoride	0.596 total mg 0.040	0.0465 @ total mg 0.040	0.658 total mg 0.040

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications		
	05C	03B-NaOH	04A
	CFM-110	CFM-111	CFM-130
	25	26	27
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	1.18 total mg	0.013	ND total mg	0.013	ND total mg	0.013
Chloride, by IC - Trains						
Chloride	162 total mg	0.011	8.06 total mg	0.011	197 total mg	0.011
Fluoride, by IC - Trains						
Fluoride	0.645 total mg	0.040	0.0429 @ total mg	0.040	0.545 total mg	0.040

ND Not detected at specified detection limit

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-056

Method/Analyte	Sample Identifications		
	04B CFM-131	04B-Nov94 CFM-132	05A CFM-145
	28	29	30
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	1.20	total mg 0.013	0.164	total mg 0.013	ND	total mg 0.013
Chloride, by IC - Trains						
Chloride	304	total mg 0.011	70.0	total mg 0.011	72.0	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	4.46	total mg 0.040	0.336	total mg 0.040	0.421	total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

RADIAN CORPORATION

Analytical Data Summary

EPA EMB
Radian Work Order: P0-09-056

Method/Analyte	Sample Identifications		
	05B CFM-146	05C CFM-147	05B-NaOH CFM-148
	31	32	33
Matrix	HCl train	HCl train	HCl train

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	ND	total mg 0.013	ND	total mg 0.013	ND	total mg 0.013
Chloride, by IC - Trains						
Chloride	208	total mg 0.011	173	total mg 0.011	11.1	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	0.510	total mg 0.040	2.20	total mg 0.040	ND	total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications 06A CFM-160	06B CFM-161	06C CFM-162
	34	35	36
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	ND	total mg 0.013	ND	total mg 0.013	ND	total mg 0.013
Chloride, by IC - Trains						
Chloride	104	total mg 0.011	176	total mg 0.011	197	total mg 0.011
Fluoride, by IC - Trains						
Fluoride	0.279	total mg 0.040	0.418	total mg 0.040	0.344	total mg 0.040

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: PO-09-056

Method/Analyte	Sample Identifications		
	060-MW04		
	CFM-163	MATRIX SPIKE	MATRIX SPIKE DUP
	37	38	39
Matrix	HCltrain	HCltrain	HCltrain

	Result	Det. Limit	Result	Det. Limit	Result	Det. Limit
Bromide, IC - Trains						
Bromide	0.0491 @ total mg	0.013	115 % rec		116 % rec	
Chloride, by IC - Trains						
Chloride	23.2 total mg	0.011	102 % rec		101 % rec	
Fluoride, by IC - Trains						
Fluoride	0.0865 @ total mg	0.040	87.5 % rec		85.6 % rec	

@ Est. result less than 5 times detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

EPA EMB
Radian Work Order: P0-09-056

Method/Analyte	Sample Identifications				
	METHOD BLANK 1		METHOD BLANK 2		
	40		41		
Matrix	HCltrain		HCltrain		
	Result	Det. Limit	Result	Det. Limit	
Bromide, IC - Trains					
Bromide	ND	total mg 0.013	ND	total mg 0.013	
Chloride, by IC - Trains					
Chloride	ND	total mg 0.011	ND	total mg 0.011	
Fluoride, by IC - Trains					
Fluoride	ND	total mg 0.040	ND	total mg 0.040	

ND Not detected at specified detection limit

(1) For a detailed description of flags and technical terms in this report refer to the glossary.

Q ALL METHODS EXCEPT CLP
The results which are less than five times the method specified detection limit.
EXPLANATION
Uncertainty of the analysis will increase as the method detection limit is approached. These results should be considered approximate.

ND ALL METHODS EXCEPT CLP
This flag is used to denote analytes which are not detected at or above the specified detection limit.
EXPLANATION
The value to the right of the < symbol is the method specified detection limit for the analyte.



m Page No.

DMB ELD Lo.	RADIAN SAMPLE CODE	SAMPLING TIME/ DATE	SAMPLE VOL	SAMPLE WT	STORAGE OF SAMPLE DISTRIBUTION	COMMENTS
n-1	CFM-806 - Hg - Audit	8/6/90		N/A	Radian RTP	received from M. Riley
n-2	CFM - P06 - HCl - Audit	P/6/90		N/A	Radian RTP	08/09/90. Special instructions
n-3	CFM-0810-M23-LPB-FR-AM-1	8/10/90		814.4	Radian RTP	Lab Proof Blank, Set 1, M23
n-4	CFM-0810-M23-LPB-PR-T-1	8/10/90	233.0	243.1	Radian RTP	
n-5	CFM-0810-M23-LPB-F-1	8/10/90		620.2	Triangle Labs	
n-6	CFM-0810-M23-LPB-IR-H2O-1	↓		194.3	↓	
n-7	CFM-0810-M23-LPB-IR-AM-1			433.2		
n-8	CFM-0810-M23-LPB-PR-AM-2	8/10/90		670.4	Triangle Labs	LAB PROOF BLANK-Set 2, M23
n-9	CFM-0810-M23-LPB-PR-T-2	↓		243.1	↓	↓
n-10	CFM-0810-M23-LPB-F-2					
n-11	CFM-0810-M23-LPB-IR-H2O-2			257.8		
n-12	CFM-0810-M23-LPB-IR-AM-2			595.3		
n-13	CFM 0810 HCL-LPB-1	8/10/90	H_2SO_4 frac.		Radian RTP	LAB Proof BLANK-Set 1, HCL
n-14	CFM-0810-HCL-LPB-2-A	8/10/90	H_2SO_4 frac.		RADIAN RTP	LAB PROOF BLANK-Set 2, HCL(1
m-15	CFM-0810-HCL-LPB-2-B	8/10/90	NaOH frac.		Radian RTP	LAB Proof Blank-Set 2 HCL (N
m-16	CFM-0810-MET-LPB-PR-1	8/9/90		102.4	Radian RTP	LAB PROOF BLANK-Set 1 - Metals
m-17	CFM-0810-MET-LPB-APR-1	8/9/90		283.2	↓	↓
m-18	CFM-0810-MET-LPB-F-1	↓	# MP-77			
m-19	CFM-0810-MET-LPB-IR-HNO3-1			538.3		
m-20	CFM-0810-MET-LPB-IR-AM-1	↓		371.5		
m-21	CFM-0813-M23-RB-MeCl2	8/13/90	Lot# AX564	625.2	Triangle Labs	Reagent Blank, M23
22	CFM-0813-M23-RB-Acc	↓	AK71	376.5	↓	↓
23	CFM-0813-M23-RB-H2O		6225	483.6		
24	CFM-0813-M23-RB-T	↓	BA5623	414.0		
25	CFM-0813-MET-RB-Acc	8/13/90	Lot# AX171	387.7	Radian RTP	Reagent Blank, Metals (.
n-26	CFM-0813-MET-RB-HNO3		Batch 1	446.9	↓	↓
n-27	CFM-0813-HCL-RB-H2SO4	8/13/90	Batch 1		Radian RTP	Reagent Blank, HCl (.1N)
n-28	CFM-0813-HCL-RB-NaOH		Batch 1		↓	(.1N)
n-29	CFM-0809-MET-LPB-AR-2	8/9/90		128.3	Radian RTP	LAB PROOF BLANK, SET 2
n-30	CFM-0809-MET-LPB-APR-2	↓		193.5	↓	↓
n-31	CFM-0809-MET-LPB-F-2	# MP-76	# MP-76			
n-32	CFM-0809-MET-LPB-HNO3-2			234.8		
n-33	CFM-0809-MET-LPB-AM-2	↓		118	↓	↓
n-34	CFM-0814-ASH-A	8/14/90	more or 393.0 g	331.8g	Archive PPK	Keep Refrigerated
n-35	CFM-0814-ASH-B	8/14/90	more or 393.39	371.2g	RTI/SpecCut	" " To Page No.

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CFM-36	CFM-0814-ASH-C	8/14/90	Tare wt 393.79	372.6g	PPK	Carbon/Lo
CFM-37	CFM-0814-ASH-D	8/14/90	Tare wt 392.9g	421.4g	Triangle Labs	Dioxins
CFM-38	CFM-0815-ASH-A1	8/15/90	Tare wt 392.4g	161.0g	Archive, PPK	Keep Ref
CFM-39	CFM-0815-ASH-A2	8/15/90	Tare wt 393.76	168.9g	Archive, PPK	Keep Ref
CFM-40	CFM-0815-MET-STK-PR-01	8/15/90		386.5	PPK	Metals, Run
CFM-41	CFM-0815-MET-STK-ACR-01			313.0		
CFM-42	CFM-0815-MET-STK-F-01		# MP71			
CFM-43	CFM-0815-MET-STK-MN-01			834.5		
CFM-44	CFM-0815-MET-STK-KM-01			371.9		
CFM-45	CFM-0815-M23-STK-PR-KM-01	8/15		963.0	Triangle	CDD/CDF
CFM-46	CFM-0815-M23-STK-PR-KM-01			280.8		
CFM-47	CFM-0815-M23-STK-F-01					
CFM-48	CFM-0815-M23-STK-SM-01					
CFM-49	CFM-0815-M23-STK-LR-H2O-01			~~280.8~~ 880.2		
CFM-50	CFM-0815-M23-STK-MC-ACM-01			280.8		
CFM-51	CFM-0815-HCL-STK-01-A	8/15/90		100 ml	Radian PPK	HCl Run 1-A
CFM 52	CFM-0815-HCL-STK-01-B			100 ml		Run 1-B
CFM 53	CFM-0815-HCL-STK-01-D					Run 1-B
CFM 54	CFM-0816-MET-FB-ABS-01	8/16		951.1	Radian	Reagent Blank
CFM 55	CFM-0815-MET-RB-KM-01	8/15		545.1	Radian	
CFM 56	CFM-0814-MET-RB-HCl-01	8/14		86.8	Radian	
CFM 57	CFM-0815-MET-RB-F-01	8/15	# MP74		Radian	
CFM 58	CFM-0810-SPORE-LPB1	8/10/90		—	RTI	LAB PROOF
CFM 59	CFM-0810-SPORE-LPB2	8/10/90		—	RTI	LAB Proof
CFM-60	CFM-0810-SPORE-LPB3	8/10/90		—	RTI	LAB Proof B
CFM-61	CFM-0815-SPO-01A	8/15/90		—	RTI	SPORE Run -
CFM-62	CFM-0815-SPO-01B	8/15/90		—	RTI	SPORE Run -
CFM-63	CFM-0816-P.P-01A	8/16/90			RTI	Pipe Run
CFM-64	CFM-0816-P.P-01B	8/16/90			RTI	Pipe Run
CFM-65	CFM-0816-ASH-A	8/16/90	Tare wt 393.5	269.9g	PPK, Archive	Keep Ref
CFM-66	CFM-0816-ASH-B	8/16/90	Tare wt 392.8	291.89g	RTI	Spore Count, Keep Re
CFM-67	CFM-0816-ASH-C	8/16/90	Tare wt 394.63	[illegible]g	PPK	579.3 total Carbon / LC
CFM-68	CFM-0816-ASH-D	8/16/90	Tare wt 398.5	261.8	Triangle Labs	Dioxins
CFM-69	CFM-0819-PIP-AMBIENT	8/19/90				
CFM-70	CFM-0819-PIP-A	8/19/90				

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71	CFM-0819-PIP-B	8/19/90					CFM-71
72	CFM-0819-PIP-C	8/19/90					72
73	CFM-0819-ASH-A	8/19/90	Tare wt 392.9	Total wt 712.5			73
74	CFM-0819-ASH-B	8/19/90	Tare wt 393.4	Total wt 736.9			74
75	CFM-0819-ASH-C	8/19/90	Tare wt 392.2	Total wt ~~666.4~~	601.6		75
76	CFM-0819-ASH-D	8/19/90	Tare wt 342.8	Total wt 688.3			76
77	CFM-081890-SPD-02B						77
78	CFM-081890-SPD-02A						78
79	CFM-081990-SPD-03A						79
80	CFM-081990-SPD-03B						80
81	CFM-0818-M23-STK-PR-AM-02	8/18/90	715.7	TRIANGLE	CDD/CDF 02		81
82	CFM-0818-M23-STK-PR-T-02		194.6				CFM-82
83	CFM-0818-M23-STK-F-02						83
84	CFM-0818-M23-STK-SM-02						84
85	CFM-0818-M23-STK-IR-H2O-02		575.0				85
86	CFM-0818-M23-STK-IR-AM-02		473.1				86
87	CFM-0818-MET-STK-PR-02	8/18/90	2469	Radian PPK	METALS-02		
88	CFM-0818-MET-STK-APR-02		270.7				CFM-88
89	CFM-0818-MET-STK-F-02		~~MMP-70~~				89
90	CFM-0818-MET-STK-HN-02		967.4				90
91	CFM-0818-MET-STK-KM-02		302.6				91
92	CFM-0818-HCL-STK-02-A	8/18/90	$U_{3\sigma}$=100	Radian PPK	HCL-02		92
93	CFM-0818-HCL-STK-02-B						CFM-93
94	CFM-0818-HCL-STK-02-C						94
95	CFM-0818-NaOH-STK-02-B		$N_{6\sigma}$=30		NaOH Check		95
96	CFM-0819-M23-STK-AM-03	8/19/90	796.6	Triangle	CDD/CDF-03		96
97	CFM-0819-M23-STK-PR-T-03		309.9				CFM-97
98	CFM-0819-M23-STK-F-03						98
99	CFM-0819-M23-STK-SM-03						99
100	CFM-0819-M23-STK-IR-H2O-03		578.2				100
101	CFM-0819-M23-STK-IR-AM-03		404.0				101
102	CFM-0819-MET-STK-PR-03	8/19/90	1993296600	Radian PPK	METALS-03		102
103	CFM-0819-MET-STK-APR-03		2363				CFM-103
104	CFM-0819-MET-STK-F-03		~~MMP75~~				104
105	CFM-0819-MET-STK-HN-03		857.7				105
106	CFM-0819-MET-STK-KM-03		354.0				106

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CFM-107B	CFM-0819-HCL-STK-03-A-1	8/19/90	Nmax=100	Radian PPK	HCL-0
CFM-108	CFM-0819-HCL-STK-03-A-2				
CFM-109	CFM-0819-HCL-STK-03-B				
CFM-110	CFM-0819-HCL-STK-03-C				
CFM-111	CFM-0819-NaOH-STK-03-B		Usln=30		
CFM-112	CFM-0820-PIP-A	8/20/90	~~Tare=341.9 Final=917.0 LR~~		
CFM-113	CFM-0820-PIP-B	8/20/90			
CFM-114	CFM-0820-PIP-C	8/20/90			
CFM-115	CFM-0820-ASH-A		Tare 391.9	Final 917.0	
CFM-116	CFM-0820-ASH-B		Tare 341.4	Final 858.1	
CFM-117	CFM-0820-ASH-C		Tare 392.0	Final 858.2	769.9
CFM-118	CFM-0820-ASH-D		Tare 341.7	Final	
CFM-119	CFM-0820-M23-STK-PR-AM-04-A	8/20/90	805.)	TRIANGLE Radian PPK	M23-
CFM-120	CFM-0820-M23-STK-PR-AM-04		272.0		
CFM-121	CFM-0820-M23-STK-F-04				
CFM-122	CFM-0820-M23-STK-SM-04				
CFM-123	CFM-0820-M23-STK-IR-AM-04		629.8		
CFM-124	CFM-0820-M23-STK-IR-AM-04		400.8		
CFM-125	CFM-0820-MET-STK-PR-04	8/20/90	391.3	RADIAN PPK	METALS-
CFM-126	CFM-0820-MET-STK-APR-04		275.3		
CFM-127	CFM-0820-MET-STK-F-04		Emp 72		
CFM-128	CFM-0820-MET-STK-HN-04		801.7		
CFM-129	CFM-0820-MET-STK-KM-04		368.6		
CFM-130	CFM-0820-HCL-STK-04-A	8/20/90	Nmax=100	Radian PPK	HCL-04
CFM-131	CFM-0820-HCL-STK-04-B		Nmax=100		
CFM-132	CFM-0820-NaOH-STK-04-B		Usln=30		
CFM-133	CFM-0820-M23-STK-PR-AM-04-B	8/20/90	277.9	TRIANGLE	M23-
CFM-133A	CFM-0820-M23-AUD-4040	8/20/90		Triangle	Audit Sam
CFM-134	CFM-0821-M23-STK-PR-AM-05	8/21/90	809.5	Triangle	M23-05
CFM-135	CFM-0821-M23-STK-PR-T-05		281.7		
CFM-136	CFM-0821-M23-STK-F-05				
CFM-137	CFM-0821-M23-STK-SM-05				
CFM-138	CFM-0821-M23-STK-IR-AM-05		637.1		
CFM-139	CFM-0821-M23-STK-IR-AM-05		408.1		
CFM-140	CFM-0821-MET-STK-PR-05		276.3	Radian PPK	M2?-05
CFM-141	CFM-0821-MET-STK-APR-05		173.6		
CFM-142	CFM-0821-MET-STK-F-05		Emp 69		To Page

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FM-143	CFM-0821-MET-STK-HN-05	8/21/90	801.1	Radian TPK	met-05
FM-144	CFM-0821-MET-STK-SM-05	↓	412.2	↓	↓
FM-145	CFM-0821-HCl-STK-05-A	8/21/90		Radian	HCl-05
FM-146	CFM-0821-HCl-STK-05-B	↓		↓	↓
FM-147	CFM-0821-HCl-STK-05-C				
FM-148	CFM-0821-NaOH-STK-05-B				NaOH fraction
FM-149	CFM-0822-M23-STK-PR-AM-06	8/22/90	807.4	Triangle	M23-06
FM-150	CFM-0822-M23-STK-PR-T-06		279.2		
FM-151	CFM-0822-M23-STK-F-06				
FM-152	CFM-0822-M23-STK-SM-06				
FM-163	CFM-0824-M23-STK-IR-H2O-06		630.9		
FM-164	CFM-0824-M23-STK-IR-AM-06		447.4		
FM-165	CFM-0822-MET-STK-PR-06	8/22/90	283.1	Radian	Metals-06
FM-166	CFM-0822-MET-STK-AM-06		149.6		
FM-167	CFM-0822-MET-STK-F-06	↓	↓	↓	↓
FM-168	CFM-0822-MET-STK-HN-06		796.2		
FM-169	CFM-0822-MET-STK-SM-06		412.3		
FM-160	CFM-0822-HCl-STK-06A	8/22/90		Radian	HCl-06
FM-161	CFM-0822-HCl-STK-06B				
FM-162	CFM-0822-HCl-STK-06C				
FM-163	CFM-0822-NaOH-STK-06B				NaOH fraction
FM-164	CFH 0820-SPO-04A	08-22-90		RTI	SPORE RUN 04A
FM-165	CFH 0820-SPO-04B				SPORE RUN 04B
FM-166	CFH 0821-SPO-05A				SPORE RUN 05A
FM-167	CFH 0821-SPO-05B				SPORE RUN 05B
FM-168	CFH 0821-SPO-05C				SPORE RUN 05C
FM-169	CFH 0821-SPO-06A				SPORE RUN 06A
FM-170	CFH 0822-SPO-06B				SPORE RUN 06B
FM-171	CFM-0821-PIP-A				RTI
FM-172	CFM-0821-PIP-B				RTI
FM-173	CFM-0821-PIP-C				RTI
FM-174	CFM-0821-PIP-BLANK				RTI
FM-175	CFM-0822-PIP-A				RTI
FM-176	CFM-0822-PIP-B				RTI
FM-177	CFM-0822-PIP-C				RTI
FM-178	CFM-0821-ASH-A	8/21/90	392.0	802.3	PPE Archive
FM-179	CFM-0821-ASH-B	8/21/90	390.0 342.0	732.4 802.3	PPE

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CFM-180	CFM-0821-ASH-C	8/21/90	391.5	769.4 (704.2)	PPK
CFM-181	CFM-0821-ASH-D	8/21/90	391.4	746.0	Triangle L
CFM-182	CFM-0822-ASH-A	8/22/90	391.8	946.8	PPK Arch
CFM-183	CFM-0822-ASH-B	8/22/90	391.9	969.6	RTI
CFM-184	CFM-0822-ASH-C	8/22/90	392.5	908.6 836.5	PPK
CFM-185	CFM-0822-ASH-D	8/22/90	392.2	921.1	Triangl
CFM-186	CFM-0821-H2O	8/21/90	396.8	1200 g	Quend
CFM-188	CFM-0823-ASH-A	8/23/90	392.7	723.0 g	Archive
CFM-189	CFM-0823-ASH-B	8/23/90	392.8	670.6	RTI
CFM-190	CFM-0823-ASH-C	8/23/90	392.7	609.1	PPK
CFM-191	CFM-0823-ASH-D	8/23/90	391.6	668.0	Triangle
CFM-192	CFM-0823-PIP-A	8/23/90			
CFM-193	CFM-0823-PIP-B	8/23/90			
CFM-194	CFM-0823-PIP-C	8/23/90			
CFM-195	CFM-0826-M23-STK-PA-AM-07	8/26/90	803.2	Triangle Labs	mms-
CFM-196	CFM-0826-M23-STK-PR-T-07		216.4		
CFM-197	CFM-0826-M23-STK-F-07				
CFM-198	CFM-0826-M23-STK-SM-07				
CFM-199	CFM-0826-M23-STK-IR-H2O-07		580.7		
CFM-200	CFM-0826-M23-STK-IR-AM-07		457.5		
CFM-201	CFM-0826-MET-STK-PR-07	8/26/90	217.9	Radian PPK	Metals-0
CFM-202	CFM-0826-MET-STK-AR-07		219.4		
CFM-203	CFM-0826-MET-STK-IR-07	emptied	emptied		
CFM-204	CFM-0826-MET-STK-HN-07		806.3		
CFM-205	CFM-0826-MET-STK-KM-07		397.8		
CFM-206	CFM-0826-MET-RB-ABS-02	8/26/90	742.7	Radian PPK	Absorb. Std. 6
CFM-207	CFM-0826-MET-RB-HN-02		758.9	Radian PPK	.1N HNO3 ba
CFM-208	CFM-0826-MET-RB-KM-02		739.3	Radian PPK	1%KMnO4 bacte
CFM-209	CFM-0826-M23-RB-H2O-02	8/26/90	511.1	Triangle	Lot #HV53 KC
CFM-210	CFM-0826-M23-RB-T-02		375.1		Lot AY601
CFM-211	CFM-0826-M23-RB-MeCl2-02		591.4		Lot 89625
CFM-212	CFM-0826-HCl-STK-07-A	Vacuum 100	8/26/90	Radian PPK	HCl-07
CFM-213	CFM-0826-HCl-STK-07-B				
CFM-214	CFM-0826-HCl-STK-07-C				
CFM-215	CFM-0826-NaOH-STK-07-B				NaOH 8½-

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1-216	CFM-0827-M23-STK-PR-Am-08	8/27/90	802.1	TRIANGLE	M23-08	
1-217	-PR-T-08		277.5			
1-218	-F-08					
1-219	-Sm-08A		one & two			
1-220	-IR-H2O-08		480.3			
1-221	-IR-Am-08		416.2			
1-222	CFM-0827-MET-STK-PR-APR-08	8/27/90	207.2	Radian PPK	METALS-08	
1-223	-APR-08		271.7			
1-224	-F-08		#MP83			
1-225	-HN-08		806.3			
1-226	-KM-08		426.2			
1-227	CFM-0827-HCL-STK-08A	8/27/90	Val=100	Radian PPK	HCL-08	
1-228	-08B		VOIDED RUN			
1-229	VOIDED RUN -08C					
1-230	CFM-0827-NaOH-STK-08B				NaOH Back ½	
1-231	CFM-0827-M23-STK-Sm-08-D		two & two			
M-232	CFM-0827-PIP-A	8/27/90				RTI
M-233	CFM-0827-PIP-B	8/27/90				RTI
M-234	CFM-0827-PIP-C	8/27/90				RTI
M-235	CFM-0827-ASH-A	"	392.1 645.6			Archive, (PPK)
M-236	CFM-0827-ASH-B	"	642.1 393.1			Spare Count (RTI)
M-237	CFM-0827-ASH-C	"	392.4 685.5	(PPK)		Carbon/LOI/Metals
M-238	CFM-0827-ASH-D	"	392.2 679.5			Dioxins (Tr. Labs)
1-239	CFM-0827-ASH-M	"	261.8 395.6			McCoy & McCoy
1-240	CFM-0828-M23-STK-PR-Am-09	8/28/90	807.6	Triangle	M23-09	
1-241	-PR-T-09		335.1			
1-242	-F-09					
M-243	-Sm-09					
M-244	-IR-H2O-09		561.6			
M-245	-IR-Am-09		303.6			
M-246	CFM-0828-MET-STK-PR-09	8/28/90	291.7	Radian PPK	METALS-09	
M-247	-APR-09		220.1			
M-248	-F-09		#MP85			
M-249	-HN-09		805.7			
M-250	-KM-09		390.9			
M-251	CFM-0828-HCL-STK-09A	8/28/90	Val=100	Radian PPK	HCL-09	
M-252	CFM-0828-HCL-STK-09B					To Page No.

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CFM-253	CFM-0828-HCL-STK-ORC	8/28/90	Vac=100	Radian	HCL-09
CFM-254	CFM-0828-NaOH-STK-09B	↓	↓	↓	↓
CFM-255	CFM-0828-PLP-A	8/28/90			RTI
CFM-256	CFM-0828-PLP-B	"			RTI
CFM-257	CFM-0828-PLP-NC	"			RTI
CFM-258	CFM-0828-STOCK-LIQ	"	LIQUID SPORE STOCK		RTI
CFM-259	CFM-0828-STOCK-DRY	"	DRY SPORE STOCK		RTI
CFM-260	CFM-0828-ASH-A	399.6 841.5			
CFM-261	CFM-0828-ASH-B	392.5 793.6			
CFM-262	CFM-0828-ASH-C	398.9 846.7			
CFM-263	CFM-0828-ASH-D	391.4 843.5			
CFM-264	CFM-0828-ASH-M	262.1 418.3			McCoy
CFM-265	CFM-0829-M23-STK-PR-AM-FB	8/29/90	781.4	Triangle	M23-Field
CFM-266/266	-PR-T-FB		149.8		
CFM-267/267	-F-FB				
CFM-268/268	-SM-FB				
CFM-269/269	-IR-H_2O-FB		235.4		
CFM-270	-IR-AM-FB		485.3		
CFM-271	CFM-0829-MET-STK-PR-FB	8-29-90	236.8	Radian	Metals Field
CFM-272	-APR-FB		212.0		
CFM-273	-F-FB		ampul		
CFM-274	-KN-FB		551.7		
CFM-275	-KM-FB		316.7		
CFM-276	CFM-0828-SPO-FB-B	08/28/90	RTI	Spore	Field Blank
~~CFM-277~~	~~CFM-0827-SPO-09B~~	~~08/27/90~~		~~Spore~~	~~Run 9B~~
~~CFM-278~~					
CFM-277	CFM-0828-SPO-FB-A	08/28/90		Spore	Field Blank
CFM-278	CFM-0826-SPO-7A	08/26/90		Spore	Run 7A
CFM-279	CFM-0826-SPO-7B	08/26/90		Spore	Run 7B
CFM-280	CFM-0827-SPO-09B	08/27/90		Spore	Run 9B
CFM-281	CFM-0827-SPO-09A	08/27/90		"	" 9A
CFM-282	CFM-0828-SPO-09A	08/28/90		"	" 9A
CFM-283	CFM-0828-SPO-09B	"		"	" 9B
CFM-284	CFM-0827-SPO-LPB5	08/27/90		Lab Proof Blank	
CFM-285	CFM-0822-SPO-LPB-Rabe4	08/27/90		Archive LPB	
CFM-286	CFM-0829-ASH-A	392.4 716.7			
CFM-287	CFM-0829-ASH-B	404.7 669.8			

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=M-288	CFM-0829-ASH-C	392.3	690.1
=M-289	CFM-0829-ASH-D	391.6	701.1
FM-290	CFM-0829-ASH-M	392.2	644.5
M-291	CFM-0829-BIP-A		
=M-292	CFM-0829-PIP-B		
=M-293	CFM-0829-PIP-C		
=M-294	CFM-0816-ASH-M	262.8	302.8
=M-295	CFM-0819-ASH-M	263.0	317.9
FM-296	CFM-0826-ASH-M	261.7	352.8
CM-297	CFM-0821-ASH-M	260.4	315.2
=M-298	CFM-0822-ASH-M	263.3	325.3
=M-299	CFM-~~0822~~ 0823-ASH-M	259.7	314.3
M-300	CFM-0829-M23-STK-SM-TB	1259/90	Trip Blank

Triangle

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		Recorded by	



MICROBIAL SURVIVABILITY CALCULATIONS
Cape Fear Memorial Hospital

Flue Gas Microbial Survivability

1. Impinger Samples

$$\text{No. of Spores in Sample} = \frac{\text{Weight (g) of Impinger Solution}}{\text{Specific Gravity (g/ml)}} \times \frac{\text{No. of Spores Detected}*}{\text{mls of Aliquot}**}$$

Run Number	
1	$\frac{2549.3}{1.155} \times \frac{<0.5}{100} = <11$
2	$\frac{5518.7}{1.155} \times \frac{2}{157} = 61$
3	$\frac{5680.1}{1.155} \times \frac{<0.5}{100} = <24$
4	$\frac{5434.1}{1.155} \times \frac{1}{100} = 47$

Run Number	
5	$\frac{5969.6}{1.155} \times \frac{<0.5}{100} = <26$
6	$\frac{4678.9}{1.155} \times \frac{1}{213} = 19$
7	$\frac{4489.6}{1.155} \times \frac{<0.5}{100} = <19$
8	$\frac{5597.7}{1.155} \times \frac{<0.5}{100} = <24$
9	$\frac{5142.3}{1.155} \times \frac{<0.5}{100} = <22$

*Detection limits were estimated to be (<1 spore/aliquot filtration) ÷ 2
**For Runs 1 through 8, this was the average of the third set of aliquots (110 to 130 grams/1.155).

2. Concentration in Flue Gas

$$\text{Concentration in Flue Gas} = \frac{\text{No. of Spores in Sample}}{\text{Gas Sample Volume}}$$

Run Number	
1	$\frac{<11}{2.411 \text{ dscm}} = <5 \text{ spores/dscm}$
2	$\frac{61}{2.106 \text{ dscm}} = 29 \text{ spores/dscm}$
3	$\frac{<24}{2.350 \text{ dscm}} = <10 \text{ spores/dscm}$
4	$\frac{47}{2.611 \text{ dscm}} = 18 \text{ spores/dscm}$
5	$\frac{26}{3.362 \text{ dscm}} = <7 \text{ spores/dscm}$
6	$\frac{19}{2.895 \text{ dscm}} = 7 \text{ spores/dscm}$

Run Number	
7	$\frac{<19}{2.243 \text{ dscm}} = <8 \text{ spores/dscm}$
8	$\frac{<24}{2.241 \text{ dscm}} = <11 \text{ spores/dscm}$
9	$\frac{<22}{2.329 \text{ dscm}} = <9 \text{ spores/dscm}$

3. **Number of Spores Exiting Stack**

$$\text{No. of Spores Exiting the Stack} = (\text{Concentration}) \times (\text{Flue Gas Flow}) \times (\text{Minutes of Test})$$

Run Number	
1	$<5 \times 26.741 \times 192 = <2.57 \times 10^4$
2	$29 \times 22.973 \times 192 = 12.8 \times 10^4$
3	$<10 \times 26.967 \times 192 = <5.18 \times 10^4$
4	$18 \times 30.345 \times 192 = 10.5 \times 10^4$
5	$<7 \times 34.153 \times 192 = <4.59 \times 10^4$
6	$7 \times 34.535 \times 192 = 4.64 \times 10^4$
7	$<8 \times 24.913 \times 192 = <3.83 \times 10^4$
8	$<11 \times 25.882 \times 188 = <5.35 \times 10^4$
9	$<9 \times 26.191 \times 192 = <4.53 \times 10^4$

ASH SURVIVABILITY CALCULATIONS

Assumptions:

1. Too numerous to count (TNTC) results were either reported as greater than 200 spores/filtration aliquot or less than 200 spores/filtration aliquot, depending on the consistency of repetitive analyses.

2. Detection limits were determined to be:

$$ND = \frac{1 \text{ spore/gram ash}}{2}$$

Run Number	Spores Detected	Dilution/Filtraton Factor	Final Value (spores/gram)
1	22[a]	100	2,200
2	<1	100	<100
3	ND	NA	<0.5
4	ND	NA	<0.5
5	ND	NA	<0.5
6	<1	100	<100
7	ND	NA	<0.5
9	ND	NA	<0.5

[a]Two aliquot sets (out of 18) resulted in TNTC. Resulting concentration was calculated as:

$$\frac{2 \times 200}{18} = 22$$

$$ND = \frac{\leq 1 \text{ spore/gram ash}}{2}$$

Note: Run 8 sample was not analyzed due to an incorrect sample shipment.

Run Number	Analytical Results (spores/g)	Ash Weight (lbs)	Spores in Ash (total spores)
1	2,200	51.5	5.14×10^7
2	< 100	NR	NA
3	< 0.5	120	$< 2.72 \times 10^4$
4	< 0.5	211.5	$< 4.80 \times 10^4$
5	< 0.5	138.1	$< 3.13 \times 10^4$
6	< 100	93.3	$< 4.23 \times 10^6$
7	< 0.5	118.5	$< 2.69 \times 10^4$
9	< 0.5	102.6	$< 2.33 \times 10^4$

NR = Not Recorded.

OVERALL MICROBIAL SURVIVABILITY CALCULATIONS

1. Spore Survivability; MS_w (%)

$$MS_w = \frac{S_E + S_A}{S_S} \times 100$$

S_E = Spores exiting stack during test.
S_A = Spores in ash.
S_S = Spores (wet) spiked to incinerator.

Run Number	S_S	S_E	S_A	MS_w (%)*
1	1.54×10^{12}	$<2.57 \times 10^{4}$	5.14×10^{7}	3.33×10^{-3}
2	1.54×10^{12}	12.8×10^{4}	NA[a]	8.3×10^{-6}
3	1.54×10^{12}	$<5.18 \times 10^{4}$	$<2.72 \times 10^{4}$	$<5.13 \times 10^{-6}$
4	1.54×10^{12}	10.5×10^{4}	$<4.80 \times 10^{4}$	6.82×10^{-6}
5	1.54×10^{12}	$<4.59 \times 10^{4}$	$<3.13 \times 10^{4}$	$<5.01 \times 10^{-6}$
6	1.54×10^{12}	4.64×10^{4}	$<4.23 \times 10^{6}$	3.01×10^{-6}
7	1.54×10^{12}	$<3.83 \times 10^{4}$	$<2.69 \times 10^{4}$	$<4.23 \times 10^{-6}$
8	1.54×10^{12}	$<5.35 \times 10^{4}$	NA	NA
9	1.54×10^{12}	$<4.53 \times 10^{4}$	$<2.33 \times 10^{4}$	$<4.46 \times 10^{-6}$

*1) When either S_A or S_E is a positive value, but not both, the other DL is considered a zero in the calculations.
2) When both values are DL's (S_A and S_E), they are added to determine microbial survivability.

[a]Spores were determined to be less than 100 spores/gram, therefore, MS_w was calculated based on S_E.

2. Microbial Log Survivability (MLR)

$$MLR = Log (S_S) - Log (S_A + S_E)$$

where nomenclature same as previous

Run Number	Log S_S	Log (S_A + S_E)	MLR
1	12.2	7.71	4.5
2	12.2	5.1	7.1
3	12.2	<4.9	>7.3
4	12.2	<5.02	7.2
5	12.2	<4.89	>7.3
6	12.2	4.67	7.5
7	12.2	<4.81	>7.4
8	12.2	NA	NA
9	12.2	<4.84	>7.4



DRY GAS METER CALIBRATION DATA

Full Calibration

Date	7/25/90	Calibration Meter #	6830284	Meter Box #	N-30
Barometric	29.92	Cal Meter Factor	0.986	Vacuum =	5"hg

Orifice Manometer in. H20	Manometer Pressure Cal. Meter	Gas Volume Calibration Meter		Gas Volume Dry Gas Meter		Calibration Meter In		Calibration Meter Out		Dry Gas Meter In		Dry Gas Meter Out		Time	Meter y	Delta Hø
0.50	0.00	Final	76.357	Final	62.320	Init.	75	75		Init.	75	73		13		
		Init.	71.138	Init.	57.133	Mid	76	76		Mid	75	75		=========	0.9893	1.814957
		Total	5.219	Total	5.187	Final	77	77		Final	75	78		=========		
1.00	0.00	Final	81.828	Final	67.774	Init.	76	76		Init.	78	75		9.5		
		Init.	76.516	Init.	62.493	Mid	77	77		Mid	79	76		=========	0.9906	1.869435
		Total	5.312	Total	5.281	Final	78	78		Final	81	77		=========		
1.80	0.00	Final	87.808	Final	73.739	Init.	78	78		Init.	81	77		8		
		Init.	81.972	Init.	67.911	Mid	78	78		Mid	83	78		=========	0.9864	1.977609
		Total	5.836	Total	5.828	Final	79	79		Final	84	78		=========		
3.00	0.00	Final	96.602	Final	82.465	Init.	79	79		Init.	84	79		9		
		Init.	87.986	Init.	73.900	Mid	80	80		Mid	86	79		=========	0.9898	1.915094
		Total	8.616	Total	8.565	Final	80	80		Final	87	80		=========		
														Average	0.9890	1.8943

DRY GAS METER CALIBRATION DATA

POST - Cape Fear Incinerator

Date	9/11/90	Calibration Meter #	6830284	Meter Box #	N-30
Barometric	29.76372	Cal Meter Factor	0.986	Vacuum =	7"hg

Orifice Manometer in. H20	Manometer Pressure Cal. Meter		Gas Volume Calibration Meter		Gas Volume Dry Gas Meter		Calibration Meter In	Calibration Meter Out	Dry Gas Meter In	Dry Gas Meter Out	Time	Meter y	Delta Hø
0.80	0.00	Final	33.663	Final	14.495	Init.	72	72	Init. 75	75	10.5		
		Init.	28.463	Init.	9.273	Mid	72	72	Mid 75	75		0.9860	1.89
		Total	5.200	Total	5.222	Final	73	73	Final 76	78			
0.80	0.00	Final	37.627	Final	18.455	Init.	73	73	Init. 76	78	8		
		Init.	33.663	Init.	14.495	Mid	73.5	73.5	Mid 76.5	83		0.9966	1.88
		Total	3.964	Total	3.960	Final	74	74	Final 77	88			
0.80	0.00	Final	46.606	Final	27.495	Init.	72	72	Init. 77	77	18		
		Init.	37.627	Init.	18.455	Mid	73	73	Mid 78	79.5		0.9880	1.86
		Total	8.979	Total	9.040	Final	74	74	Final 79	82			
0.00	0.00	Final	0.000	Final	0.000	Init.	0	0	Init. 0	0	0		
		Init.	0.000	Init.	0.000	Mid	0	0	Mid 0	0		ERR	ERR
		Total	0.000	Total	0.000	Final	0	0	Final 0	0			
											Average	0.9902	1.88

DRY GAS METER CALIBRATION DATA

Full Calibration

Date	7/16/90	Calibration Meter #	6830284	Meter Box #	N-31
Barometric	29.92	Cal Meter Factor	0.986	Vacuum =	16"hg

Orifice Manometer in. H20	Manometer Pressure Cal. Meter	Gas Volume Calibration Meter		Gas Volume Dry Gas Meter		Calibration Meter In		Calibration Meter Out		Dry Gas Meter In		Dry Gas Meter Out		Time	Meter y	Delta H@
0.50	0.00	Final	21.247	Final	29.745	Init.	72	72	Init.	71	73		14			
		Init.	15.766	Init.	24.300	Mid	71	71	Mid	75	72			0.9947	1.882441	
		Total	5.481	Total	5.445	Final	71	71	Final	76	72					
1.00	0.00	Final	26.977	Final	35.457	Init.	71	71	Init.	75	73		10			
		Init.	21.503	Init.	30.001	Mid	71	71	Mid	74	76			0.9946	1.916170	
		Total	5.474	Total	5.456	Final	71	71	Final	74	79					
1.80	0.00	Final	35.248	Final	43.658	Init.	71	71	Init.	74	78		11			
		Init.	27.264	Init.	35.743	Mid	71	71	Mid	75	80			1.0020	1.953916	
		Total	7.984	Total	7.915	Final	71	71	Final	75	82					
3.00	0.00	Final	43.038	Final	51.384	Init.	71	71	Init.	82	76		8			
		Init.	35.590	Init.	44.001	Mid	71	71	Mid	85	77			1.0054	1.967094	
		Total	7.448	Total	7.383	Final	71	71	Final	87	77					
													Average		0.9992	1.9299

DRY GAS METER CALIBRATION DATA

POST-CAPEFEAR MEMORIAL HOSPITAL

Date 9/11/90 Calibration Meter # 6830284 Meter Box # N-31

Barometric 29.60624 Cal Meter Factor 0.986 Vacuum = 15"HG

Orifice Manometer in. H20	Manometer Pressure Cal. Meter	Gas Volume Calibration Meter		Gas Volume Dry Gas Meter		Calibration Meter In		Calibration Meter Out		Dry Gas Meter In		Dry Gas Meter Out		Time	Meter y	Delta H@
0.80	0.00	Final	6.246	Final	69.030	Init.	73	73		Init.	76	75		10.25		
		Init.	1.191	Init.	64.020	Mid	73	73		Mid	79	77			1.0010	1.916469
		Total	5.055	Total	5.010	Final	74	74		Final	81	78				
0.80	0.00	Final	10.419	Final	73.214	Init.	74	74		Init.	80	78		8.5		
		Init.	6.246	Init.	69.030	Mid	74	74		Mid	82	78			0.9922	1.930972
		Total	4.173	Total	4.184	Final	74	74		Final	83	78				
0.80	0.00	Final	14.501	Final	77.263	Init.	74	74		Init.	81	79		8.25		
		Init.	10.419	Init.	73.214	Mid	74	74		Mid	83	79			1.0048	1.897549
		Total	4.082	Total	4.049	Final	74	74		Final	84	79				
0.00	0.00	Final	0.000	Final	0.000	Init.	0	0		Init.	0	0		0		
		Init.	0.000	Init.	0.000	Mid	0	0		Mid	0	0			ERR	ERR
		Total	0.000	Total	0.000	Final	0	0		Final	0	0				
														Average	0.9993	1.9150

DRY GAS METER CALIBRATION DATA

FULL CALIBRATION

Date 6/20/90 | Calibration Meter # 6830284 | Meter Box # H-32

Barometric 29.92 | Cal Meter Factor 0.986 | Vacuum = 10"Hg

Orifice Manometer in. H20	Manometer Pressure Cal. Meter		Gas Volume Calibration Meter		Gas Volume Dry Gas Meter		Calibration Meter In		Calibration Meter Out		Dry Gas Meter In		Dry Gas Meter Out		Time	Meter y	Delta H@
0.50	0.000	Final	34.343	Final	96.390	Init.	69	69	Init.	70	70		13			
		Init.	29.228	Init.	89.303	Mid	70	70	Mid	72	71			0.9936	1.857852	
		Total	5.115	Total	5.087	Final	70	70	Final	74	72					
1.00	0.000	Final	42.803	Final	102.839	Init.	70	70	Init.	74	72		15			
		Init.	34.638	Init.	94.720	Mid	70	70	Mid	79	73			0.9988	1.931756	
		Total	8.165	Total	8.119	Final	71	71	Final	81	74					
1.70	0.000	Final	50.047	Final	10.048	Init.	71	71	Init.	81	75		10			
		Init.	43.008	Init.	3.030	Mid	71	71	Mid	84	76			1.0012	1.952990	
		Total	7.039	Total	7.018	Final	71	71	Final	86	77					
3.00	0.000	Final	59.582	Final	9.524	Init.	71	71	Init.	85	77		10			
		Init.	50.262	Init.	0.257	Mid	71	71	Mid	90	78			1.0072	1.953241	
		Total	9.320	Total	9.267	Final	71	71	Final	90	80					
													Average	1.0002	1.9240	

DRY GAS METER CALIBRATION DATA

POST SAMFORD

Date 10/5/99 | Calibration Meter # 4830284 | Meter Box # H-32

Barometric 29.92 | Cal Meter Factor 0.986 | Vacuum = 5"hg

Orifice Manometer in. H20	Manometer Pressure Cal. Meter		Gas Volume Calibration Meter		Gas Volume Dry Gas Meter	Calibration Meter In	Calibration Meter Out		Dry Gas Meter In	Dry Gas Meter Out	Time	Meter y	Delta H@
1.50	0.000	Final	52.428	Final	71.899	Init. 71	71	Init.	72	70	25		
		Init.	35.671	Init.	55.312	Mid 71	71	Mid	77	72		0.9984	1.921803
		Total	16.757	Total	16.587	Final 72	72	Final	82	74			
1.50	0.000	Final	59.615	Final	79.039	Init. 72	72	Init.	81	74	10.75		
		Init.	52.428	Init.	71.899	Mid 72	72	Mid	82	73		0.9984	1.928171
		Total	7.187	Total	7.140	Final 73	73	Final	84	71			
1.50	0.000	Final	63.935	Final	83.362	Init. 73	73	Init.	82	76	6.5		
		Init.	59.615	Init.	79.039	Mid 73	73	Mid	83	77		0.9946	1.946950
		Total	4.320	Total	4.323	Final 73	73	Final	85	77			
	0.000	Final		Final		Init.		Init.					
		Init.		Init.		Mid		Mid				ERR	ERR
		Total	0.000	Total	0.000	Final		Final					
											Average	0.9971	1.9323



SAMPLE CALCULATIONS

PLANT SITE : WILMINGTON, NC
SAMPLING LOCATION : EXHAUST STACK
DATE : 08/20/90

EXAMPLE #1: TOXIC METALS, RUN 04

STANDARD CONDITIONS: 68 F, 29.92 in Hg

INPUT PARAMETERS:

As	= 380.13 sq.in.	Ps	= 30.17 in. Hg	PARTICULATE	= 1.5833 grams		
Cp	= 0.84	%CO2	= 9.17	CATCH			
Dn	= 0.471 in.	%N2	= 83.16	MOISTURE	= 507.40 grams		
Kp	= 84.59	%O2	= 7.67	COLLECTED			
P(std)	= 29.92 in. Hg	T(std)	= 68.00 F	SAMPL TIME	= 240 min.		
Pb	= 30.20 in. Hg	Tm(avg)	= 95.19 F	Ts(avg)	= 1442.21 F		
Pmg(avg)	= 1.23 in. H2O	Vm	= 135.66 ft^3	Y	= 0.9992		

1) Volume of dry gas sampled at standard conditions:

$$Vm(std) = \frac{Y * Vm * (T(std) + 460) * Ps}{P(std) * (Tm(avg) + 460)}$$

$$Vm(std) = (0.999 * 135.66 * (68 + 460) * 30.17) / (29.92 * (95.19 + 460))$$

$$Vm(std) = 129.99 \text{ dscf}$$

2) Volume of water vapor at standard conditions:

$$Vw(gas) = 0.04707 \text{ ft3/g} * (\text{moisture collected})$$

$$Vw(gas) = (0.04707 * 507.40)$$

$$Vw(gas) = 23.85 \text{ scf}$$

3) Percent moisture in stack:

$$\%V = \frac{100 * Vw(gas)}{Vm(std) + Vw(gas)}$$

$$\%V = (100 *23.85) / (129.99 + 23.85)$$

$$\%V = 15.50$$

4) Mole fraction of dry stack gas:

$$MFd = \frac{100 - \%V}{100}$$

$$MFd = (100 - 15.50) / 100$$

$$MFd = 0.845$$

5) Average molecular weight of dry stack gas:

MWd = (0.44 * %CO2) + (0.32 * %O2) + (0.28 * %N2)

MWd = (0.44 * 9.17) + (0.32 * 7.67) + (0.28 * 83.16)

MWd = 29.77 lb/lb-mole

6) Average molecular weight of wet stack gas:

MWw = MWd * MFd + 18.0 * (1.0 - MFd)

MWw = 29.77 * 0.845 + 18.0 * (1.0 - 0.845)

MWw = 27.95 lb/lb-mole

7) Stack velocity (feet/min) at stack conditions:

Vs = Kp*Cp*[SQRT(dP)]avg*(SQRT[(Ts)avg])*[SQRT(1/Ps*MWw)]*60

Vs = 1703.74 fpm

8) Average stack dry volumetric flow rate:

$$Qsd = \frac{Vs * As * MFd * (T(std)+460) * Ps}{144\ sq.in./cu.ft. * (Ts(avg) + 460) * P(std)}$$

Qsd = 1703.74 * 380.13 * 0.845 * (68.0 + 460) * 30.17 / (144 * (1442.21 + 460) * 29.92)

Qsd = 1063.19 dscfm

9) Isokinetic sampling rate (%):

$$\%I = \frac{1039.5746 * Vm(std) * (Ts(avg) + 460)}{Vs * samp.\ time * Ps * MFd * (Dn)^2}$$

%I = (1039.5746 * 129.99 * (1442.21 + 460)) / (1703.74 * 240 * 30.17 * 0.845 * (0.471)^2)

%I = 111.14

10) Excess air (%):

$$\%XS = \frac{100 * \%O2}{(0.264 * \%N2) - \%O2}$$

%XS = (100 * 7.67) / ((0.264 * 83.16) - 7.67)

%XS = 53.63

11) Concentration of particulate:

Ca = (particulate catch) / Vm(std) / 453.59 * 7000

Ca = 1.5833 / 129.99 / 453.59 * 7000

Ca = 0.1880 grains/dscf

12) Particulate Emissions Rate:

ER = (concentration) * (Qsd) * 60 / 7000

ER = 0.1880 * 1063.19 * 60 / 7000

ER = 1.713 lb/hr



PROJECT PARTICIPANTS

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RADIAN CORPORATION

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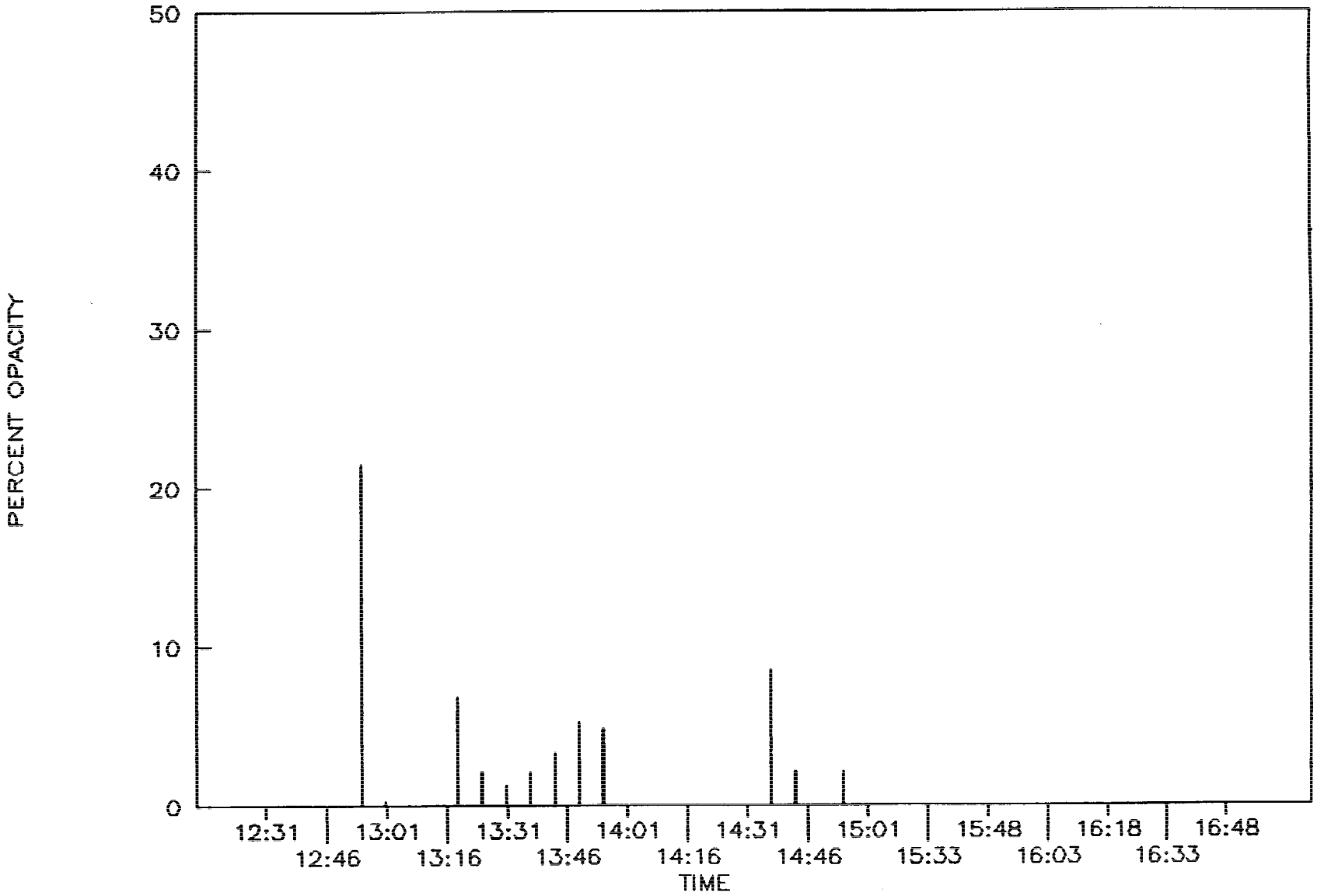
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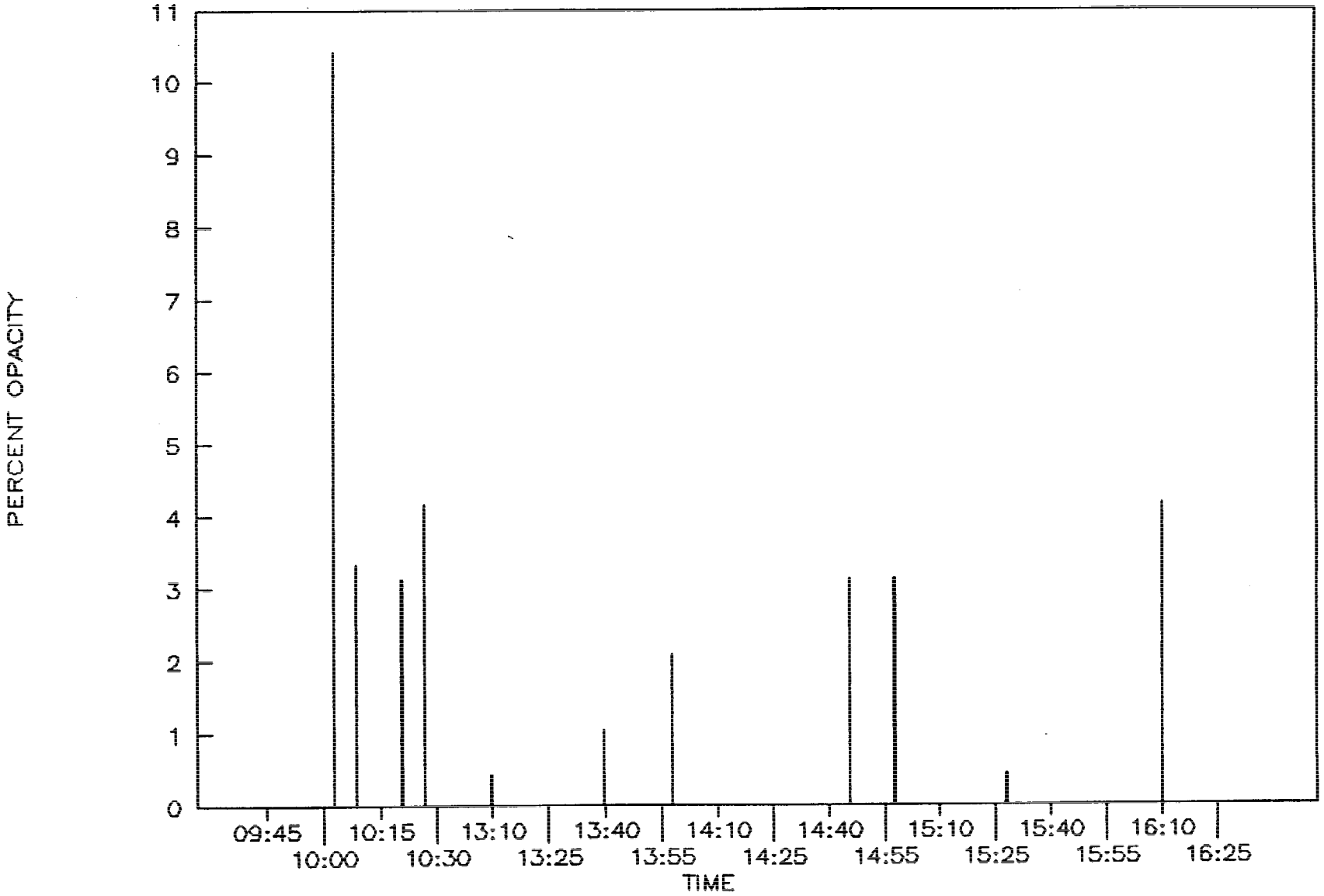
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6 Min. Avg.– Run 1 8/15/90



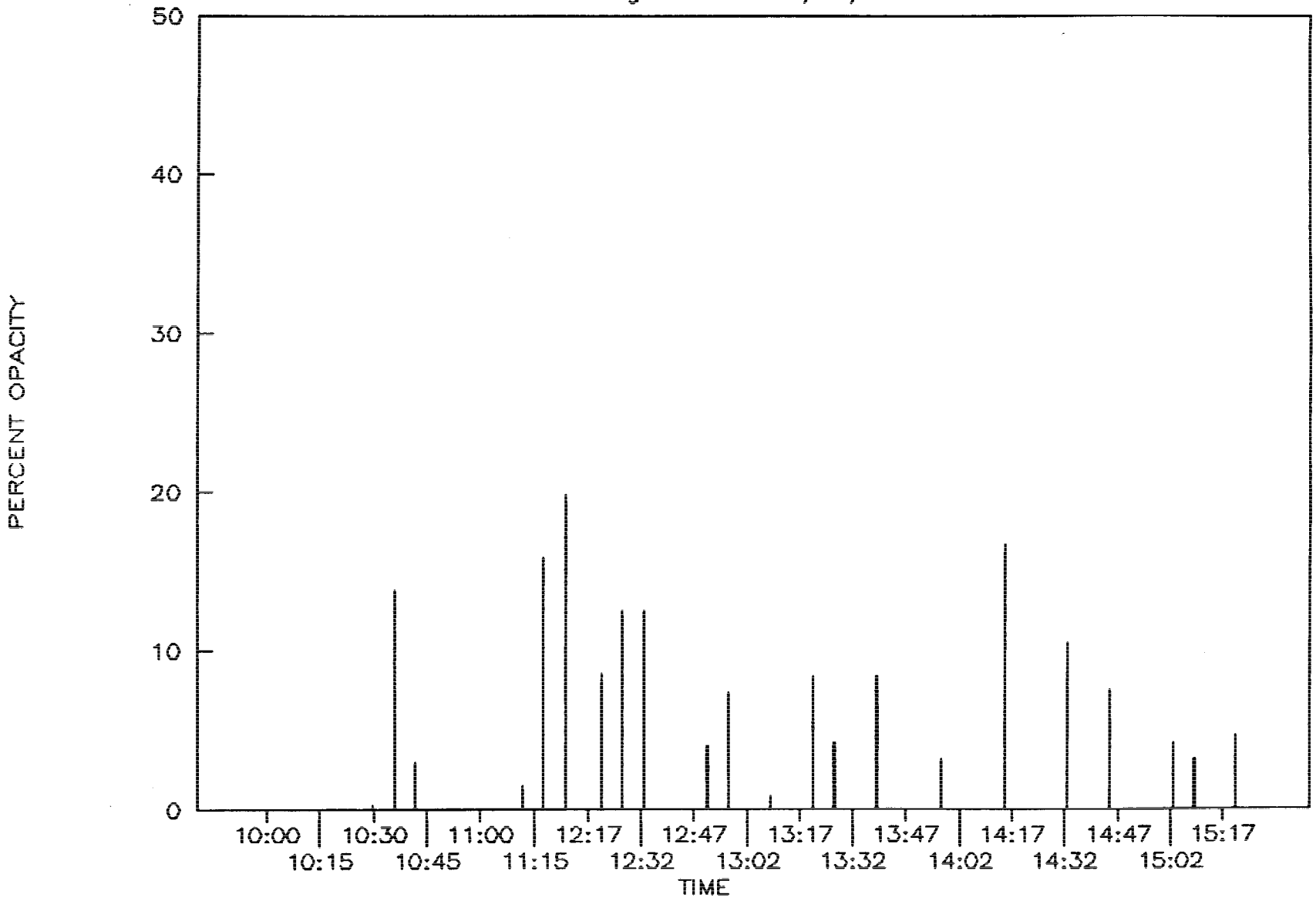
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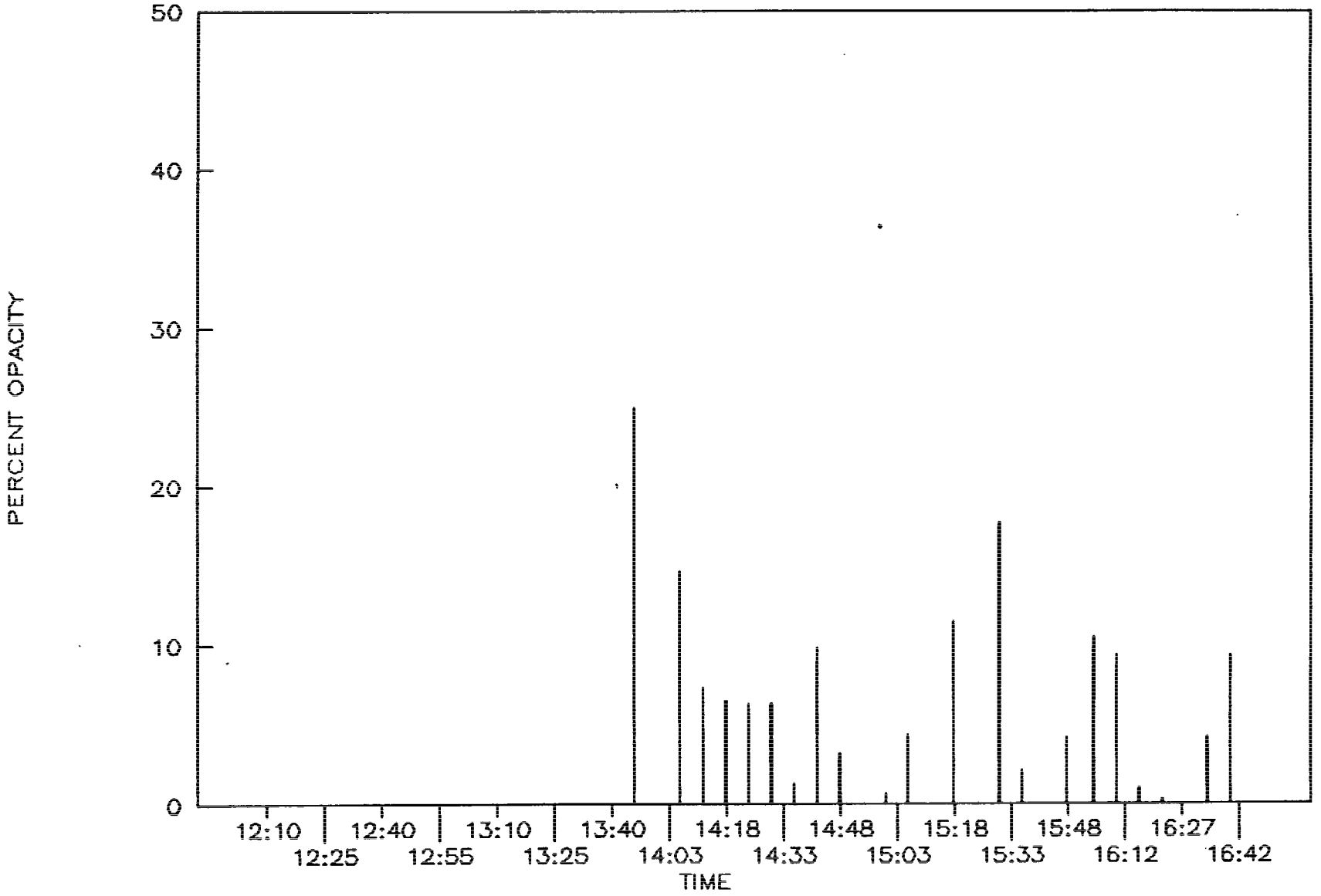
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6 Min. Avg.— Run 3 8/19/90



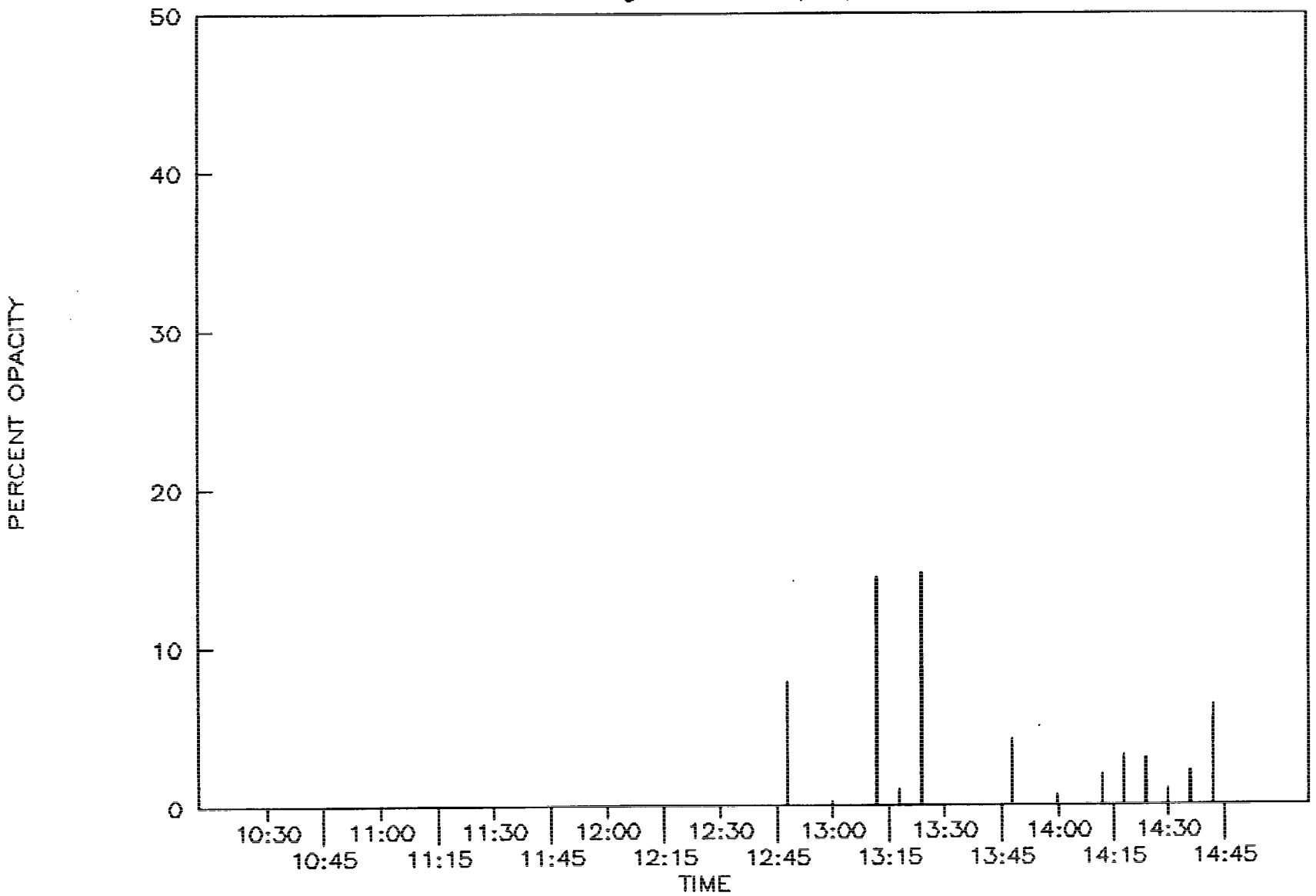
VISIBILE EMISSIONS OBSERVATIONS—CFMH

6 Min. Avg.— Run 4 8/20/90



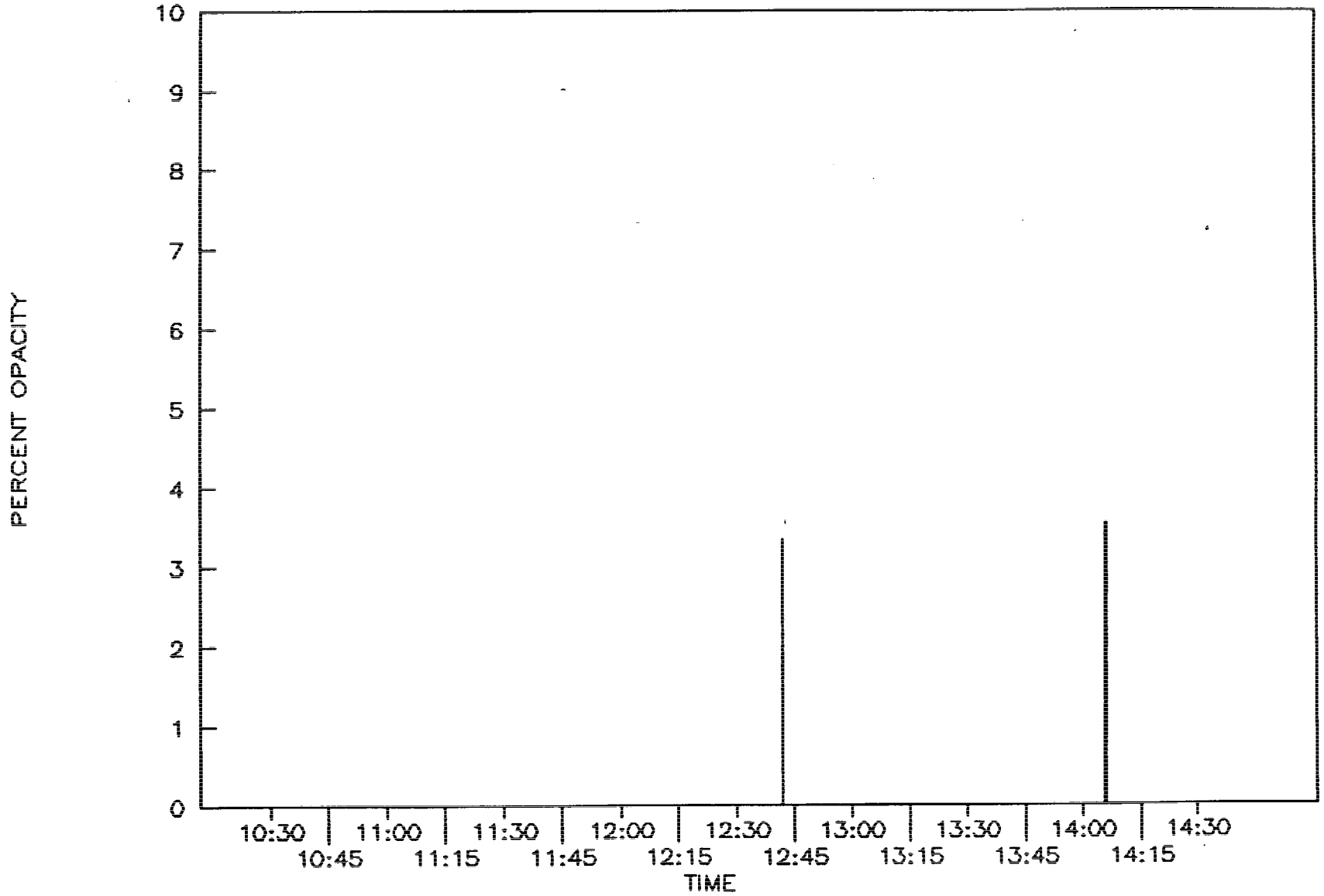
VISIBILE EMISSIONS OBSERVATIONS–CFMH

6 Min. Avg.– Run 5 8/21/90



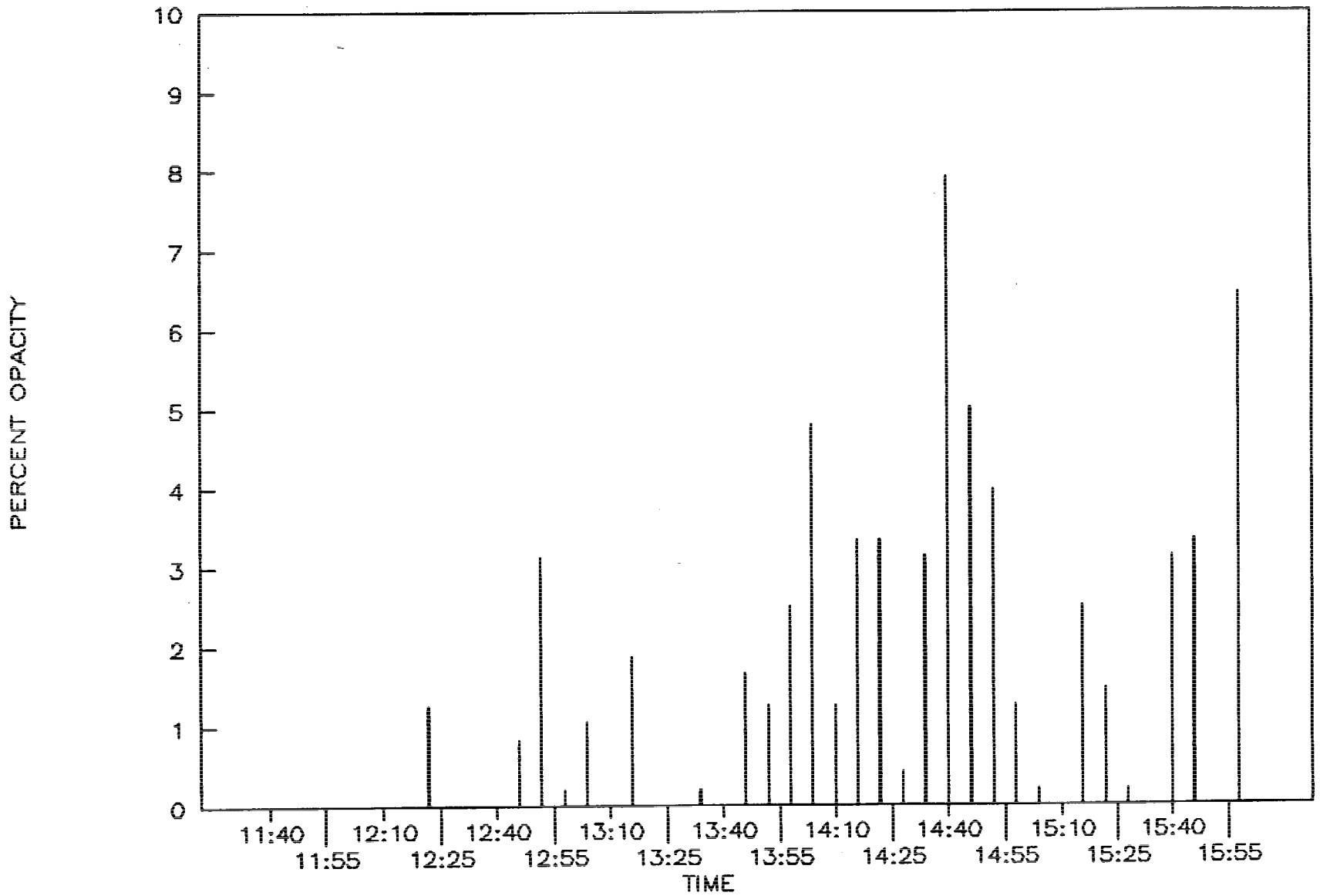
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6 Min. Avg.— Run 6 8/22/90



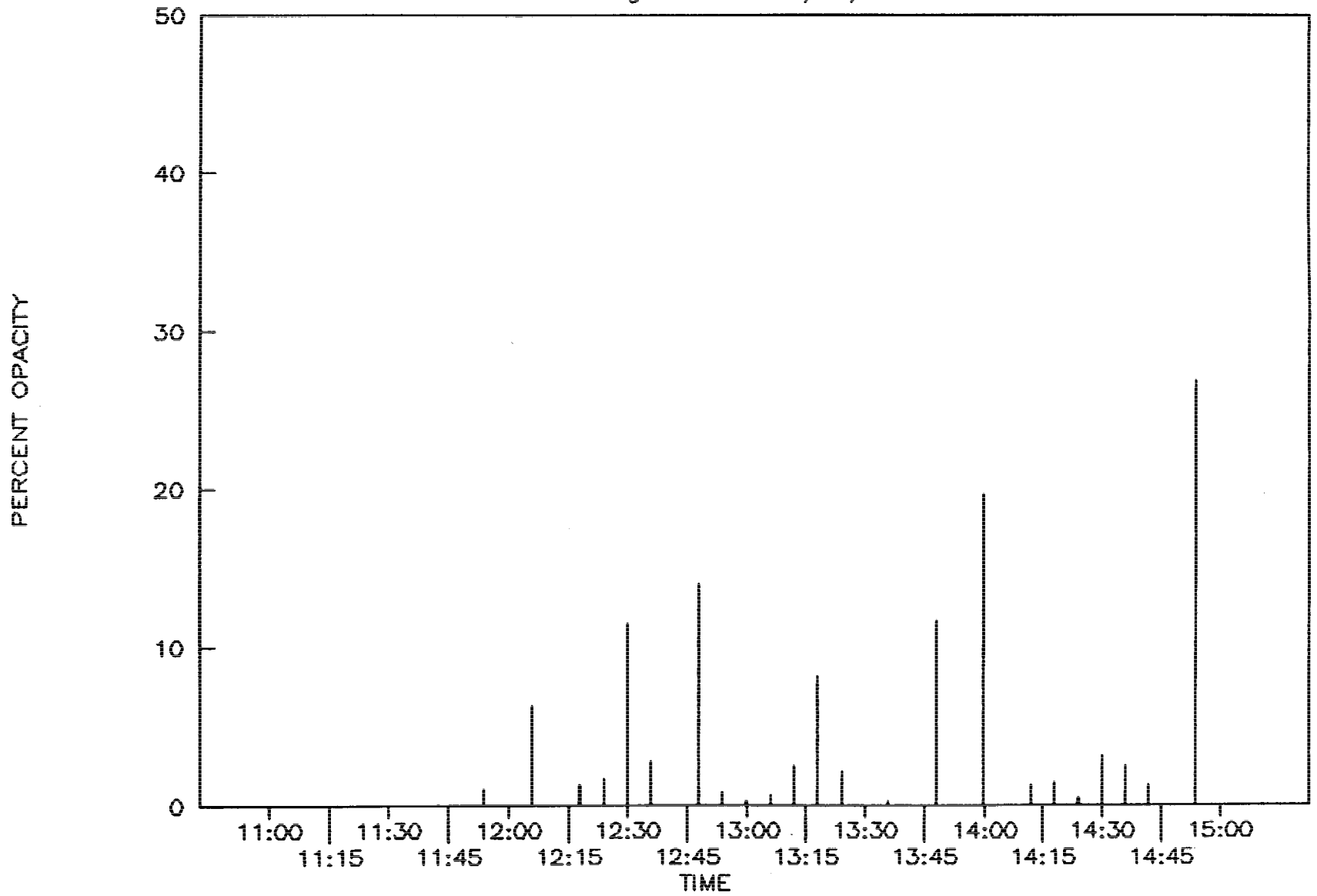
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6 Min. Avg.— Run 7 8/26/90



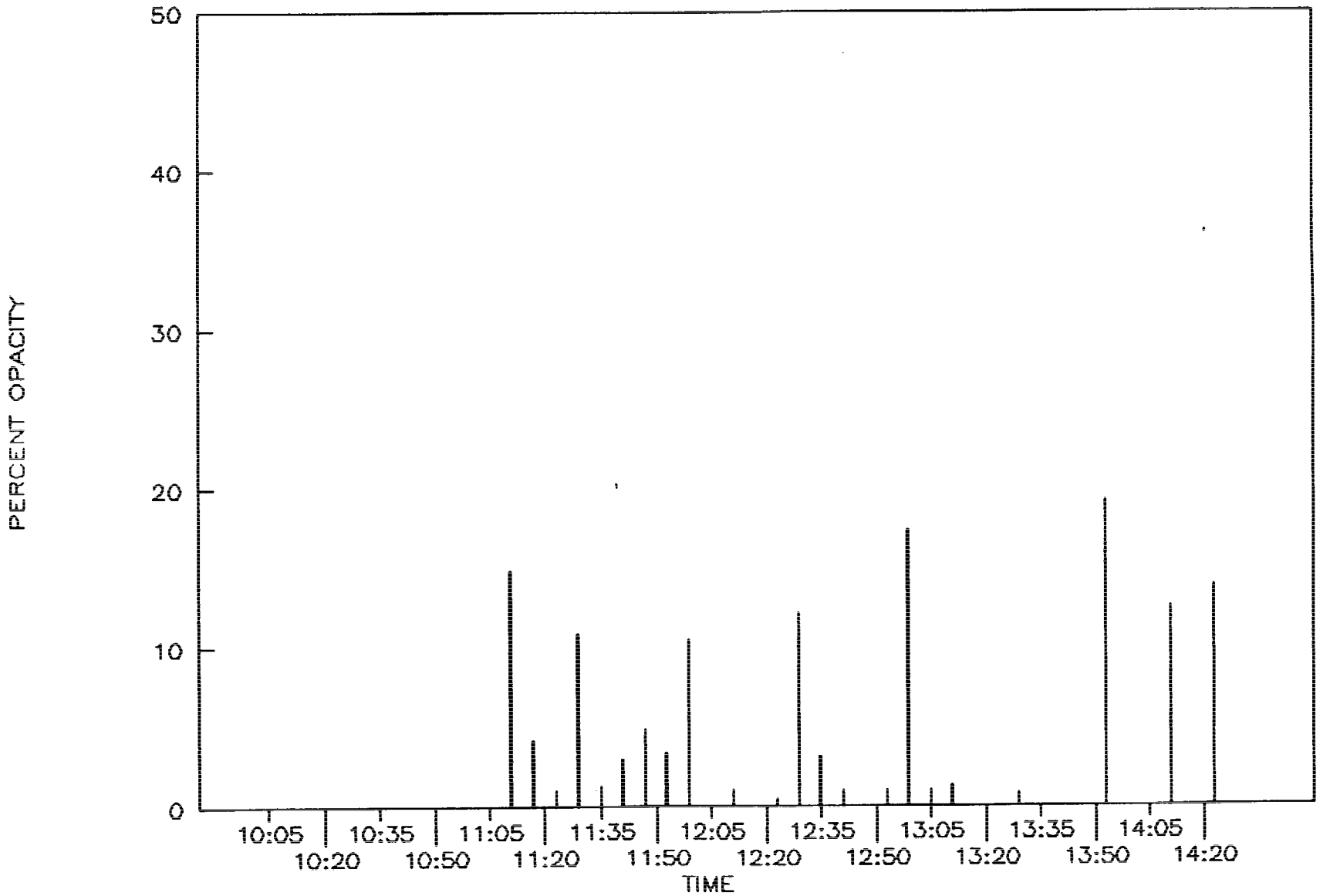
VISIBILE EMISSIONS OBSERVATIONS—CFMH

6 Min. Avg.— Run 8 8/27/90



VISIBILE EMISSIONS OBSERVATIONS—CFMH

6 Min. Avg.— Run 9 8/28/90







delayed, timely notice will be published in the Federal Register.

ADDRESSES: Copies of the state submittal for this action are available for public inspection during normal business hours at: the Environmental Protection Agency, Region VII, Air Branch, 726 Minnesota Avenue, Kansas City, Kansas 66101; Public Information Reference Unit, Environmental Protection Agency, 401 M Street SW., Washington, DC 20460; Environmental Protection Division, Iowa Department of Natural Resources, Wallace State Office Building, 900 East Grand, Des Moines, Iowa 50319.

FOR FURTHER INFORMATION CONTACT: Wayne Kaiser at (913) 551-7603 (FTS 276-7603).

SUPPLEMENTARY INFORMATION: On October 17, 1988, EPA revised the prevention of significant deterioration (PSD) regulations at 40 CFR 52.21 (see 53 FR 40656) for nitrogen oxides. These regulations establish the maximum increase in ambient nitrogen dioxide concentrations allowed in an area above the baseline concentration: these maximum allowable increases are called increments. The intended effect of these regulations is to require all applicants for major new stationary sources and major modifications emitting nitrogen oxides to account for and, if necessary, restrict emissions so as not to cause or contribute to exceedances of the increment.

On November 20, 1990, the IDNR submitted an amendment to chapter 22.4(455B), "Special Requirements for Major Stationary Sources Located in Areas Designated Attainment or Unclassified (PSD)," which incorporates by reference the revisions to 40 CFR part 52.21, effective October 17, 1988. The state rule was effective November 21, 1990. The state also provided a demonstration that it meets the conditions for approval of adoption of the NO_x increment program as detailed in the EPA guidance memorandum on the subject dated August 17, 1990.

The above memorandum described specific conditions for EPA approval of a state's adoption of the NO_x increment rule. Those conditions pertained to regulatory language, increment consumption analysis, increment consumption for the transition period, and legal authority. EPA has evaluated the state's submittal in accordance with the August 17, 1990, guidance and finds that the state submittal is acceptable. EPA is publishing this action without prior proposal because the Agency views this as a noncontroversial amendment and anticipates no adverse comments. This action will be effective April 15, 1991, unless, within 30 days of its publication, notice is received that adverse or critical comments will be submitted.

If such notice is received, this action will be withdrawn before the effective date by publishing two subsequent notices. One notice will withdraw the final action and another will begin a new rulemaking by announcing a proposal of the action and establishing a comment period. If no such comments are received, the public is advised that this action will be effective April 15, 1991.

EPA Action: EPA is taking final action to approve a revision to Iowa rule 567-22.4(455B) which adopts by reference the PSD NO_x requirements of 40 CFR 52.21 at 53 FR 40656 (October 17, 1988). Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any SIP. Each request for revision to the SIP shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements. Under 5 U.S.C. 605(b), I certify that this SIP revision will not have a significant economic impact on a substantial number of small entities (See 46 FR 8709).

This action has been classified as a Table 3 action by the Regional Administrator under the procedures published in the Federal Register on January 19, 1989 (54 FR 2214-2225). On January 6, 1989, the Office of Management and Budget waived Tables 2 and 3 SIP revisions (54 FR 2222) from the requirements of Section 3 of Executive Order 12291 until April 1991.

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the U.S. Court of Appeals for the appropriate circuit by April 15, 1991. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

The Agency has reviewed this request for revision of the federally approved SIP for conformance with the provisions of the 1990 Amendments enacted on November 15, 1990. The Agency has determined that this action conforms with those requirements irrespective of the fact that the adoption of the revision by the state preceded the date of enactment.

List of Subjects in 40 CFR Part 52

Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Sulfur oxides.

A-89-08

V-A-8

as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401-7642.

2. Section 52.820 is amended by adding paragraph (c)(53) to read as follows:

§ 52.820 Identification of plan.

* * * * *

(c) * * *

(53) Revised chapter 22, rule 22.4(455B), submitted on November 8, 1990, incorporates by reference revised EPA PSD rules pertaining to NO_x increments.

(i) Incorporation by reference

(A) Amendment to chapter 22, "Controlling Pollution," Iowa Administrative Code, subrule 22.4, adopted by the Environmental Protection Commission on October 17, 1990, effective November 21, 1990.

(ii) Additional material

(A) Letter from the state dated November 8, 1990, pertaining to NO_x rules and analysis which certifies the material was adopted by the state on October 17, 1990.

[FR Doc. 91-3451 Filed 2-12-91; 8:45 am]

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40 CFR Part 60

[AD-FRL-3867-1]

Standards of Performance for New Stationary Sources; Addition of Methods for Measurement of Polychlorinated Dibenzo-p-Dioxins, Polychlorinated Dibenzofurans, and Hydrogen Chloride Emissions From Stationary Sources

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The purpose of this action is to add Method 23, "Determination to Polychlorinated Dibenzo-p-Dioxins (PCDD's) and Polychlorinated Dibenzofurans (PCDF's) from Stationary Sources," and Method 26, "Determination of Hydrogen Chloride Emissions from Stationary Sources" to appendix A of 40 CFR part 60. These methods are being promulgated to determine compliance with subparts Ca and Ea of part 60.

DATES: *Effective Date:* February 13, 1991.

Judicial Review: Under section 307(b)(1) of the Clean Air Act, judicial review of the actions taken by this notice is available only by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this rule. Under section 307(b)(2) of the Clean Air Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: *Background Information Document.* The Background Information Document for the promulgated test methods may be obtained from Gary McAlister or Roger Shigehara, MD--19, U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541--1062. Please refer to "Summary of Comments and Responses for Methods 23 and 26."

Docket. Docket Number A--89--11, containing material relevant to this rulemaking, is available for public inspection and copying between 8:30 a.m. and 3:30 p.m. Monday through Friday, at EPA's Air Docket Section, room M--1500, 1st Floor, Waterside Mall, 401 M Street SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Gary McAlister or Roger Shigehara, Emission Measurement Branch (MD--19), Technical Support Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number (919) 541--1062.

SUPPLEMENTARY INFORMATION:

I. The Rulemaking

Under Subparts Ca and Ea, the EPA is regulating emissions from municipal waste combustors (MWC's) including setting emission limits for polychlorinated dibenzo-p-dioxins (PCDD's), polychlorinated dibenzofurans (PCDF's), and hydrochloric acid (HCl). There are presently no methods published in 40 CFR part 60, appendix A, to measure any of these pollutants. This action would promulgate one method to measure the PCDD's and PCDF's and another method to measure the HCl.

Summary of Reference Methods

Method 23 is used to measure the emission of PCDD's and PCDF's from MWC's. A sample is withdrawn isokinetically from the stack through a probe, a filter, and a trap packed with a solid adsorbent. The PCDD's and PCDF's are collected in the probe, on the filter, and on the solid adsorbent. The PCDD's and PCDF's are extracted from the particulate matter and the adsorbent with a hot organic solvent. The extracted PCDD's and PCDF's are separated by capillary gas chromatography, and then, each isomer is identified and measured with mass spectrometry (GC/MS). The total PCDD's and PCDF's are the sum of the individual isomers. Toxicity factors are not used in the calculation.

Method 26 is used to measure the emission of HCl from MWC's. A sample is withdrawn at a constant rate from the stack through a probe and impingers filled with a dilute acid. The HCl is collected in the implinger solution. The chloride ion is separated by ion chromatography and measured by a conductivity detector.

Background

In 1983, the American Society of Mechanical Engineers (ASME) recognized that the testing for PCDD's and PCDF's needed to be standardized. In February of 1984, the ASME convened a committee of government representatives, testing consultants, equipment manufacturers, and incinerator operators to write a standard test procedure for PCDD's and PCDF's. This was eventually distributed as a draft ASME protocol in December of 1984. The procedure that we are promulgating was derived from this draft ASME protocol. There are some changes in the quality assurance (QA) requirements and the solvents used to recover the sample in the promulgated method. Because more labeled compounds are available, the method will require additional labeled internal standards and surrogate compounds which will provide better representation of the entire range of PCDD's and PCDF's. The filter and solid adsorbent are extracted in the laboratory with toluene to assure a high PCDD and PCDF recovery efficiency. Additionally the proposed sample recovery solvents used for rinsing the sample train glassware in the field would be acetone followed by methylene chloride with a final quality assurance rinse using toluene. However, the results from the toluene rinse are not used in calculating the total PCDD and PCDF emissions. EPA will continue to review the toluene field rinse quality assurance results and continue to evaluate the desirability of replacing methylene chloride with toluene for field rinsing sample glassware.

II. Public Participation

The opportunity to hold a public hearing at 10 a.m. on February 7, 1990 was presented, but no one requested a hearing. The public comment period was from December 20, 1989 to March 5, 1990.

III. Significant Comments and Changes to the Proposed Rulemaking

Thirteen comment letters were received on the proposed test methods. These comments have been carefully considered and, where deemed appropriate by the Administrator, changes have been made in the proposed test methods. A detailed discussion of these comments is contained in the background document entitled, "Summary of Comments and Responses for Methods 23 and 26" which is referred to in the **ADDRESSES** section of this preamble.

Several commenters thought that there were not enough stack sampling organizations that were experienced with Method 23 to avoid major delays in securing sampling and analysis contractors. Many of these commenters also thought that there would not be an adequate supply of calibration standards and audit samples. We believe that the number of tests required immediately after promulgation of the regulation will not exceed the capabilities of the available sampling and analytical laboratories and that there will be an adequate supply of labeled standards and audit samples. The full effect of the testing requirements for the new and existing sources will not be felt for about five years. We believe that this is adequate time to allow for the necessary expansion of testing capabilities.

Some commenters requested alternative procedures or methods to Method 23. While testers always have the option of requesting alternative methods, requests should be submitted after the method becomes final. Any request should be in writing and should be accompanied by any supporting data.

Many commenters thought that the gas chromatography columns specified in Method 23 were not the most appropriate choice. The column requirements in the method have been revised to allow the tester to use any column system provided that the tester can demonstrate through calibration and performance checks that the columns provide the necessary isomer separation.

One commenter thought that Method 26 should be modified to allow isokinetic sampling so that it could be

applied to sources where hydrochloric acid aerosols are present. We agree that isokinetic sampling may be important at sources other than MWC's. We have compared Method 26 and an isokinetic sampling train and found that they generally give similar results at stack concentrations above 20 PPM. At lower concentrations the isokinetic sampling train seems to have a negative bias. We are continuing to investigate this problem, and may be able to approve an alternative method using isokinetic sampling for future use.

Another commenter wanted EPA to develop a QA audit sample for Method 26. An audit sample is being developed and will be available for validating the results of compliance tests.

IV. Administrative

The docket is an organized and complete file of all the information submitted to or otherwise considered by EPA in the development of this rulemaking. The principal purposes of the docket are: (1) To allow interested parties to identify and locate documents so that they can effectively participate in the rulemaking process and (2) to serve as the record in case of judicial review (except for interagency review materials) (section 307(d)(7)(A)).

Under Executive Order 12291, EPA must judge whether a regulation is "major" and, therefore, subject to the requirement of a regulatory impact analysis. The Agency has determined that this rulemaking would not result in any of the adverse economic effects set forth in Section 1 of the Order as grounds for finding a "major rule." The Agency has, therefore, concluded that this regulation is not a "major rule" under Executive Order 12291.

The Regulatory Flexibility Act (RFA) of 1980 requires the identification of potentially adverse impacts of Federal regulations upon small business entities. The Act specifically requires the completion of an RFA analysis in those instances where small business impacts are possible. Because this rulemaking imposes no adverse economic impacts, an analysis has not been conducted.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this promulgated rule will not have an economic impact on small entities because no additional costs will be incurred from this action.

This rule does not contain any information collection requirements currently approved by OMB review under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.*

List of Subjects in 40 CFR Part 60

Air pollution control, Municipal waste combustors, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzofurans, Hydrogen chloride.

Dated: January 11, 1991.

F. Henry Habicht,

Acting Administrator.

Title 40, part 60 of the Code of Federal Regulations is amended as follows:

PART 60—[AMENDED]

1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7401, 7411, 7414, 7416, and 7601.

2. By adding in numerical order Methods 23 and 28 to appendix A as follows:

Appendix A—Reference Methods

* * * * *

Method 23—Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans From Stationary Sources

1. Applicability and Principle

1.1 Applicability. This method is applicable to the determination of polychlorinated dibenzo-p-dioxins (PCDD's) and polychlorinated dibenzofurans (PCDF's) from stationary sources.

1.2 Principle. A sample is withdrawn from the gas stream isokinetically and collected in the sample probe, on a glass fiber filter, and on a packed column of adsorbent material. The sample cannot be separated into a particle vapor fraction. The PCDD's and PCDF's are extracted from the sample, separated by high resolution gas chromatography, and measured by high resolution mass spectrometry.

2. Apparatus

2.1 Sampling. A schematic of the sampling train used in this method is shown in Figure 23–1. Sealing greases may not be used in assembling the train. The train is identical to that described in section 2.1 of Method 5 of this appendix with the following additions:

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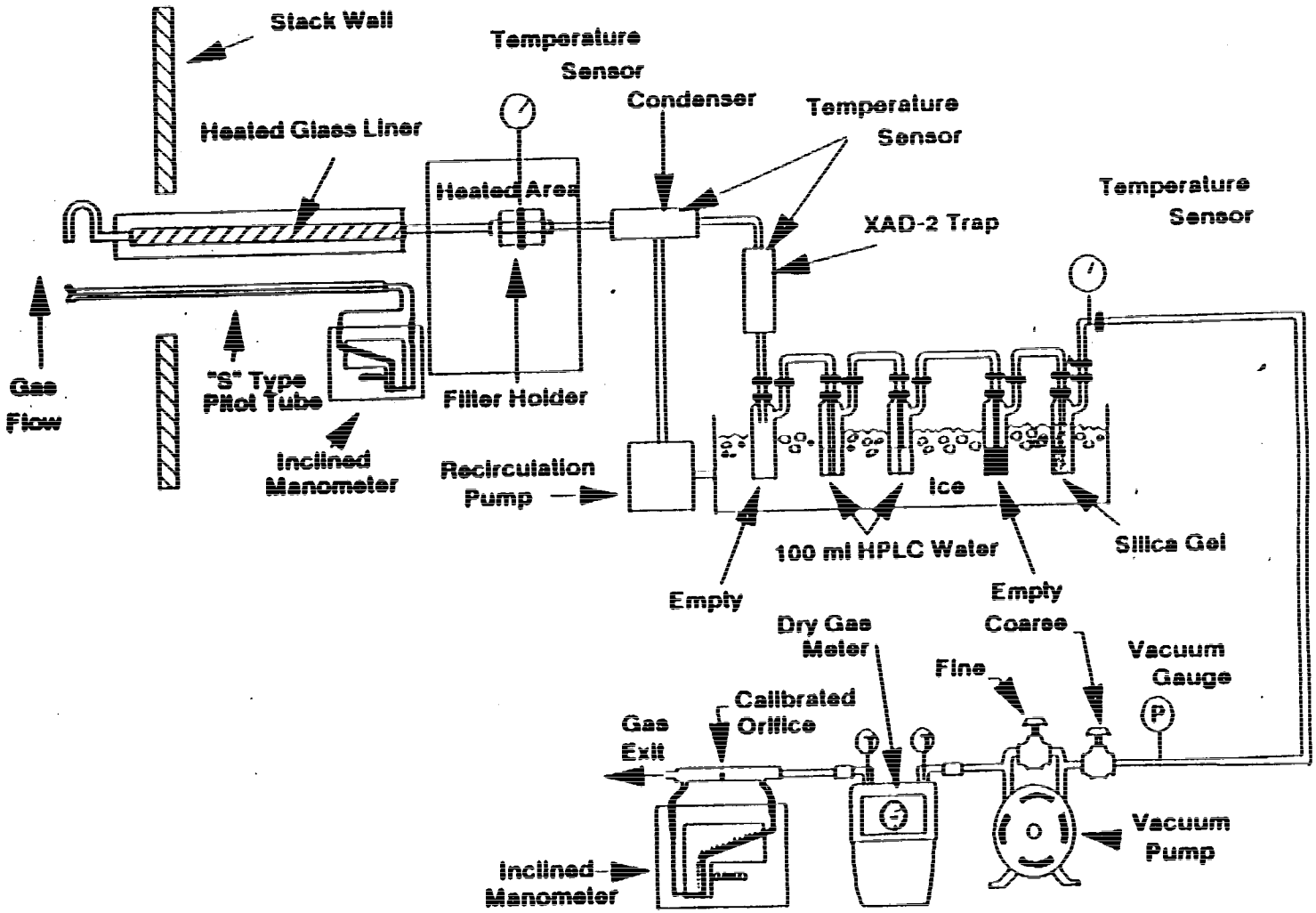


Figure 23.1 Sampling train

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2.1.1 Nozzle. The nozzle shall be made of nickel, nickel-plated stainless steel, quartz, or borosilicate glass.

2.1.2 Sample Transfer Lines. The sample transfer lines, if needed, shall be heat traced, heavy walled TFE (⅜ in. OD with ⅛ in. wall) with connecting fittings that are capable of forming leak-free, vacuum-tight connections without using sealing greases. The line shall be as short as possible and must be maintained at 120 °C.

2.1.1 Filter Support. Teflon or Teflon-coated wire.

2.1.2 Condenser. Glass, coil type with compatible fittings. A schematic diagram is shown in Figure 23–2.

2.1.3 Water Bath. Thermostatically controlled to maintain the gas temperature exiting the condenser at ≤20 °C (68 °F).

2.1.4 Adsorbent Module. Glass container to hold the solid adsorbent. A schematic diagram is shown in Figure 23–2. Other physical configurations of the resin trap/condenser assembly are acceptable. The connecting fittings shall form leak-free, vacuum tight seals. No sealant greases shall be used in the sampling train. A coarse glass frit is included to retain the adsorbent.

2.2 Sample Recovery.

2.2.1 Fitting Caps. Ground glass, Teflon tape, or aluminum foil (Section 2.2.6) to cap off the sample exposed sections of the train.

2.2.2 Wash Bottles. Teflon, 500-ml.

2.2.3 Probe-Liner Probe-Nozzle, and Filter-Holder Brushes. Inert bristle brushes with precleaned stainless steel or Teflon handles. The probe brush shall have extensions of stainless steel or Teflon, at least as long as the probe. The brushes shall be properly sized and shaped to brush out the nozzle, probe liner, and transfer line, if used.

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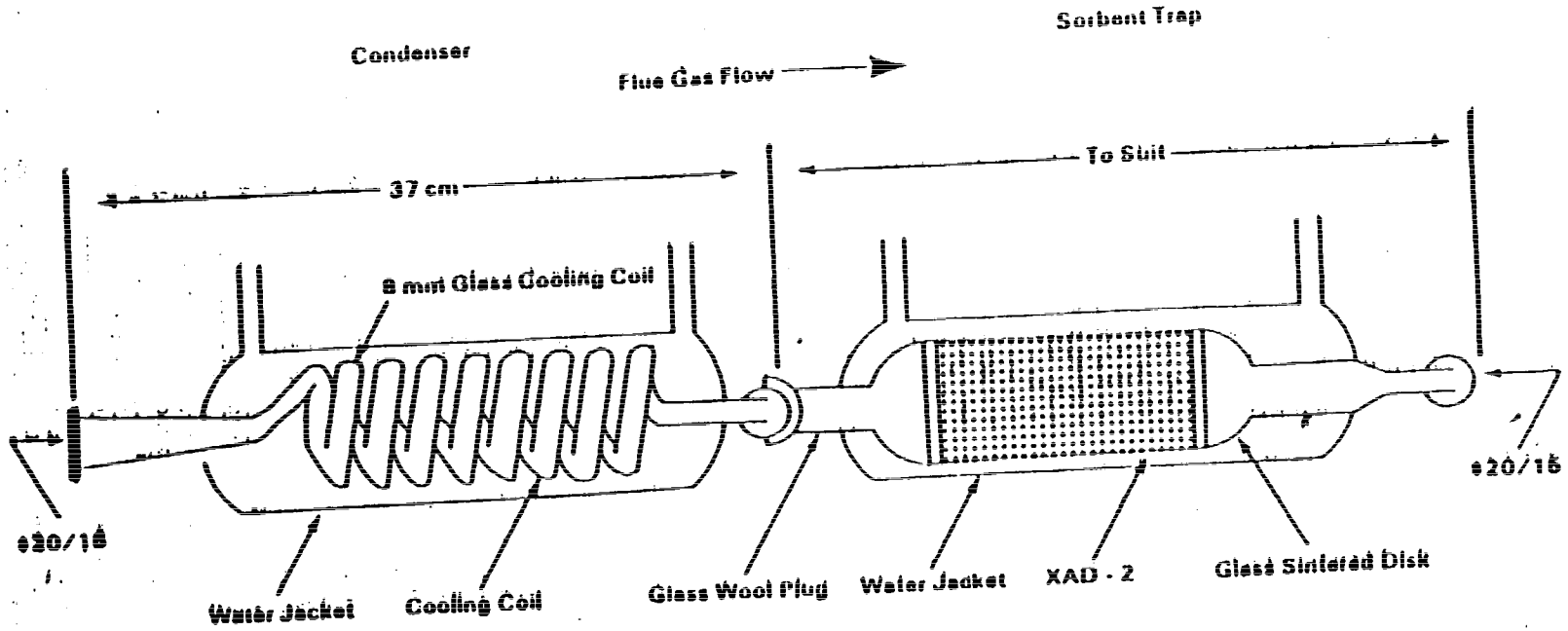


Figure 23.2. Condenser and adsorbent trap

2.2.4 Filter Storage Container. Sealed filter holder, wide-mouth amber glass jar with Teflon-lined cap, or glass petri dish.

2.2.5 Balance. Triple beam.

2.2.6 Aluminum Foil. Heavy duty, hexane-rinsed.

2.2.7 Metal Storage Container. Air tight container to store silica gel.

2.2.8 Graduated Cylinder. Glass, 250-ml with 2-ml graduation.

2.2.9 Glass Sample Storage Container. Amber glass bottle for sample glassware washes, 500- or 1000-ml, with leak free Teflon-lined caps.

2.3 Analysis.

2.3.1 Sample Container. 125- and 250-ml flint glass bottles with Teflon-lined caps.

2.3.2 Test Tube. Glass.

2.3.3 Soxhlet Extraction Apparatus. Capable of holding 43 x 123 mm extraction thimbles.

2.3.4 Extraction Thimble. Glass, precleaned cellulosic, or glass fiber.

2.3.5 Pasteur Pipettes. For preparing liquid chromatographic columns.

2.3.6 Reacti-vials. Amber glass, 2-ml, silanized prior to use.

2.3.7 Rotary Evaporator. Buchi/Brinkman RF-121 or equivalent.

2.3.8 Nitrogen Evaporative Concentrator. N-Evap Analytical Evaporator Model III or equivalent.

2.3.9 Separatory Funnels. Glass, 2-liter.

2.3.10 Gas Chromatograph. Consisting of the following components:

2.3.10.1 Oven. Capable of maintaining the separation column at the proper operating temperature ± °C and performing programmed increases in temperature at rates of at least 40 °C/min.

2.3.10.2 Temperature Gauge. To monitor column oven, detector, and exhaust temperatures ± 1 °C.

2.3.10.3 Flow System. Gas metering system to measure sample, fuel, combustion gas, and carrier gas flows.

2.3.10.4 Capillary Columns. A fused silica column, 60 × 0.25 mm inside diameter (ID), coated with DB-5 and a fused silica column, 30 m × 0.25 mm ID coated with DB-225. Other column systems may be used provided that the user is able to demonstrate using calibration and performance checks that the column system is able to meet the specifications of section 8.1.2.2.

2.3.11 Mass Spectrometer. Capable of routine operation at a resolution of 1:10000 with a stability of ± 5 ppm.

2.3.12 Data System. Compatible with the mass spectrometer and capable of monitoring at least five groups of 25 ions.

2.3.13 Analytical Balance. To measure within 0.1 mg.

3. Reagents

3.1 Sampling.

3.1.1 Filters. Glass fiber filters, without organic binder, exhibiting at least 99.95 percent efficiency (<0.05 percent penetration) on 0.3-micron dioctyl phthalate smoke particles. The filter efficiency test shall be conducted in accordance with ASTM Standard Method D 2986-71 (Reapproved 1978) (incorporated by reference—see § 60.17).

3.1.1.1 Precleaning. All filters shall be cleaned before their initial use. Place a glass extraction thimble and 1 g of silica gel and a plug of glass wool into a Soxhlet apparatus, charge the apparatus with toluene, and reflux for a minimum of 3 hours. Remove the toluene and discard it, but retain the silica gel. Place no more than 50 filters in the thimble onto the silica gel bed and top with the cleaned glass wool. Charge the Soxhlet with toluene and reflux for 16 hours. After extraction, allow the Soxhlet to cool, remove the filters, and dry them under a clean N_2 stream. Store the filters in a glass petri dish sealed with Teflon tape.

3.1.2 Adsorbent Resin. Amberlite XAD-2 resin. Thoroughly cleaned before initial use.

3.1.2.1 Cleaning Procedure. This procedure may be carried out in a giant Soxhlet extractor. An all-glass filter thimble containing an extra-course frit is used for extraction of XAD-2. The frit is recessed 10-15 mm above a crenelated ring at the bottom of the thimble to facilitate drainage. The resin must be carefully retained in the extractor cup with a glass wool plug and a stainless steel ring because it floats on methylene chloride. This process involves sequential extraction in the following order.

Solvent	Procedure
Water	Initial rinse: Place resin in a beaker, rinse once with water, and discard. Fill with water a second time, let stand overnight, and discard.
Water	Extract with water for 8 hours.
Methanol	Extract for 22 hours.
Methylene Chloride	Extract for 22 hours.
Toluene	Extract for 22 hours.

3.1.2.2 Drying.

3.1.2.2.1 Drying Column. Pyrex pipe, 10.2 cm ID by 0.6 m long, with suitable retainers.

3.1.2.2.2 Procedure. The adsorbent must be dried with clean inert gas. Liquid nitrogen from a standard commercial liquid nitrogen cylinder has proven to be a reliable source of large volumes of gas free from organic contaminants. Connect the liquid nitrogen cylinder to the column by a length of cleaned copper tubing, 0.95 cm ID, coiled to pass through a heat source. A convenient heat source is a water-bath heated from a steam line. The final nitrogen temperature should only be warm to the touch and not over 40 °C. Continue flowing nitrogen through the adsorbent until all the residual solvent is removed. The flow rate should be sufficient to gently agitate the particles but not so excessive as the cause the particles to fracture.

3.1.2.3 Quality Control Check. The adsorbent must be checked for residual toluene.

3.1.2.3.1 Extraction. Weigh 1.0 g sample of dried resin into a small vial, add 3 ml of toluene, cap the vial, and shake it well.

3.1.2.3.2 Analysis. Inject a 3 µl sample of the extract into a gas chromatograph operated under the following conditions:

Column: 6 ft × ⅛ in stainless steel containing 10-percent OV-101 on 100/120 Supelcoport.

Carrier Gas: Helium at a rate of 30 ml/min.

Detector: Flame ionization detector operated at a sensitivity of 4 × 10^{-11} A/mV.

Injection Port Temperature: 250 °C.

Detector Temperature: 305 °C.

Oven Temperature: 30 °C for 4 min; programmed to rise at 40 °C/min until it reaches 250 °C; return to 30 °C after 17 minutes.

Compare the results of the analysis to the results from the reference solution. Prepare the reference solution by injection 2.5 µl of methylene chloride into 100 ml of toluene. This corresponds to 100 µg of methylene chloride per g of adsorbent. The maximum acceptable concentration is 1000 µg/g of adsorbent. If the adsorbent exceeds this level, drying must be continued until the excess methylene chloride is removed.

3.1.2.4 Storage. The adsorbent must be used within 4 weeks of cleaning. After cleaning, it may be stored in a wide mouth amber glass container with a Teflon-lined cap or placed in one of the glass adsorbent modules tightly sealed with glass stoppers. If precleaned adsorbent is purchased in sealed containers, it must be used within 4 weeks after the seal is broken.

3.1.3 Glass Wool. Cleaned by sequential immersion in three aliquots of methylene chloride, dried in a 110 °C oven, and stored in a methylene chloride-washed glass jar with a Teflon-lined screw cap.

3.1.4 Water. Deionized distilled and stored in a methylene chloride-rinsed glass container with a Teflon-lined screw cap.

3.1.5 Silica Gel. Indicating type, 6 to 16 mesh. If previously used, dry at 175 °C (350 °F) for two hours. New silica gel may be used as received. Alternately other types of desiccants (equivalent or better) may be used, subject to the approval of the Administrator.

3.1.6 Chromic Acid Cleaning Solution. Dissolve 20 g of sodium dichromate in 15 ml of water, and then carefully add 400 ml of concentrated sulfuric acid.

3.2 Sample Recovery.

3.2.2 Acetone. Pesticide quality.

3.2.2 Methylene Chloride. Pesticide quality.

3.2.3 Toluene. Pesticide quality.

3.3 Analysis.

3.3.1 Potassium Hydroxide. ACS grade, 2-percent (weight/volume) in water.

3.3.2 Sodium Sulfate. Granulated, reagent grade. Purify prior to use by rinsing with methylene chloride and oven drying. Store the cleaned material in a glass container with a Teflon-lined screw cap.

3.3.3 Sulfuric Acid. Reagent grade.

3.3.4 Sodium Hydroxide. 1.0 N. Weigh 40 g of sodium hydroxide into a 1-liter volumetric flask. Dilute to 1 liter with water.

3.3.5 Hexane. Pesticide grade.

3.3.6 Methylene Chloride. Pesticide grade.

3.3.7 Benzene. Pesticide Grade.

3.3.8 Ethyl Acetate.

3.3.9 Methanol. Pesticide Grade.

3.3.10 Toluene. Pesticide Grade.

3.3.11 Nonane. Pesticide Grade.

3.3.12 Cyclohexane. Pesticide Grade.

3.3.13 Basic Alumina. Activity grade 1, 100-200 mesh. Prior to use, activate the alumina by heating for 16 hours at 130 °C

before use. Store in a desiccator. Pre-activated alumina may be purchased from a supplier and may be used as received.

3.3.14 Silica Gel. Bio-Sil A, 100–200 mesh. Prior to use, activate the silica gel by heating for at least 30 minutes at 180 °C. After cooling, rinse the silica gel sequentially with methanol and methylene chloride. Heat the rinsed silica gel at 50 °C for 10 minutes, then increase the temperature gradually to 160 °C over 25 minutes and maintain it at this temperature for 90 minutes. Cool at room temperature and store in a glass container with a Teflon-lined screw cap.

3.3.15 Silica Gel Impregnated with Sulfuric Acid. Combine 100 g of silica gel with 44 g of concentrated sulfuric acid in a screw capped glass bottle and agitate thoroughly. Disperse the solids with a stirring rod until a uniform mixture is obtained. Store the mixture in a glass container with a Teflon-lined screw cap.

3.3.16 Silica Gel Impregnated with Sodium Hydroxide. Combine 39 g of 1 N sodium hydroxide with 100 g of silica gel in a screw capped glass bottle and agitate thoroughly. Disperse solids with a stirring rod until a uniform mixture is obtained. Store the mixture in glass container with a Teflon-lined screw cap.

3.3.17 Carbon/Celite. Combine 10.7 g of XAD-2 carbon with 124 g of Celite 545 in a 250-ml glass bottle with a Teflon-lined screw cap. Agitate the mixture thoroughly until a uniform mixture is obtained. Store in the glass container.

3.3.18 Nitrogen. Ultra high purity.

3.3.19 Hydrogen. Ultra high purity.

3.3.20 Internal Standard Solution. Prepare a stock standard solution containing the isotopically labelled PCDD's and PCDF's at the concentrations shown in Table 1 under the heading "Internal Standards" in 10 ml of nonane.

3.3.21 Surrogate Standard Solution. Prepare a stock standard solution containing the isotopically labelled PCDD's and PCDF's at the concentrations shown in Table 1 under the heading "Surrogate Standards" in 10 ml of nonane.

3.3.22 Recovery Standard Solution. Prepare a stock standard solution containing the isotopically labelled PCDD's and PCDF's at the concentrations shown in Table 1 under the heading "Recovery Standards" in 10 ml of nonane.

4. Procedure

4.1 Sampling. The complexity of this method is such that, in order to obtain reliable results, testers should be trained and experienced with the test procedures.

4.1.1 Pretest Preparation.

4.1.1.1 Cleaning Glassware. All glass components of the train upstream of and including the adsorbent module shall be cleaned as described in section 3A of the "Manual of Analytical Methods for the Analysis of Pesticides in Human and Environmental Samples." Special care shall be devoted to the removal of residual silicone grease sealants on ground glass connections of used glassware. Any residue shall be removed by sealing the glassware for several hours in a chromic acid cleaning solution prior to cleaning as described above.

4.1.1.2 Adsorbent Trap. The traps must be loaded in a clean area to avoid contamination. They may not be loaded in the field. Fill a trap with 20 to 40 g of XAD–2. Follow the XAD–2 with glass wool and tightly cap both ends of the trap. Add 100 µl of the surrogate standard solution (section 3.3.21) to each trap.

4.1.1.3 Sample Train. It is suggested that all components be maintained according to the procedure described in APTD–0576.

4.1.1.4 Silica Gel. Weigh several 200 to 300 g portions of silica gel in an air tight container to the nearest 0.5 g. Record the total weight of the silica gel plus container, on each container. As an alternative, the silica gel may be weighed directly in its impinger or sampling holder just prior to sampling.

4.1.1.5 Filter. Check each filter against light for irregularities and flaws or pinhole leaks. Pack the filters flat in a clean glass container.

4.1.2 Preliminary Determinations. Same as section 4.1.2 of Method 5.

4.1.3 Preparation of Collection Train.

4.1.3.1 During preparation and assembly of the sampling train, keep all train openings where contamination can enter, sealed until just prior to assembly or until sampling is about to begin.

Note: Do not use sealant grease in assembling the train.

4.1.3.2 Place approximately 100 ml of water in the second and third impingers, leave the first and fourth impingers empty, and transfer approximately 200 to 300 g of preweighed silica gel from its container to the fifth impinger.

4.1.3.3 Place the silica gel container in a clean place for later use in the sample recovery. Alternatively, the weight of the silica gel plus impinger may be determined to the nearest 0.5 g and recorded.

4.1.3.4 Assemble the train as shown in Figure 23–1.

4.1.3.5 Turn on the adsorbent module and condenser coil recirculating pump and begin monitoring the adsorbent module gas entry temperature. Ensure proper sorbent temperature gas entry temperature before proceeding and before sampling is initiated. It is extremely important that the XAD–2 adsorbent resin temperature never exceed 50 °C because thermal decomposition will occur. During testing, the XAD–2 temperature must not exceed 20 °C for efficient capture of the PCDD's and PCDF's.

4.1.4 Leak-Check Procedure. Same as Method 5, section 4.1.4.

4.1.5 Sample Train Operation. Same as Method 5, section 4.1.5.

4.2 Sample Recovery. Proper cleanup procedure begins as soon as the probe is removed from the stack at the end of the sampling period. Seal the nozzle end of the sampling probe with Teflon tape or aluminum foil.

When the probe can be safely handled, wipe off all external particulate matter near the tip of the probe. Remove the probe from the train and close off both ends with aluminum foil. Seal off the inlet to the train with Teflon tape, a ground glass cap, or aluminum foil.

Transfer the probe and impinger assembly to the cleanup area. This area shall be clean and enclosed so that the chances of losing or contaminating the sample are minimized. Smoking, which could contaminate the sample, shall not be allowed in the cleanup area.

Inspect the train prior to and during disassembly and note any abnormal conditions, e.g., broken filters, colored impinger liquid, etc. Treat the samples as follows:

4.2.1 Container No. 1. Either seal the filter holder or carefully remove the filter from the filter holder and place it in its identified container. Use a pair of cleaned tweezers to handle the filter. If it is necessary to fold the filter, do so such that the particulate cake is inside the fold. Carefully transfer to the container any particulate matter and filter fibers which adhere to the filter holder gasket, by using a dry inert bristle brush and a sharp-edged blade. Seal the container.

4.2.2 Adsorbent Module. Remove the module from the train, tightly cap both ends, label it, cover with aluminum foil, and store it on ice for transport to the laboratory.

4.2.3 Container No. 2. Quantitatively recover material deposited in the nozzle, probe transfer lines, the front half of the filter holder, and the cyclone, if used, first by brushing while rinsing three times each with acetone and then, by rinsing the probe three times with methylene chloride. Collect all the rinses in Container No. 2.

Rinse the back half of the filter holder three times with acetone. Rinse the connecting line between the filter and the condenser three times with acetone. Soak the connecting line with three separate portions of methylene chloride for 5 minutes each. If using a separate condenser and adsorbent trap, rinse the condenser in the same manner as the connecting line. Collect all the rinses in Container No. 2 and mark the level of the liquid on the container.

4.2.4 Container No. 3. Repeat the methylene chloride rinsing described in Section 4.2.3 using toluene as the rinse solvent. Collect the rinses in Container No. 3 and mark the level of the liquid on the container.

4.2.5 Impinger Water. Measure the liquid in the first three impingers to within ±1 ml by using a graduated cylinder or by weighing it to within ±0.5 g by using a balance. Record the volume or weight of liquid present. This information is required to calculate the moisture content of the effluent gas.

Discard the liquid after measuring and recording the volume or weight.

4.2.7 Silica Gel. Note the color of the indicating silica gel to determine if it has been completely spent and make a mention of its condition. Transfer the silica gel from the fifth impinger to its original container and seal.

5. Analysis

All glassware shall be cleaned as described in section 3A of the "Manual of Analytical Methods for the Analysis of Pesticides in Human and Environmental Samples." All samples must be extracted

within 30 days of collection and analyzed within 45 days of extraction.

5.1 Sample Extraction.

5.1.1 Extraction System. Place an extraction thimble (section 2.3.4), 1 g of silica gel, and a plug of glass wool into the Soxhlet apparatus; charge the apparatus with toluene, and reflux for a minimum of 3 hours. Remove the toluene and discard it, but retain the silica gel. Remove the extraction thimble from the extraction system and place it in a glass beaker to catch the solvent rinses.

5.1.2 Container No. 1 (Filter). Transfer the contents directly to the glass thimble of the extraction system and extract them simultaneously with the XAD–2 resin.

5.1.3 Adsorbent Cartridge. Suspend the adsorbent module directly over the extraction thimble in the beaker (See section 5.1.1). The glass frit of the module should be in the up position. Using a Teflon squeeze bottle containing toluene, flush the XAD–2 into the thimble onto the bed of cleaned silica gel. Thoroughly rinse the glass module catching the rinsings in the beaker containing the thimble. If the resin is wet, effective extraction can be accomplished by loosely packing the resin in the thimble. Add the XAD–2 glass wool plug into the thimble.

5.1.4 Container No. 2 (Acetone and Methylene Chloride). Concentrate the sample to a volume of about 1–5 ml using the rotary evaporator apparatus, at a temperature of less than 37 °C. Rinse the sample-container three times with small portions of methylene chloride and add these to the concentrated solution and concentrate further to near dryness. This residue contains particulate matter removed in the rinse of the train probe and nozzle. Add the concentrate to the filter and the XAD–2 resin in the Soxhlet apparatus described in section 5.1.1.

5.1.5 Extraction. Add 100 µl of the internal standard solution (Section 3.3.20) to the extraction thimble containing the contents of the adsorbent cartridge, the contents of Container No. 1, and the concentrate from section 5.1.4. Cover the contents of the extraction thimble with the cleaned glass wool plug to prevent the XAD–2 resin from floating into the solvent reservoir of the extractor. Place the thimble in the extractor, and add the toluene contained in the beaker to the solvent reservoir. Pour additional toluene to fill the reservoir approximately 2/3 full. Add Teflon boiling chips and assemble the apparatus. Adjust the heat source to cause the extractor to cycle three times per hour. Extract the sample for 16 hours. After extraction, allow the Soxhlet to cool. Transfer the toluene extract and three 10-ml rinses to the rotary evaporator. Concentrate the extract to approximately 10 ml. At this point the analyst may choose to split the sample in half. If so, split the sample, store one half for future use, and analyze the other according to the procedures in sections 5.2 and 5.3. In either case, use a nitrogen evaporative concentrator to reduce the volume of the sample being analyzed to near dryness. Dissolve the residue in 5 ml of hexane.

5.1.6 Container No. 3 (Toluene Rinse). Add 100 µl of the Internal Standard solution (section 3.3.2) to the contents of the container. Concentrate the sample to a volume of about 1–5 ml using the rotary evaporator apparatus at a temperature of less than 37 °C. Rinse the sample container apparatus at a temperature of less than 37 °C. Rinse the sample container three times with small portions of toluene and add these to the concentrated solution and concentrate further to near dryness. Analyze the extract separately according to the procedures in sections 5.2 and 5.3, but concentrate the solution in a rotary evaporator apparatus rather than a nitrogen evaporative concentrator.

5.2 Sample Cleanup and Fractionation.

5.2.1 Silica Gel Column. Pack one end of a glass column, 20 mm x 230 mm, with glass wool. Add in sequence, 1 g silica gel, 2 g of sodium hydroxide impregnated silica gel, 1 g silica gel, 4 g of acid-modified silica gel, and 1 g of silica gel. Wash the column with 30 ml of hexane and discard it. Add the sample extract, dissolved in 5 ml of hexane to the column with two additional 5-ml rinses. Elute the column with an additional 90 ml of hexane and retain the entire eluate. Concentrate this solution to a volume of about 1 ml using the nitrogen evaporative concentrator (section 2.3.7).

5.2.2 Basic Alumina Column. Shorten a 25-ml disposable Pasteur pipette to about 16 ml. Pack the lower section with glass wool and 12 g of basic alumina. Transfer the concentrated extract from the silica gel column to the top of the basic alumina column and elute the column sequentially with 120 ml of 0.5 percent methylene chloride in hexane followed by 120 ml of 35 percent methylene chloride in hexane. Discard the first 120 ml of eluate. Collect the second 120 ml of eluate and concentrate it to about 0.5 ml using the nitrogen evaporative concentrator.

5.2.3 AX–21 Carbon/Celite 545 Column. Remove the bottom 0.5 in. from the tip of a 9-ml disposable Pasteur pipette. Insert a glass fiber filter disk in the top of the pipette 2.5 cm from the constriction. Add sufficient carbon/celite mixture to form a 2 cm column. Top with a glass wool plug. In some cases AX–21 carbon fines may wash through the glass wool plug and enter the sample. This may be prevented by adding a celite plug to the exit end of the column. Rinse the column in sequence with 2 ml of 90 percent benzene in ethyl acetate, 1 ml of 50 percent methylene chloride in cyclohexane, and 2 ml of hexane. Discard these rinses. Transfer the concentrate in 1 ml of hexane from the basic alumina column to the carbon/celite column along with 1 ml of hexane rinse. Elute the column sequentially with 2 ml of 50 percent methylene chloride in hexane and 2 ml of 50 percent benzene in ethyl acetate and discard these eluates. Invert the column and elute in the reverse direction with 13 ml of toluene. Collect this eluate. Concentrate the eluate in a rotary evaporator at 50 °C to about 1 ml. Transfer the concentrate to a Reacti-vial using a toluene rinse and concentrate to a volume of 200 µl using a stream of N$_2$. Store extracts at room temperature, shielded from light, until the analysis is performed.

5.3 Analysis. Analyze the sample with a gas chromatograph coupled to a mass spectrometer (GC/MS) using the instrumental parameters in sections 5.3.1 and 5.3.2. Immediately prior to analysis, add a 20 µl aliquot of the Recovery Standard solution from Table 1 to each sample. A 2 µl aliquot of the extract is injected into the GC. Sample extracts are first analyzed using the DB–5 capillary column to determine the concentration of each isomer of PCDD's and PCDF's (tetra-through octa-). If tetra-chlorinated dibenzofurans are detected in this analysis, then analyze another aliquot of the sample in a separate run, using the DB–225 column to measure the 2,3,7,8 tetra-chloro dibenzofuran isomer. Other column systems may be used, provided that the user is able to demonstrate using calibration and performance checks that the column system is able to meet the specifications of section 8.1.2.2.

5.3.1 Gas Chromatograph Operating Conditions.

5.3.1.1 Injector. Configured for capillary column, splitless, 250°C.

5.3.1.2 Carrier Gas. Helium, 1–2 ml/min.

5.3.1.3 Oven. Initially at 150°C. Raise by at least 40°C/min to 190°C and then at 3°C/min up to 300°C.

5.3.2 High Resolution Mass Spectrometer.

5.3.2.1 Resolution. 10000 m/e.

5.3.2.2 Ionization Mode. Electron impact.

5.3.2.3 Source Temperature 250°C.

5.3.2.4 Monitoring Mode. Selected ion monitoring. A list of the various ions to be monitored is summarized in Table 3.

5.3.2.5 Identification Criteria. The following identification criteria shall be used for the characterization of polychlorinated dibenzodioxins and dibenzofurans.

1. The integrated ion-abundance ratio (M/M+2 or M+2/M+4) shall be within 15 percent of the theoretical value. The acceptable ion-abundance ratio ranges for the identification of chlorine-containing compounds are given in Table 4.

2. The retention time for the analytes must be within 3 seconds of the corresponding ^{13}C-labeled internal standard, surrogate or alternate standard.

3. The monitored ions, shown in Table 3 for a given analyte, shall reach their maximum within 2 seconds of each other.

4. The identification of specific isomers that do not have corresponding ^{13}C-labeled standards is done by comparison of the relative retention time (RRT) of the analyte to the nearest internal standard retention time with reference (i.e., within 0.005 RRT units) to the comparable RRT's found in the continuing calibration.

5. The signal to noise ratio for all monitored ions must be greater than 2.5.

6. The confirmation of 2, 3, 7, 8–TCDD and 2, 3, 7, 8–TCDF shall satisfy all of the above identification criteria.

7. For the identification of PCDF's, no signal may be found in the corresponding PCDPE channels.

5.3.2.6 Quantification. The peak areas for the two ions monitored for each analyte are summed to yield the total response for each analyte. Each internal standard is used to quantify the indigenous PCDD's or PCDF's in its homologous series. For example, the ^{13}C$_{12}$-2,3,7,8-tetra chlorinated dibenzodioxin is used to calculate the concentrations of all other tetra chlorinated isomers. Recoveries of the tetra- and penta- internal standards are

calculated using the $^{13}C_{12}$-1,2,3,4-TCDD. Recoveries of the hexa- through octa- internal standards are calculated using $^{13}C_{12}$-1,2,3,7,8,9-HxCDD. Recoveries of the surrogate standards are calculated using the corresponding homolog from the internal standard.

8. Calibration

Same as Method 5 with the following additions.

8.1 GC/MS System.

8.1.1 Initial Calibration. Calibrate the GC/MS system using the set of five standards shown in Table 2. The relative standard deviation for the mean response factor from each of the unlabeled analytes (Table 2) and of the internal, surrogate, and alternate standards shall be less than or equal to the values in Table 5. The signal to noise ratio for the GC signal present in every selected ion current profile shall be greater than or equal to 2.5. The ion abundance ratios shall be within the control limits in Table 4.

8.1.2 Daily Performance Check.

8.1.2.1 Calibration Check. Inject on µl of solution Number 3 from Table 2. Calculate the relative response factor (RRF) for each compound and compare each RRF to the corresponding mean RRF obtained during the initial calibration. The analyzer performance is acceptable if the measured RRF's for the labeled and unlabeled compounds for the daily run are within the limits of the mean values shown in Table 5. In addition, the ion-abundance ratios shall be within the allowable control limits shown in Table 4.

8.1.2.2 Column Separation Check. Inject a solution of a mixture of PCDD's and PCDF's that documents resolution between 2,3,7,8-TCDD and other TCDD isomers. Resolution is defined as a valley between peaks that is less than 25 percent of the lower of the two peaks. Identify and record the retention time windows for each homologous series.

Perform a similar resolution check on the confirmation column to document the resolution between 2,3,7,8 TCDF and other TCDF isomers.

8.2 Lock Channels. Set mass spectrometer lock channels as specified in Table 3. Monitor the quality control check channels specified in Table 3 to verify instrument stability during the analysis.

7. Quality Control

7.1 Sampling Train Collection Efficiency Check. Add 100 µl of the surrogate standards in Table 1 to the absorbent cartridge of each train before collecting the field samples.

7.2 Internal Standard Percent Recoveries. A group of nine carbon labeled PCDD's and PCDF's representing, the tetra-through octachlorinated homologues, is added to every sample prior to extraction. The role of the internal standards is to quantify the native PCDD's and PCDF's present in the sample as well as to determine the overall method efficiency. Recoveries of the internal standards must be between 40 to 130 percent for the tetra-through hexachlorinated compounds while the range is 25 to 130 percent for the higher hepta- and octachlorinated homologues.

7.3 Surrogate Recoveries. The five surrogate compounds in Table 2 are added to the resin in the adsorbent sampling cartridge before the sample is collected. The surrogate recoveries are measured relative to the internal standards and are a measure of collection efficiency. They are not used to measure native PCDD's and PCDF's. All recoveries shall be between 70 and 130 percent. Poor recoveries for all the surrogates may be an indication of breakthrough in the sampling train. If the recovery of all standards is below 70 percent, the sampling runs must be repeated. As an alternative, the sampling runs do not have to be repeated if the final results are divided by the fraction of surrogate recovery. Poor recoveries of isolated surrogate compounds should not be grounds for rejecting an entire set of the samples.

7.4 Toluene QA Rinse. Report the results of the toluene QA rinse separately from the total sample catch. Do not add it to the total sample.

8. Quality Assurance

8.1 Applicability. When the method is used to analyze samples to demonstrate compliance with a source emission regulation, an audit sample must be analyzed, subject to availability.

8.2 Audit Procedure. Analyze an audit sample with each set of compliance samples. The audit sample contains tetra through octa isomers of PCDD and PCDF. Concurrently, analyze the audit sample and a set of compliance samples in the same manner to evaluate the technique of the analyst and the standards preparation. The same analyst, analytical reagents, and analytical system shall be used both for the compliance samples and the EPA audit sample.

8.3 Audit Sample Availability. Audit samples will be supplied only to enforcement agencies for compliance tests. The availability of audit samples may be obtained by writing: Source Test Audit Coordinator (MD-77B), Quality Assurance Division, Atmospheric Research and Exposure Assessment Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, or by calling the Source Test Audit Coordinator (STAC) at (919) 541-7834. The request for the audit sample must be made at least 30 days prior to the scheduled compliance sample analysis.

8.4 Audit Results. Calculate the audit sample concentration according to the calculation procedure described in the audit instructions included with the audit sample. Fill in the audit sample concentration and the analyst's name on the audit response form included with the audit instructions. Send one copy to the EPA Regional Office or the appropriate enforcement agency and a second copy to the STAC. The EPA Regional office or the appropriate enforcement agency will report the results of the audit to the laboratory being audited. Include this response with the results of the compliance samples in relevant reports to the EPA Regional Office or the appropriate enforcement agency.

9. Calculations

Same as Method 5, section 6 with the following additions.

9.1 Nomenclature.

A_{ni} = Integrated ion current of the noise at the retention time of the analyte.

A^*_{si} = Integrated ion current of the two ions characteristic of the internal standard i in the calibration standard.

A_{sij} = Integrated ion current of the two ions characteristic of compound i in the jth calibration standard.

A^*_{sij} = Integrated ion current of the two ions characteristic of the internal standard i in the jth calibration standard.

A_{sui} = Integrated ion current of the two ions characteristic of surrogate compound i in the calibration standard.

A_i = Integrated ion current of the two ions characteristic of compound i in the sample.

A^*_i = Integrated ion current of the two ions characterisuc of internal standard i in the sample.

A_{ri} = Integrated ion current of the two ions characteristic of the recovery standard.

A_{su} = Integrated ion current of the two ions characteristic of surrogate compound i in the sample.

C_i = Concentration of PCDD or PCDF i in the sample, pg/M^3.

C_T = Total concentration of PCDD's or PCDF's in the sample, pg/M^3.

m_{si} = Mass of compound i in the calibration standard injected into the analyzer, pg.

m_{ri} = Mass of recovery standard in the calibration standard injected into the analyzer, pg.

m_{su} = Mass of surrogate compound i in the calibration standard, pg.

RRF_i = Relative response factor.

RRF_{ri} = Recovery standard response factor.

RRF_u = Surrogate compound response factor.

9.2 Average Relative Response Factor.

$$RRF_i = \frac{1}{n}\sum_{j=1}^{n}\frac{A_{sij}\,m^*_{si}}{A^*_{sij}\,m_{si}} \qquad \text{Eq. 23-1}$$

9.3 Concentration of the PCDD's and PCDF's.

$$C_i = \frac{m_i^*\,A_i}{A_i^*\,RRF_i\,V_{mstd}} \qquad \text{Eq. 23-2}$$

9.4 Recovery Standard Response Factor.

$$RRF_{ri} = \frac{A_{ri}^*\,m_{ri}}{A_{ri}\,m_{ri}^*} \qquad \text{Eq. 23-3}$$

9.5 Recovery of Internal Standards (R*).

$$R^*_{si} = \frac{A_i^*\,m_{ri}}{A_{ri}\,RF_{ri}\,m_i^*}\times 100\% \qquad \text{Eq. 23-4}$$

9.6 Surrogate Compound Response Factor.

$$RRF_r = \frac{A_{cs}^{*}\, m_s}{A_{ss}\, m_{cs}^{*}} \qquad \text{Eq. 23—5}$$

9.7 Recovery of Surrogate Compounds (R_r).

$$R_r = \frac{A_r\, m_r^{*}}{A_r^{*}\, RRF_r\, m_r} \times 100\% \qquad \text{Eq. 23—6}$$

9.8 Minimum Detectable Limit (MDL).

$$MDL = \frac{2.5\, A_{cs}\, m_r^{*}}{A_{cs}^{*}\, RRF_r} \qquad \text{Eq. 23—7}$$

9.9 Total Concentration of PCDD's and PCDF's in the Sample.

$$C_T = \sum_{i=1}^{n} C_i \qquad \text{Eq. 23—8}$$

Any PCDD's or PCDF's that are reported as nondetected (below the MDL) shall be counted as zero for the purpose of calculating the total concentration of PCDD's and PCDF's in the sample.

10. Bibliography

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TABLE 1.—COMPOSITION OF THE SAMPLE FORTIFICATION AND RECOVERY STANDARDS SOLUTIONS

Analyte	Concentration (pg/μl)
Internal Standards:	
$^{13}C_{12}$-2,3,7,8-TCDD	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100
$^{13}C_{12}$-OCDD	100
$^{13}C_{12}$-2,3,7,8-TCDF	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100
Surrogate Standards:	
$^{37}Cl_4$-2,3,7,8-TCDD	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100
Recovery Standards:	
$^{13}C_{12}$-1,2,3,4-TCDD	500
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	500

TABLE 1.—COMPOSITION OF THE SAMPLE FORTIFICATION AND RECOVERY STANDARDS SOLUTIONS—Continued

Analyte	Concentration (pg/μl)
$^{13}C_{12}$-2,3,7,8-TCDF	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,6,7,9-HxCDF	100
$^{13}C_{12}$-1,2,3,4,6,7,9-HpCDF	100
Surrogate Standards:	
$^{37}Cl_4$-2,3,7,8-TCDD	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100
Recovery Standards:	
$^{13}C_{12}$-1,2,3,4-TCDD	500
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	500

TABLE 2.—COMPOSITION OF THE INITIAL CALIBRATION SOLUTIONS

Compound	Concentrations (pg/μl)				
	Solution No.				
	1	2	3	4	5
Alternate Standard: $^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.5	5	25	250	500
Recovery Standard: $^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100

TABLE 3.—ELEMENTAL COMPOSITIONS AND EXACT MASSES OF THE IONS MONITORED BY HIGH RESOLUTION MASS SPECTROMETRY FOR PCDD'S AND PCDF'S

Descriptor No.	Accurate mass	Ion type	Elemental composition	Analyte
			C_6F_6	PFK
2	293.9039	LOCK	$C_{12}H_4{}^{35}Cl_4O$	TCDF
	303.9016	M	$C_{12}H_4{}^{37}Cl^{35}Cl_3O$	TCDF
	305.8987	M+2	$C_{12}H_4{}^{37}Cl_2{}^{35}Cl_2O$	TCDF (S)
	315.9419	M	$^{13}C_{12}H_4{}^{35}Cl_4O$	TCDF (S)
	317.9389	M+2	$C_{12}H_4{}^{35}Cl_4O_2$	TCDD
	319.8965	M	$C_{12}H_4{}^{37}Cl^{35}Cl_3O_2$	TCDD
	321.8936	M+2	$C_{12}H_4{}^{37}Cl_2{}^{35}Cl_2O_2$	TCDD (S)
	327.8847	M	C_6F_6	PFK
	330.9792	QC	$^{13}C_{12}H_4{}^{35}Cl_4O_2$	TCDD (S)
	331.9368	M	$^{13}C_{12}H_4{}^{37}Cl^{35}Cl_3O_2$	TCDD (S)
	333.9339	M+2	$C_{12}H_5{}^{35}Cl_4O$	PeCDF
	339.8597	M+2	$C_{12}H_5{}^{37}Cl^{35}Cl_3O$	PeCDF
	341.8567	M+4	$^{13}C_{12}H_5{}^{35}Cl_4O$	PeCDF (S)
	351.9000	M+2	$^{13}C_{12}H_5{}^{37}Cl^{35}Cl_3O$	PeCDF (S)
	353.8970	M+4	$C_{12}H_5{}^{35}Cl_4O_2$	PeCDD
	355.8546	M+2	$C_{12}H_5{}^{37}Cl^{35}Cl_3O_2$	PeCDD
	357.8516	M+4	$C_{12}H_5{}^{37}Cl_2{}^{35}Cl_2O_2$	PeCDD (S)
	367.8949	M+2	$^{13}C_{12}H_5{}^{35}Cl_4O_2$	PeCDD (S)
	369.8919	M+4	$^{13}C_{12}H_5{}^{37}Cl^{35}Cl_3O_2$	HxCDPE
	379.9364	M+2	$C_{12}H_6{}^{35}Cl_4O_2$	HpCPDE
	409.7974	M+2	$C_{12}H_6{}^{37}Cl^{35}Cl_3O_2$	HxCDF
3	373.8208	M+2	$C_{12}H_6{}^{37}Cl_2{}^{35}Cl_2O_2$	HxCDF
	375.8178	M+4	$^{13}C_{12}H_6{}^{35}Cl_4O_2$	HxCDF (S)
	383.8639	M	$^{13}C_{12}H_6{}^{37}Cl^{35}Cl_3O_2$	HxCDF (S)
	385.8610	M+2	$C_{12}H_6{}^{35}Cl_6O_2$	HxCDD
	387.8581	M+4	$C_{12}H_6{}^{37}Cl^{35}Cl_5O_2$	HxCDD
	397.8013	M+2	$^{13}C_{12}H_6{}^{35}Cl_6O_2$	PFK
	399.7982	M+4	$^{13}C_{12}H_6{}^{37}Cl^{35}Cl_5O_2$	
	407.8818	LOCK	C_6F_6	

TABLE 3.—ELEMENTAL COMPOSITIONS AND EXACT MASSES OF THE IONS MONITORED BY HIGH RESOLUTION MASS SPECTROMETRY FOR PCDD'S AND PCDF'S—Continued

Descriptor No.	Accurate mass	Ion type	Elemental composition	Analyte
	401.8559	M+2	$^{13}C_{12}H_4{}^{35}Cl_5{}^{37}ClO_2$	HxCDD (S)
	403.8529	M+4	$^{13}C_{12}H_4{}^{35}Cl_4{}^{37}Cl_2O$	HxCDD (S)
	445.7555	M+4	$C_{12}H_4{}^{35}Cl_6{}^{37}Cl_2O$	OCDPE
	430.9729	QC	C_6F_{11}	PFK
4	407.7818	M+2	$C_{12}H^{35}Cl_5{}^{37}ClO$	HpCDF
	409.7789	M+4	$C_{12}H^{35}Cl_4{}^{37}Cl_2O$	HpCDF
	417.8253	M	$^{13}C_{12}H^{35}Cl_5{}^{37}Cl_2O$	HpCDF (S)
	419.8220	M+2	$^{13}C_{12}H^{35}Cl_5{}^{37}ClO$	HpCDF (S)
	423.7766	M+2	$C_{12}H^{35}Cl_6{}^{37}ClO_2$	HpCDD
	425.7737	M+4	$C_{12}H^{35}Cl_5{}^{37}Cl_2O_2$	HpCDD
	435.8169	M+2	$^{13}C_{12}H^{35}Cl_6{}^{37}ClO_2$	HpCDD (S)
	437.8140	M+4	$^{13}C_{12}H^{35}Cl_5{}^{37}Cl_2O_2$	HpCDD (S)
	479.7165	M+4	$C_{12}H^{35}Cl_7{}^{37}Cl_2O$	NCPCE
	430.9729	LOCK	C_6F_{11}	PFK
	441.7428	M+2	$C_{12}{}^{35}Cl_7{}^{37}ClO$	OCDF
	443.7399	M+4	$C_{12}{}^{35}Cl_6{}^{37}Cl_2O$	OCDF
	457.7377	M+2	$C_{12}{}^{35}Cl_7{}^{37}ClO_2$	OCDD
	459.7348	M+4	$C_{12}{}^{35}Cl_6{}^{37}Cl_2O_2$	OCDD
	469.7779	M+2	$^{13}C_{12}{}^{35}Cl_7{}^{37}ClO_2$	OCDD (S)
	471.7750	M+4	$^{13}C_{12}{}^{35}Cl_6{}^{37}Cl_2O_2$	OCDD (S)
	513.6775	M+4	$C_{12}{}^{35}Cl_8{}^{37}Cl_2O_2$	OCDPE
	442.9728	QC	C_6F_{11}	PFK

(a) The following nuclide masses were used:
H = 1.007825
C = 12.000000
^{13}C = 13.003355
F = 18.9984
O = 15.994915
^{35}Cl = 34.968853
^{37}Cl = 36.965903
S = Labeled Standard
QC = ion selected for monitoring instrument stability during the GC/MS analysis.

TABLE 4.—ACCEPTABLE RANGES FOR ION-ABUNDANCE RATIOS OF PCDD'S AND PCDF'S

No. of chlorine atoms	Ion type	Theoretical ratio	Control limits	
			Lower	Upper
4	M/M+2	0.77	0.65	0.89
5	M+2/M+4	1.55	1.32	1.78
6	M+2/M+4	1.24	1.05	1.43
8 [a]	M/M+2	0.51	0.43	0.59
7 [b]	M/M+2	0.44	0.37	0.51
7	M+2/M+4	1.04	0.88	1.20
8	M+2/M+4	0.89	0.76	1.02

[a] Used only for ^{13}C-HxCDF.
[b] Used only for ^{13}C-HpCDF.

TABLE 5.—MINIMUM REQUIREMENTS FOR INITIAL AND DAILY CALIBRATION RESPONSE FACTORS

Compound	Relative response factors	
	Initial calibration RSD	Daily calibration % difference
Unlabeled Analytes		
2,3,7,8-TCDD	25	25
2,3,7,8-TCDF	25	25
1,2,3,7,8-PeCDD	25	25
1,2,3,7,8-PeCDF	25	25
2,3,4,7,8-PeCDF	25	25
1,2,3,4,7,8-HxCDD	25	25
1,2,3,6,7,8-HxCDD	25	25
1,2,3,7,8,9-HxCDD	25	25
1,2,3,4,7,8-HxCDF	25	25
1,2,3,6,7,8-HxCDF	25	25
1,2,3,7,8,9-HxCDF	25	25
2,3,4,6,7,8-HxCDF	25	25
1,2,3,4,6,7,8-HpCDD	25	25
1,2,3,4,6,7,8-HpCDF	25	25
1,2,3,4,7,8,9-HpCDF	25	25
OCDD	25	25
OCDF	30	30
Internal Standards		
$^{13}C_{12}$-2,3,7,8-TCDD	25	25
$^{13}C_{12}$-1,2,3,7,8-PeCDD	30	30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	25	25

TABLE 5.—MINIMUM REQUIREMENTS FOR INITIAL AND DAILY CALIBRATION RESPONSE FACTORS—Continued

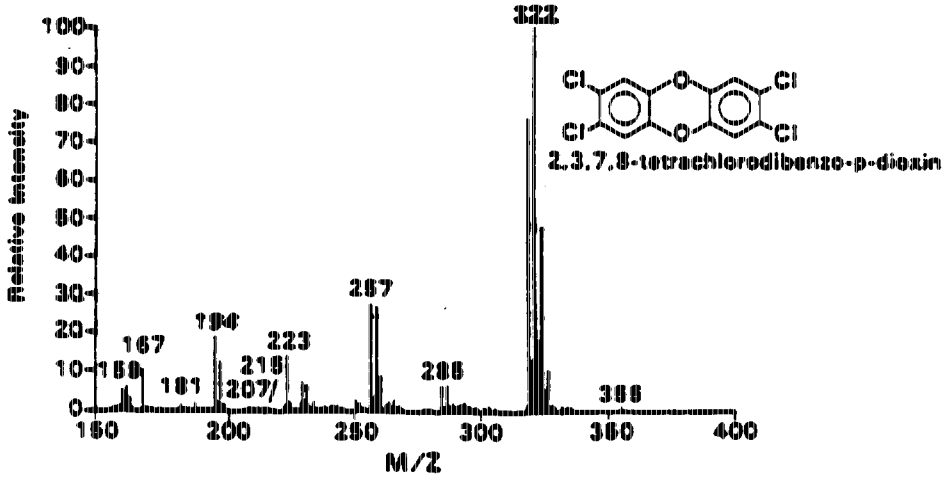
Compound	Relative response factors	
	Initial calibration RSD	Daily calibration % difference
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	30	30
$^{13}C_{12}$-OCDD	30	30
$^{13}C_{12}$-2,3,7,8-TCDF	30	30
$^{13}C_{12}$-1,2,3,7,8-PeCDF	30	30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	30	30
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	30	30
Surrogate Standards		
$^{37}Cl_4$-2,3,7,8-TCDD	25	25
$^{13}C_{12}$-2,3,4,7,8-PeCDF	25	25
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	25	25
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	25	25
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	25	25
Alternate Standard		
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	25	25

TRIANGLE LABORATORIES, INC.

POLYCHLORINATED DIBENZODIOXINS AND DIBENZOFURANS

DATA USER MANUAL

Triangle Laboratories
Analytical Methodology,
Data Quality Objectives,
Deliverables,
Data Package Assembly Description
&
Examples of Calculations



METHODOLOGY FOR THE DETERMINATION OF METALS EMISSIONS IN EXHAUST GASES FROM INCINERATION PROCESSES

1. Applicability and Principle

1.1 Applicability. This method is applicable for the determination of arsenic (As), beryllium (Be), cadmium (Cd), total chromium (Cr), lead (Pb), mercury (Hg), nickel (Ni), and zinc (Zn) emissions from municipal waste incinerators and similar combustion processes. These elements are referred to hereafter as the primary metals. This method may also be used for the determination of antimony (Sb), barium (Ba), copper (Cu), manganese (Mn), phosphorus (P), selenium (Se), silver (Ag), and thallium (Tl) emissions from these sources. These elements are referred to hereafter as the secondary metals.

In addition, the method may be used to determine particulate emissions by following the additional procedures described. Modifications to the sample recovery and analysis procedures described in this protocol for the purpose of determining particulate emissions may potentially impact the front half mercury determination.*

1.2 Principle. The stack sample is withdrawn isokinetically from the source, with particulate emissions collected in the probe and on a heated filter and gaseous emissions collected in a series of chilled impingers containing a solution of dilute nitric acid in hydrogen peroxide in two impingers, and acidic potassium permanganate solution in two (or one) impingers. Sampling train components are recovered and digested in separate front and back half fractions. Materials collected in the sampling train are digested with acid solutions to dissolve inorganics and to remove organic constituents that may create analytical interferences. Acid digestion is performed using conventional Parr® Bomb or microwave digestion techniques. The

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*Field tests to date have shown that of the total amount of mercury measured by the method, only 0 to <2% was measured in the front half. Therefore, it is tentatively concluded, based on the above data, that particulate emissions may be measured by this train, without significantly altering the mercury results.

nitric acid and hydrogen peroxide impinger solution, the acidic potassium permanganate impinger solution, and the probe rinse and digested filter solutions are analyzed for mercury by cold vapor atomic absorption spectroscopy (CVAAS). Except for the permanganate solution, the remainder of the sampling train fractions are analyzed for As, Be, Cd, Cr, Pb, Ni, and Zn (and Sb, Ba, Cu, Mn, P, Se, Ag, and Tl, if desired) by inductively coupled argon plasma emission spectroscopy (ICAP) or atomic absorption spectroscopy (AAS). Graphite furnace atomic absorption spectroscopy (GFAAS) is used for analysis of As, Cd, and Pb (and Sb, Se, and Tl, when measured) if these elements require greater analytical sensitivity than can be obtained by ICAP. Additionally, if desired, the tester may use AAS for analyses of all target metals if the resulting in-stack method detection limits (combined sampling and analytical detection limits) meet the data quality objectives of the testing program. For convenience, aliquots of each digested sample fraction can be combined proportionally for a single analytical determination. The efficiency of the analytical procedure is quantified by the analysis of spiked quality control samples containing each of the target metals including actual sample matrix effects checks.

2. Range, Sensitivity, Precision, and Interferences

2.1 Range. For the analyses described in this methodology and for similar analyses, the ICAP response is linear over several orders of magnitude. Samples containing metal concentrations in the nanograms per milliliter (ng/ml) to micrograms per milliliter (ug/ml) range in the analytical finish solution can be analyzed using this technique. Samples containing greater than approximately 50 ug/ml of arsenic, chromium, or lead should be diluted to that level or lower for final analysis. Samples containing greater than approximately 20 ug/ml of cadmium should be diluted to that level before analysis.

2.2 Analytical Sensitivity. ICAP analytical detection limits for the primary [and secondary] metals in the sample solutions (based on SW-846, Method 6010) are approximately as follows: As (53 ng/ml), Be (0.3 ng/ml), Cd (4 ng/ml), Cr (7 ng/ml), Pb (42 ng/ml), Ni (15 ng/ml), Zn (2 ng/ml) [Sb (32 ng/ml), Ba (2 ng/ml), Cu (6 ng/ml), P (75 ng/ml), Mn (2 ng/ml), Se (75 ng/ml), Ag (7 ng/ml), Ti (40 ng/ml)]. The actual method detection limits are sample dependent and may vary as the sample matrix may affect the limits. The

analytical detection limits for the primary [and secondary] metals in sample solutions analyzed by direct aspiration AAS (based on SW-846, Method 7000) are approximately as follows: As (2 ng/ml), Be (5 ng/ml), Cd (5 ng/ml), Cr (50 ng/ml), Pb (100 ng/ml), Ni (40 ng/ml), Zn (5 ng/ml) [Sb (200 ng/ml), Ba (100 ng/ml), Cu (20 ng/ml), Mn (10 ng/ml), Se (2 ng/ml), Ag (10 ng/ml), Tl (100 ng/ml)]. The detection limit for mercury by CVAAS is approximately 0.2 ng/ml. The use of GFAAS can give added sensitivity compared to the use of direct aspiration AAS for the following primary and secondary metals: As (1 ng/ml), Be (0.2 ng/ml), Cd (0.1 ng/ml), Cr (1 ng/ml), Pb (1 ng/ml), Sb (3 ng/ml), Se (2 ng/ml), and Tl (1 ng/ml).

Using (1) the procedures described in this method, (2) the analytical detection limits described in the previous paragraph, (3) a volume of 300 ml for the front half and 150 ml for the back half samples, and (4) a stack gas sample volume of 1.25 m^3, the corresponding in-stack method detection limits are presented in Table A-1 and calculated as shown:

$$\frac{A \times B}{C} = D$$

where: A = analytical detection limit, ug/ml.
B = volume of sample prior to aliquot for analysis, ml.
C = stack sample volume, dscm (dsm^3).
D = in-stack detection limit, ug/m^3.

Values in Table A-1 are calculated for the front and back half and/or the total train.

To ensure optimum sensitivity in obtaining the measurements, the concentrations of target metals in the solutions are suggested to be at least ten times the analytical detection limits. Under certain conditions, and with greater care in the analytical procedure, this concentration can be as low as approximately three times the analytical detection limit. In all cases, repetitive analyses, method of standard additions (MSA), serial dilution, or matrix spike addition should be used to establish the quality of the data.

Actual in-stack method detection limits will be determined based on actual source sampling parameters and analytical results as described above. If required, the method in-stack detection limits can be made more sensitive than those shown in Table A-1 for a specific test by using one or more of the following options:

TABLE A-1. IN-STACK METHOD DETECTION LIMITS (ug/m^3)
FOR TRAIN FRACTIONS USING ICAP AND AAS

Metal	Front Half Fraction 1 Probe and Filter	Back Half Fraction 2 Impingers 1-3	Back Half Fraction 3 Impingers 4-5	Total Train
Primary Metals				
Arsenic	12.7 (0.3)*	6.4 (0.1)*		19.1 (0.4)*
Beryllium	0.07 (0.05)*	0.04 (0.03)*		0.11 (0.08)*
Cadmium	1.0 (0.02)*	0.5 (0.01)*		1.5 (0.03)*
Chromium	1.7 (0.2)*	0.8 (0.1)*		2.5 (0.3)*
Lead	10.1 (0.2)*	5.0 (0.1)*		15.1 (0.3)*
Mercury	0.05**	0.03**	0.03**	0.11**
Nickel	3.6	1.8		5.4
Zinc	0.5	0.3		0.8
Secondary Metals				
Antimony	7.7 (0.7)*	3.8 (0.4)*		11.5 (1.1)*
Barium	0.5	0.3		0.8
Copper	1.4	0.7		2.1
Manganese	0.5 (0.2)*	0.2 (0.1)*		0.7 (0.3)*
Phosphorus	18	9		27
Selenium	18 (0.5)*	9 (0.3)*		27 (0.8)*
Silver	1.7	0.9		2.6
Thallium	9.6 (0.2)*	4.8 (0.1)*		14.4 (0.3)*

( )* Detection limit when analyzed by GFAAS.
** Detection limit when analyzed by CVAAS.
Actual method in-stack detection limits will be determined based on actual source sampling parameters and analytical results as described earlier in this section.

- A normal 1-hour sampling run collects a stack gas sampling volume of about 1.25 m^3. If the sampling time is increased and 5 m^3 are collected, the in-stack method detection limits would be one fourth of the values shown in Table A-1 (this means that with this change, the method is four times more sensitive than normal).
- The in-stack detection limits assume that all of the sample is digested (with exception of the aliquot for mercury) and the final liquid volumes for analysis are 300 ml for the front half and 150 ml for the back half sample. If the front half volume is reduced from 300 ml to 30 ml, the front half in-stack detection limits would be one tenth of the values shown above (ten times more sensitive). If the back half volume is reduced from 150 ml to 25 ml, the in-stack detection limits

would be one sixth of the above values. Matrix effects checks are necessary on analyses of samples and typically are of greater significance for samples that have been concentrated to less than the normal sample volume. A volume less than 25 ml may not allow resolubilization of the residue and may increase interference by other compounds.

- When both of the above two improvements are used on one sample at the same time, the resultant improvements are multiplicative. For example, where stack gas volume is increased by a factor of five and the total liquid sample digested volume of both the front and back halves is reduced by factor of six, the in-stack method detection limit is reduced by a factor of thirty (the method is thirty times more sensitive).
- Conversely, reducing stack gas sample volume and increasing sample liquid volume will increase limits. The front half and back half$_1$ samples (Fractions 1 and 2) can be combined prior to analysis. The resultant liquid volume (excluding Fraction 3, which must be analyzed separately) is recorded. Combining the sample as described does not allow determination (whether front or back half) of where in the train the sample was captured. The in-stack method detection limit then becomes a single value for all target metals except mercury, for which the contribution of Fraction 3 must be considered.
- The above discussion assumes no blank correction. Blank corrections are discussed later in this method.

2.3 Precision. The precisions (relative standard deviations) for each of the primary and secondary metals detected in a method development test at a sewage sludge incinerator, are as follows: As (13.5%), Cd (11.5%), Cr (11.2%), Pb (11.6%), Zn (11.8%), Sb (12.7%), Ba (20.6%), Cu (11.5%), P (14.6%), Se (15.3%), and Tl (12.3%). The precision for nickel was 7.7% for another test conducted at a source simulator. Beryllium, manganese and silver were not detected in the tests; however, based on the analytical sensitivity of the ICAP for those metals, it is assumed that their precisions should be similar to those for the other metals, when detected at similar levels.

2.4 Interferences. Iron can be a spectral interference during the analysis of arsenic, chromium, and cadmium by ICAP. Aluminum can be a spectral interference during the analysis of arsenic and lead by ICAP. Generally, these interferences can be reduced by diluting the sample, but this increases the

in-stack method detection limit. Refer to EPA Method 6010 (SW-846) for details on potential interferences for this method. For all GFAAS analyses, matrix modifiers should be used to limit interferences, and standards should be matrix matched.

3. Apparatus

3.1 Sampling Train. A schematic of the sampling train is shown in Figure A-1. It is similar to the Method 5 train. The sampling train consists of the following components.

3.1.1 Probe Nozzle (Probe Tip) and Borosilicate or Quartz Glass Probe Liner. Same as Method 5, Sections 2.1.1 and 2.1.2. Glass nozzles are requiredunless an alternate probe tip prevents the possibility of contamination or interference of the sample with its materials of construction. If a probe tip other than glass is used, no correction of the stack sample test results can be made because of the effect on the results by the probe tip.

3.1.2 Pitot Tube and Differential Pressure Gauge. Same as Method 2, Sections 2.1 and 2.2, respectively.

3.1.3 Filter Holder. Glass, same as Method 5, Section 2.1.5, except that a Teflon filter support must be used to replace the glass frit.

3.1.4 Filter Heating System. Same as Method 5, Section 2.1.6.

3.1.5 Condenser. The following system shall be used for the condensation and collection of gaseous metals and for determining the moisture content of the stack gas. The condensing system should consist of four to six impingers connected in series with leak-free ground glass fittings or other leak-free, non-contaminating fittings. The first impinger is optional and is recommended as a water knockout trap for use during test conditions which require such a trap. The impingers to be used in the metals train are now described. When the first impinger is used as a water knockout, it shall be appropriately-sized for an expected large moisture catch and constructed generally as described for the first impinger in Method 5, Paragraph 2.1.7. The second impinger (or the first HNO_3/H_2O_2 impinger) shall also be as described for the first impinger in Method 5. The third impinger (or the impinger used as the second HNO_3/H_2O_2 impinger) shall be the same as the Greenburg Smith impinger with the standard tip described as the second impinger in Method 5, Paragraph 2.1.7. All other impingers used in the metals train are the same as the second impinger (the first HNO_3/H_2O_2 impinger) previously described in this paragraph. In summary,

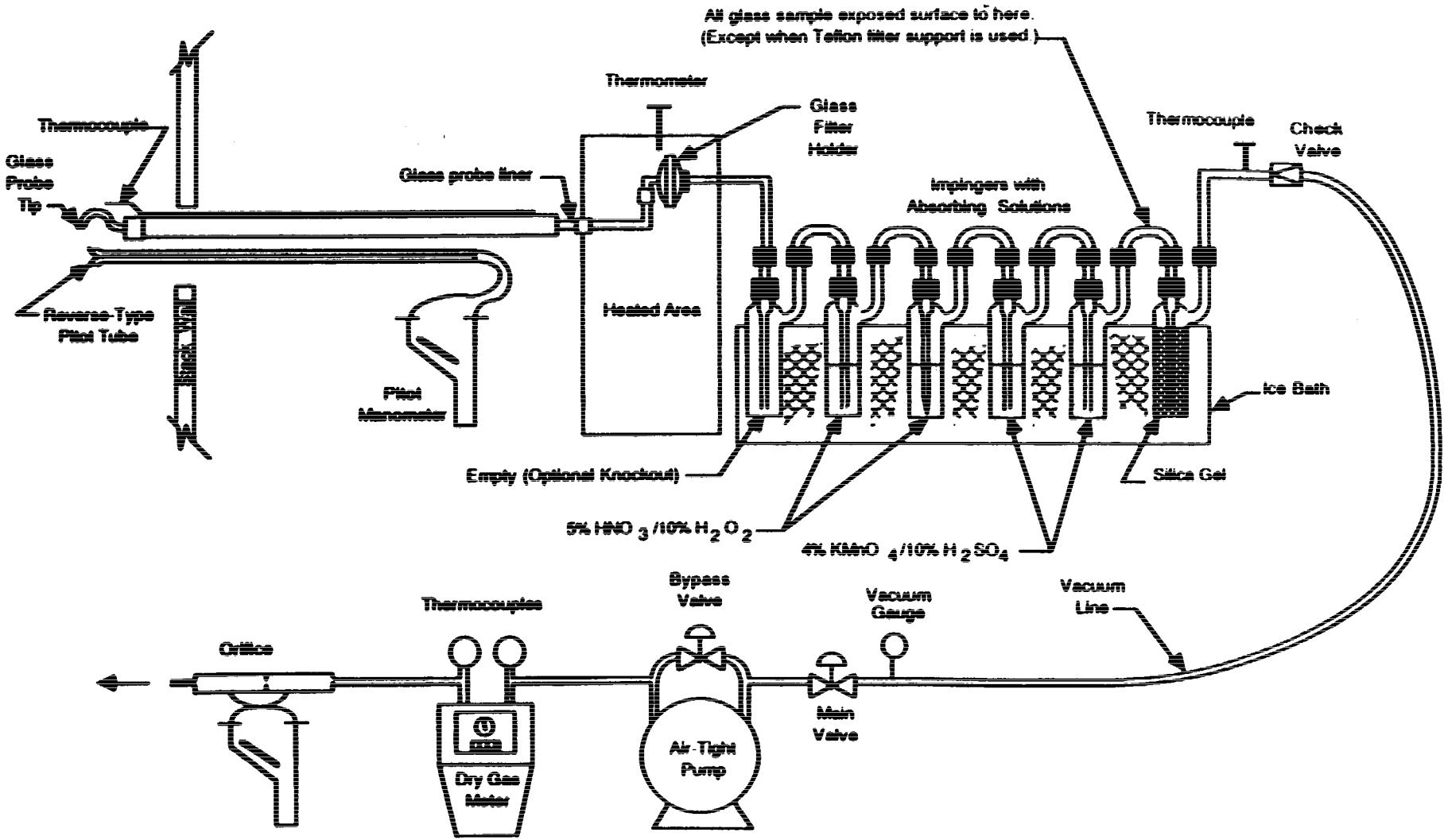


Figure A-1. Schematic of multiple metals sampling train.

the first impinger should be empty, the second and third shall contain known quantities of a nitric acid/hydrogen peroxide solution (Section 4.2.1), the fourth (and fifth, if required) shall contain a known quantity of acidic potassium permanganate solution (Section 4.2.2), and the last impinger shall contain a known quantity of silica gel or equivalent desiccant. A thermometer capable of measuring to within 1°C (2°F) shall be placed at the outlet of the last impinger. When the water knockout impinger is not needed, it is removed from the train and the other impingers remain the same. If mercury analysis is not needed, the potassium permanganate impingers are removed.

3.1.6 Metering System, Barometer, and Gas Density Determination Equipment. Same as Method 5, Sections 2.1.8 through 2.1.10, respectively.

3.1.7 Teflon Tape. For capping openings and sealing connections on the sampling train.

3.2 Sample Recovery. Same as Method 5, Sections 2.2.1 through 2.2.8 (Nonmetallic Probe-Liner and Probe-Nozzle Brushes, Wash Bottles, Sample Storage Containers, Petri Dishes, Glass Graduated Cylinder, Plastic Storage Containers, Funnel and Rubber Policeman, and Glass Funnel), respectively, with the following exceptions and additions:

3.2.1 Nonmetallic Probe-Liner and Probe-Nozzle Brushes. For quantitative recovery of materials collected in the front half of the sampling train. Description of acceptable all-Teflon component brushes to be included in EPA's Emission Measurement Technical Information Center (EMTIC) files.

3.2.2 Sample Storage Containers. Glass bottles with Teflon-lined caps, 1000- and 500-ml, shall be used for $KMnO_4$-containing samples and blanks. Polyethylene bottles may be used for other sample types.

3.2.3 Graduated Cylinder. Glass or equivalent.

3.2.4 Funnel. Glass or equivalent.

3.2.5 Labels. For identification of samples.

3.2.6 Polypropylene Tweezers and/or Plastic Gloves. For recovery of the filter from the sampling train filter holder.

3.3 Sample Preparation and Analysis. For the analysis, the following equipment is needed:

3.3.1 Volumetric Flasks, 100 ml, 250 ml, and 1000 ml. For preparation of standards and sample dilution.

3.3.2 Graduated Cylinders. For preparation of reagents.

3.3.3 Parr[1] Bombs or Microwave Pressure Relief Vessels with Capping

Station (CEM Corporation model or equivalent).

3.3.4 Beakers and Watchglasses. 250-ml beakers for sample digestion with watchglasses to cover the tops.

3.3.5 Ring Stands and Clamps. For securing equipment such as filtration apparatus.

3.3.6 Filter Funnels. For holding filter paper.

3.3.7 Whatman 541 Filter Paper (or equivalent). For filtration of digested samples.

3.3.8 Disposable Pasteur Pipets and Bulbs.

3.3.9 Volumetric Pipets.

3.3.10 Analytical Balance. Accurate to within 0.1 mg.

3.3.11 Microwave or Conventional Oven. For heating samples at fixed power levels or temperatures.

3.3.12 Hot Plates.

3.3.13 Atomic Absorption Spectrometer (AAS). Equipped with a background corrector.

3.3.13.1 Graphite Furnace Attachment. With As, Cd, and Pb (and Sb, Se, and Tl, if measured) hollow cathode lamps (HCLs) or electrodeless discharge lamps (EDLs). Same as EPA Methods 7060 (As), 7131 (Cd), 7421 (Pb), 7041 (Sb), 7740 (Se), and 7841 (Tl).

3.3.13.2 Cold Vapor Mercury Attachment. With a mercury HCL or EDL. The equipment needed for the cold vapor mercury attachment includes an air recirculation pump, a quartz cell, an aerator apparatus, and a heat lamp or desiccator tube. The heat lamp should be capable of raising the ambient temperature at the quartz cell by 10°C such that no condensation forms on the wall of the quartz cell. Same as EPA Method 7470.

3.3.14 Inductively Coupled Argon Plasma Spectrometer. With either a direct or sequential reader and an alumina torch. Same as EPA Method 6010.

4. Reagents

Unless otherwise indicated, it is intended that all reagents conform to the specifications established by the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available; otherwise, use the best available grade.

4.1 Sampling. The reagents used in sampling are as follows:

4.1.1 Filters. The filters shall contain less than 1.3 ug/in.^{2} of each of

the metals to be measured. Analytical results provided by filter manufacturers are acceptable. However, if no such results are available, filter blanks must be analyzed for each target metal prior to emission testing. Quartz fiber or glass fiber filters without organic binders shall be used. The filters should exhibit at least 99.95 percent efficiency (<0.05 percent penetration) on 0.3 micron dioctyl phthalate smoke particles. The filter efficiency test shall be conducted in accordance with ASTM Standard Method D2986-71 (incorporated by reference). For particulate determination in sources containing SO_2 or SO_3, the filter material must be of a type that is unreactive to SO_2 or SO_3, as described in EPA Method 5. Quartz fiber filters meeting these requirements are recommended.

4.1.2 Water. To conform to ASTM Specification D1193.77, Type II (incorporated by reference). Analyze the water for all target metals prior to field use. All target metals should be less than 1 ng/ml.

4.1.3 Nitric Acid. Concentrated. Baker Instra-analyzed or equivalent.

4.1.4 Hydrochloric Acid. Concentrated. Baker Instra-analyzed or equivalent.

4.1.5 Hydrogen Peroxide, 30 Percent (V/V).

4.1.6 Potassium Permanganate.

4.1.7 Sulfuric Acid. Concentrated.

4.1.8 Silica Gel and Crushed Ice. Same as Method 5, Sections 3.1.2 and 3.1.4, respectively.

4.2 Pretest Preparation for Sampling Reagents.

4.2.1 Nitric Acid (HNO_3)/Hydrogen Peroxide (H_2O_2) Absorbing Solution, 5 Percent HNO_3/10 Percent H_2O_2. Add 50 ml of concentrated HNO_3 and 333 ml of 30 percent H_2O_2 to a 1000-ml volumetric flask or graduated cylinder containing approximately 500 ml of water. Dilute to volume with water. The reagent shall contain less than 2 ng/ml of each target metal.

4.2.2 Acidic Potassium Permanganate ($KMnO_4$) Absorbing Solution, 4 Percent $KMnO_4$ (W/V). Prepare fresh daily. Dissolve 40 g of $KMnO_4$ in sufficient 10 percent H_2SO_4 to make 1 liter. Prepare and store in glass bottles to prevent degradation. The reagent shall contain less than 2 ng/ml of Hg.

Precaution: To prevent autocatalytic decomposition of the permanganate solution, filter the solution through Whatman 541 filter paper. Also, due to reaction of the potassium permanganate with the acid, there may be pressure buildup in the sample storage bottle; these bottles should not be fully filled

and should be vented both to relieve excess pressure and prevent explosion due to pressure buildup. Venting is highly recommended, but should not allow contamination of the sample; a No. 70-72 hole drilled in the container cap and Teflon liner has been used.

4.2.3 Nitric Acid, 0.1 N. Add 6.3 ml of concentrated HNO_3 (70 percent) to a graduated cylinder containing approximately 900 ml of water. Dilute to 1000 ml with water. Mix well. The reagent shall contain less than 2 ng/ml of each target metal.

4.2.4 Hydrochloric Acid (HCl), 8 N. Add 690 ml of concentrated HCl to a graduated cylinder containing 250 ml of water. Dilute to 1000 ml with water. Mix well. The reagent shall contain less than 2 ng/ml of Hg.

4.3 Glassware Cleaning Reagents.

4.3.1 Nitric Acid, Concentrated. Fisher ACS grade or equivalent.

4.3.2 Water. To conform to ASTM Specifications D1193-77, Type II.

4.3.3 Nitric Acid, 10 Percent (V/V). Add 500 ml of concentrated HNO_3 to a graduated cylinder containing approximately 4000 ml of water. Dilute to 5000 ml with water.

4.4 Sample Digestion and Analysis Reagents.

4.4.1 Hydrochloric Acid, Concentrated.

4.4.2 Hydrofluoric Acid, Concentrated.

4.4.3 Nitric Acid, Concentrated. Baker Instra-analyzed or equivalent.

4.4.4 Nitric Acid, 10 Percent (V/V). Add 100 ml of concentrated HNO_3 to 800 ml of water. Dilute to 1000 ml with water. Mix well. Reagent shall contain less than 2 ng/ml of each target metal.

4.4.5 Nitric Acid, 5 Percent (V/V). Add 50 ml of concentrated HNO_3 to 800 ml of water. Dilute to 1000 ml with water. Reagent shall contain less than 2 ng/ml of each target metal.

4.4.6 Water. To conform to ASTM Specifications D1193-77, Type II.

4.4.7 Hydroxylamine Hydrochloride and Sodium Chloride Solution. See EPA Method 7470 for preparation.

4.4.8 Stannous Chloride.

4.4.9 Potassium Permanganate, 5 Percent (W/V).

4.4.10 Sulfuric Acid, Concentrated.

4.4.11 Nitric Acid, 50 Percent (V/V).

4.4.12 Potassium Persulfate, 5 Percent (W/V).

4.4.13 Nickel Nitrate, $Ni(NO_3)_2 \cdot 6H_2O$.

4.4.14 Lanthanum Oxide, La_2O_3.

4.4.15 AAS Grade As Standard, 1000 ug/ml.

4.4.16 AAS Grade Be Standard, 1000 ug/ml.

4.4.17 AAS Grade Cd Standard, 1000 ug/ml.

4.4.18 AAS Grade Cr Standard, 1000 ug/ml.

4.4.19 AAS Grade Pb Standard, 1000 ug/ml.

4.4.20 AAS Grade Hg Standard, 1000 ug/ml.

4.4.21 AAS Grade Ni Standard, 1000 ug/ml.

4.4.22 AAS Grade Zn Standard, 1000 ug/ml.

4.4.23 AAS Grade Al Standard, 1000 ug/ml.

4.4.24 AAS Grade Fe Standard, 1000 ug/ml.

4.4.25 AAS Grade Sb Standard, 1000 ug/ml. Optional.

4.4.26 AAS Grade Ba Standard, 1000 ug/ml. Optional.

4.4.27 AAS Grade Cu Standard, 1000 ug/ml. Optional.

4.4.28 AAS Grade Mn Standard, 1000 ug/ml. Optional.

4.4.29 AAS Grade P Standard, 1000 ug/ml. Optional.

4.4.30 AAS Grade Se Standard, 1000 ug/ml. Optional.

4.4.31 AAS Grade Ag Standard, 1000 ug/ml. Optional.

4.4.32 AAS Grade Tl Standard, 1000 ug/ml. Optional.

4.4.33 The metals standards may also be made from solid chemicals as described in EPA Method 200.7. EPA Method 7470 or Standard Methods for the Analysis of Water and Wastewater, 15th Edition, Method 303F should be referred to for additional information on mercury standards.

4.4.34 Mercury Standards and Quality Control Samples. Prepare fresh weekly a 10 ug/ml intermediate mercury standard by adding 5 ml of 1000 ug/ml mercury stock solution to a 500-ml volumetric flask; dilute to 500 ml by first adding 20 ml of 15 percent HNO_3 and then adding water. Prepare a working mercury standard solution fresh daily: add 5 ml of the 10 ug/ml intermediate standard to a 250 ml volumetric flask and dilute to 250 ml with 5 ml of 4 percent $KMnO_4$, 5 ml of 15 percent HNO_3, and then water. At least six separate aliquots of the working mercury standard solution should be used to prepare the standard curve. These aliquots should contain 0.0, 1.0, 2.0, 3.0, 4.0, and 5.0 ml of the working standard solution. Quality control samples should be prepared by making a separate 10 ug/ml standard and diluting until in the range of the calibration.

4.4.35 ICAP Standards and Quality Control Samples. Calibration standards

for ICAP analysis can be combined into four different mixed standard solutions as shown below.

MIXED STANDARD SOLUTIONS FOR ICAP ANALYSIS

Solution	Elements (secondary metals in parentheses)
I	As, Be, Cd, Pb, Zn (Mn, Se)
II	Fe (Ba, Cu)
III	Al, Cr, Ni
IV	(Sb, P, Ag, Tl)

Prepare these standards by combining and diluting the appropriate volumes of the 1000 ug/ml solutions with 5 percent nitric acid. A minimum of one standard and a blank can be used to form each calibration curve. However, a separate quality control sample spiked with known amounts of the target metals in quantities in the midrange of the calibration curve should be prepared. Suggested standard levels are 50 ug/ml for Al, 25 ug/ml for Cr and Pb, 15 ug/ml for Fe, and 10 ug/ml for the remaining elements. Standards containing less than 1 ug/ml of metal should be prepared daily. Standards containing greater than 1 ug/ml of metal should be stable for a minimum of 1 to 2 weeks.

4.4.36 Graphite Furnace AAS Standards for Arsenic, Cadmium, and Lead (and Antimony, Selenium, and Thallium). Prepare a 10 ug/ml standard by adding 1 ml of 1000 ug/ml standard to a 100-ml volumetric flask. Dilute to 100 ml with 10 percent nitric acid. For graphite furnace AAS, the standards must be matrix matched; e.g., if the samples contain 6 percent nitric acid and 4 percent hydrofluoric acid, the standards should also be made up with 6 percent nitric acid and 4 percent hydrofluoric acid. Prepare a 100 ng/ml standard by adding 1 ml of the 10 ug/ml standard to a 100-ml volumetric flask and dilute to 100 ml with the appropriate matrix solution. Other standards should be prepared by dilution of the 100 ng/ml standards. At least five standards should be used to make up the standard curve. Suggested levels are 0, 10, 50, 75, and 100 ng/ml. Quality control samples should be prepared by making a separate 10 ug/ml standard and diluting until it is in the range of the samples. Standards containing less than 1 ug/ml of metal should be prepared daily. Standards containing greater than 1 ug/ml of metal should be stable for a minimum of 1 to 2 weeks.

4.4.37 Matrix Modifiers.

4.4.37.1 Nickel Nitrate, 1 Percent (V/V). Dissolve 4.956 g of $Ni(NO_3)_2 \cdot 6H_2O$ in approximately 50 ml of water in a 100-ml volumetric flask.

Dilute to 100 ml with water.

4.4.37.2 Nickel Nitrate, One-tenth Percent (V/V). Dilute 10 ml of 1 percent nickel nitrate solution to 100 ml with water. Inject an equal amount of sample and this modifier into the graphite furnace during AAS analysis for As.

4.4.37.3 Lanthanum. Dissolve 0.5864 g of La_2O_3 in 10 ml of concentrated HNO_3 and dilute to 100 ml with water. Inject an equal amount of sample and this modifier into the graphite furnace during AAS analysis for Pb.

5. Procedure

5.1 Sampling. The complexity of this method is such that, to obtain reliable results, testers should be trained and experienced with the test procedures.

5.1.1 Pretest Preparation. Follow the same general procedure given in Method 5, Section 4.1.1, except that, unless particulate emissions are to be determined, the filter need not be desiccated or weighed. All sampling train glassware should first be rinsed with hot tap water and then washed in hot soapy water. Next, glassware should be rinsed three times with tap water, followed by three additional rinses with water. All glassware should then be soaked in a 10 percent (V/V) nitric acid solution for a minimum of 4 hours, rinsed three times with water, rinsed a final time with acetone, and allowed to air dry. All glassware openings where contamination can occur should be covered until the sampling train is assembled, prior to sampling.

5.1.2 Preliminary Determinations. Same as Method 5, Section 4.1.2.

5.1.3 Preparation of Sampling Train. Follow the same general procedures given in Method 5, Section 4.1.3, except place 100 ml of the nitric acid/hydrogen peroxide solution (Section 4.2.1) in the two HNO_3/H_2O_2 impingers (normally the second and third impingers), place 100 ml of the acidic potassium permanganate solution (Section 4.2.2) in the fourth and fifth impinger, and transfer approximately 200 to 300 g of preweighed silica gel from its container to the last impinger. Alternatively, the silica gel may be weighed directly in the impinger just prior to train assembly.

Several options are available to the tester based on the sampling conditions. The use of an empty first impinger can be eliminated if the moisture to be collected in the impingers is calculated or determined to be less than 150 ml. The tester shall include two impingers containing the acidic potassium permanganate solution for the first test run, unless past testing experience at the same or similar sources has shown that only one is

necessary. The last permanganate impinger may be discarded if both permanganate impingers have retained their original deep purple permanganate color. A maximum of 200 ml in each permanganate impinger (and a maximum of three permanganate impingers) may be used, if necessary, to maintain the desired color in the last permanganate impinger.

Retain for reagent blanks, 100 ml of the nitric acid/hydrogen peroxide solution and 100 ml of the acidic potassium permanganate solution. These solutions should be labeled and treated as described in Section 7. Set up the sampling train as shown in Figure A-1. If necessary to ensure leak-free sampling train connections, Teflon tape should be used instead of silicone grease to prevent contamination.

Precaution: Extreme care should be taken to prevent contamination within the train. Prevent the mercury collection reagent (acidic potassium permanganate) from contacting any glassware of the train which is washed and analyzed for Mn. Prevent hydrogen peroxide from mixing with the acidic potassium permanganate.

5.1.4 Leak-Check Procedures. Follow the leak-check procedures given in Method 5, Section 4.1.4.1 (Pretest Leak-Check), Section 4.1.4.2 (Leak-Checks During the Sample Run), and Section 4.1.4.3 (Post-Test Leak-Checks).

5.1.5 Sampling Train Operation. Follow the procedures given in Method 5, Section 4.1.5. For each run, record the data required on a data sheet such as the one shown in Figure 5-2 of Method 5.

5.1.6 Calculation of Percent Isokinetic. Same as Method 5, Section 4.1.6.

5.2 Sample Recovery. Begin cleanup procedures as soon as the probe is removed from the stack at the end of a sampling period.

The probe should be allowed to cool prior to sample recovery. When it can be safely handled, wipe off all external particulate matter near the tip of the probe nozzle and place a rinsed, non-contaminating cap over the probe nozzle to prevent losing or gaining particulate matter. Do not cap the probe tip tightly while the sampling train is cooling. This normally causes a vacuum to form in the filter holder, thus causing the undesired result of drawing liquid from the impingers into the filter.

Before moving the sampling train to the cleanup site, remove the probe from the sampling train and cap the open outlet. Be careful not to lose any condensate that might be present. Cap the filter inlet where the probe was fastened. Remove the umbilical cord from the last impinger and cap the

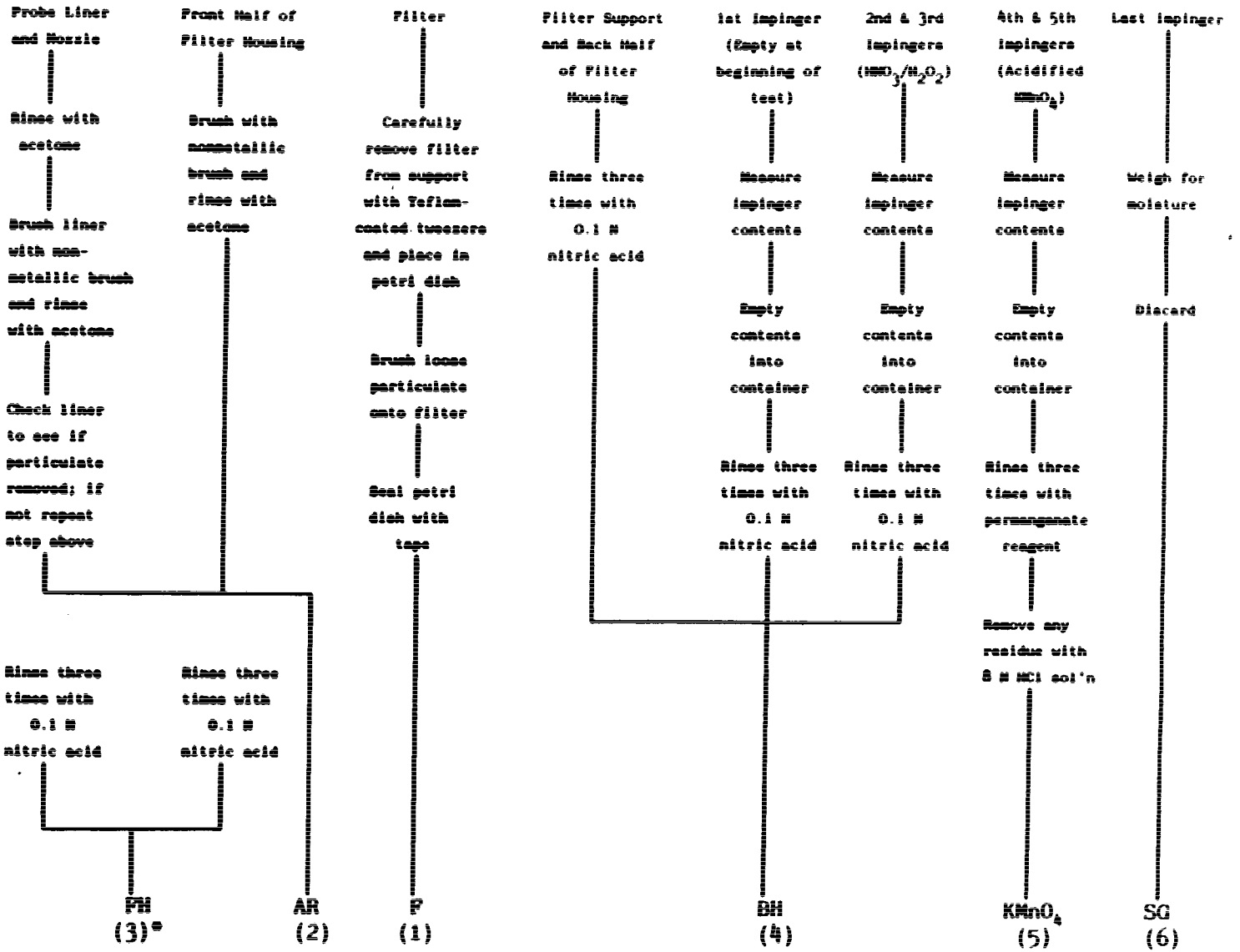
impinger. Cap off the filter holder outlet and impinger inlet. Use non-contaminating caps, whether ground-glass stoppers, plastic caps, serum caps, or Teflon tape to close these openings.

Alternatively, the train can be disassembled before the probe and filter holder/oven are completely cooled, if this procedure is followed: Initially disconnect the filter holder outlet/impinger inlet and loosely cap the open ends. Then disconnect the probe from the filter holder or cyclone inlet and loosely cap the open ends. Cap the probe tip and remove the umbilical cord as previously described.

Transfer the probe and filter-impinger assembly to a cleanup area that is clean and protected from the wind and other potential causes of contamination or loss of sample. Inspect the train before and during disassembly and note any abnormal conditions. The sample is recovered and treated as follows (see schematic in Figure A-2). Assure that all items necessary for recovery of the sample do not contaminate it.

5.2.1 Container No. 1 (Filter). Carefully remove the filter from the filter holder and place it in its identified petri dish container. Acid-washed polypropylene or Teflon coated tweezers or clean, disposable surgical gloves rinsed with water should be used to handle the filters. If it is necessary to fold the filter, make certain the particulate cake is inside the fold. Carefully transfer the filter and any particulate matter or filter fibers that adhere to the filter holder gasket to the petri dish by using a dry (acid-cleaned) nylon bristle brush. Do not use any metal-containing materials when recovering this train. Seal the labeled petri dish.

5.2.2 Container No. 2 (Acetone Rinse). Taking care to see that dust on the outside of the probe or other exterior surfaces does not get into the sample, quantitatively recover particulate matter and any condensate from the probe nozzle, probe fitting, probe liner, and front half of the filter holder by washing these components with 100 ml of acetone and placing the wash in a glass container. Note: The use of exactly 100 ml is necessary for the subsequent blank correction procedures. Distilled water may be used instead of acetone when approved by the Administrator and shall be used when specified by the Administrator; in these cases, save a water blank and follow the Administrator's directions on analysis. Perform the acetone rinses as follows: Carefully remove the probe nozzle and clean the inside surface by rinsing with acetone from a wash bottle and brushing with a nonmetallic brush. Brush until



* Number in parantheses indicates container number.

Figure A-2. Sample recovery scheme.

the acetone rinse shows no visible particles, after which make a final rinse of the inside surface with acetone.

Brush and rinse the inside parts of the Swagelok fitting with acetone in a similar way until no visible particles remain.

Rinse the probe liner with acetone by tilting and rotating the probe while squirting acetone into its upper end so that all inside surfaces will be wetted with acetone. Allow the acetone to drain from the lower end into the sample container. A funnel may be used to aid in transferring liquid washings to the container. Follow the acetone rinse with a nonmetallic probe brush. Hold the probe in an inclined position, squirt acetone into the upper end as the probe brush is being pushed with a twisting action through the probe; hold a samplecontainer underneath the lower end of the probe, and catch any acetone and particulate matter which is brushed through the probe three times or more until no visible particulate matter is carried out with the acetone or until none remains in the probe liner on visual inspection. Rinse the brush with acetone, and quantitatively collect these washings in the sample container. After the brushing, make a final acetone rinse of the probe as described above.

It is recommended that two people clean the probe to minimize sample losses. Between sampling runs, keep brushes clean and protected from contamination.

Clean the inside of the front half of the filter holder by rubbing surfaces with a nonmetallic nylon bristle brush and rinsing with aceton Rinse each surface three times or more if needed to remove visible particulate. Make a final rinse of the brush and filter holder. After all acetone washings and particulate matter have been collected in the sample container, tighten the lid on the sample container so that acetone will not leak out when it is shipped to the laboratory. Mark the height of the fluid level to determine whether or not leakage occurred during transport. Label the container clearly to identify its contents.

5.2.3 Container No. 3 (Probe Rinse). Rinse the probe liner, probe nozzle, and front half of the filter holder thoroughly with 100 ml of 0.1 N nitric acid and place the wash into a sample storage container. Note: The use of exactly 100 ml is necessary for the subsequent blank correction procedures. Perform the rinses as described in Method 12, Section 5.2.2. Record the volume of the combined rinse. Mark the height of the fluid level on the outside of the storage container and use this mark to determine if leakage occurs during

transport. Seal the container and clearly label the contents. Finally, rinse the nozzle, probe liner, and front half of the filter holder with water followed by acetone and discard these rinses.

5.2.4 Container No. 4 (Impingers 1 through 3, Contents and Rinses). Due to the large quantity of liquid involved, the tester may place the impinger solutions in more than one container. Measure the liquid in the first three impingers volumetrically to within 0.5 ml using a graduated cylinder. Record the volume of liquid present. This information is required to calculate the moisture content of the sampled flue gas. Clean each of the first three impingers, the filter support, the back half of the filter housing, and connecting glassware by thoroughly rinsing with 100 ml of 0.1 N nitric acid as described in Method 12, Section 5.2.4. Note: The use of exactly 100 ml of 0.1 N nitric acid rinse is necessary for the subsequent blank correction procedures. Combine the rinses and impinger solutions, measure and record the volume. Calculate the 0.1 N nitric acid rinse volume by difference. Mark the height of the fluid level on the outside of the container to determine if leakage occurs during transport. Seal the container and clearly label the contents.

5.2.5 Container No. 5 (Acidified Potassium Permanganate Solution and Rinses, Impingers No. 4 & 5). Pour all the liquid from the permanganate impingers (fourth and fifth, if two permanganate impingers are used) into a graduated cylinder and measure the volume to within 0.5 ml. This information is required to calculate the moisture content of the sampled flue gas. Using 100 ml total of the acidified potassium permanganate solution, rinse the permanganate impinger(s) and connecting glass pieces a minimum of three times. Combine the rinses with the permanganate impinger solution. Finally, rinse the permanganate impinger(s) and connecting glassware with 50 ml of 8 N HCl to remove any residue. Note: The use of exactly 100 ml and 50 ml for the two rinses is necessary for the subsequent blank correction procedures. Place the combined rinses and impinger contents in a labeled glass storage bottle. Mark the height of the fluid level on the outside of the bottle to determine if leakage occurs during transport. See the following note and the Precaution in Paragraph 4.2.2 and properly seal the bottle and clearly label the contents.

Note: Due to the potential reaction of the potassium permanganate with the acid, there may be pressure buildup in the sample storage bottles. These bottles should not be filled full and should be vented to relieve excess

pressure. Venting is highly recommended. A No. 70-72 hole drilled in the container cap and Teflon liner has been found to allow adequate venting without loss of sample.

5.2.6 Container No. 6 (Silica Gel). Note the color of the indicating silica gel to determine whether it has been completely spent and make a notation of its condition. Transfer the silica gel from its impinger to its original container and seal. The tester may use a funnel to pour the silica gel and a rubber policeman to remove the silica gel from the impinger. The small amount of particles that may adhere to the impinger wall need not be removed. Do not use water or other liquids to transfer the silica gel since weight gained in the silica gel impinger is used for moisture calculations. Alternatively, if a balance is available in the field, record the weight of the spent silica gel (or silica gel plus impinger) to the nearest 0.5 g.

5.2.7 Container No. 7 (Acetone Blank). Once during each field test, place 100 ml of the acetone used in the sample recovery process into a labeled container for use in the front half field reagent blank. Seal the container.

5.2.8 Container No. 8 (0.1 N Nitric Acid Blank). Once during each field test, place 200 ml of the 0.1 N nitric acid solution used in the sample recovery process into a labeled container for use in the front half and back half field reagent blanks. Seal the container.

5.2.9 Container No. 9 (5% Nitric Acid/10% Hydrogen Peroxide Blank). Once during each field test, place 200 ml of the 5% nitric acid/10% hydrogen peroxide solution used as the nitric acid impinger reagent into a labeled container for use in the back half field reagent blank. Seal the container.

5.2.10 Container No. 10 (Acidified Potassium Permanganate Blank). Once during each field test, place 300 ml of the acidified potassium permanganate solution used as the impinger solution and in the sample recovery process into a labeled container for use in the back half field reagent blank for mercury analysis. Seal the container.

Note: This container should be vented, as described in Section 5.2.4, to relieve excess pressure.

5.2.11 Container No. 11 (8 N HCl Blank). Once during each field test, place 50 ml of the 8 N hydrochloric acid used to rinse the acidified potassium permanganate impingers into a labeled container for use in the back half reagent blank for mercury.

5.2.12 Container No. 12 (Filter Blank). Once during each field test,

place an unused filter from the same lot as the sampling filters in a labeled petri dish. Seal the petri dish. This will be used in the front half field reagent blank.

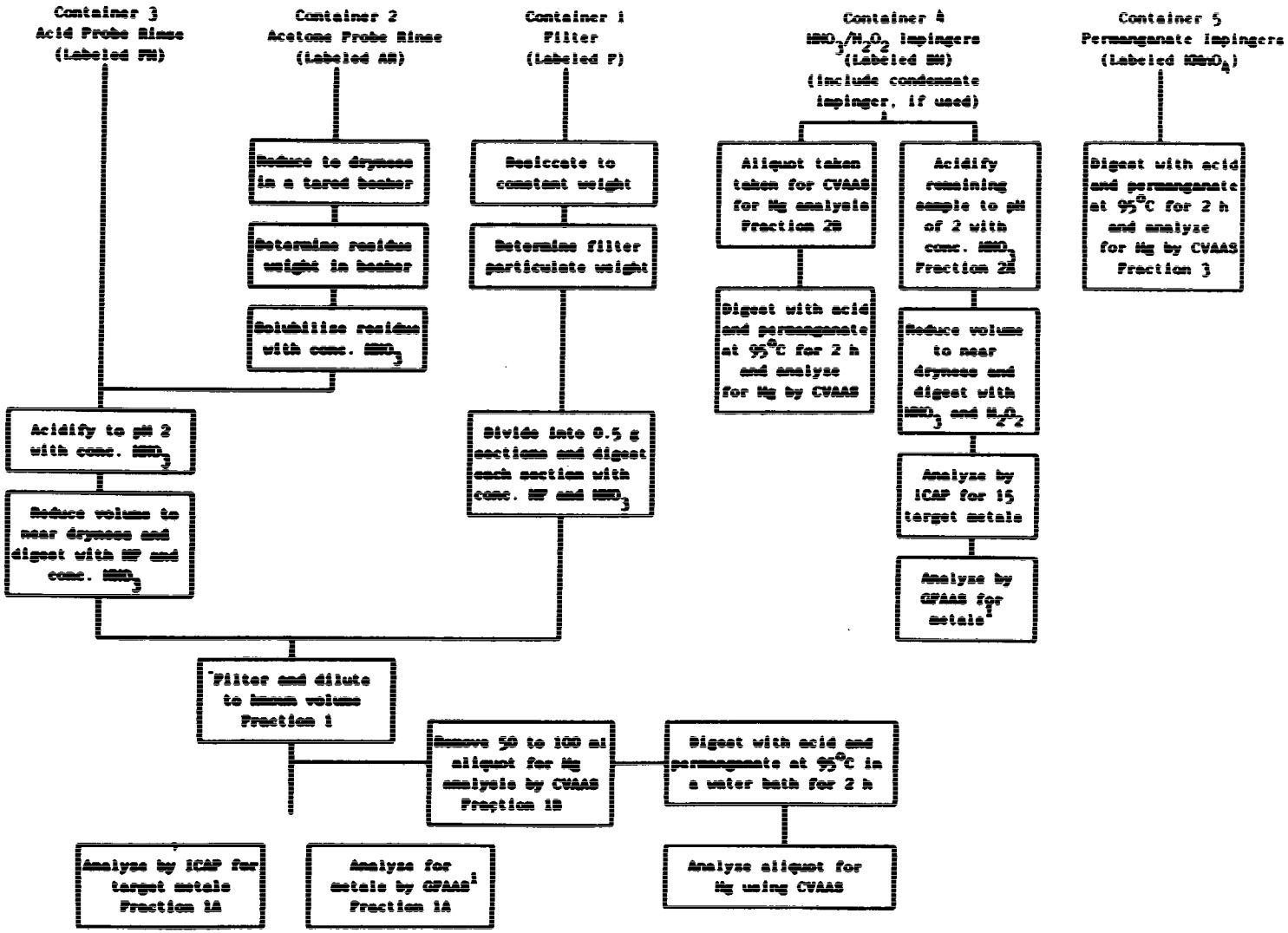
5.3 Sample Preparation. Note the level of the liquid in each of the containers and determine if any sample was lost during shipment. If a noticeable amount of leakage has occurred, either void the sample or use methods, subject to the approval of the Administrator, to correct the final results. A diagram illustrating sample preparation and analysis procedures for each of the sample train components is shown in Figure A-3.

5.3.1 Container No. 1 (Filter). If particulate emissions are being determined, then desiccate the filter and filter catch without heat and weigh to a constant weight as described in Section 4.3 of Method 5. For analysis of metals, divide the filter with its filter catch into portions containing approximately 0.5 g each and place into the analyst's choice of either individual microwave pressure relief vessels or Parr® Bombs. Add 6 ml of concentrated nitric acid and 4 ml of concentrated hydrofluoric acid to each vessel. For microwave heating, microwave the sample vessels for approximately 12-15 minutes in intervals of 1 to 2 minutes at 600 Watts. For conventional heating, heat the Parr Bombs at 140°C (285°F) for 6 hours. Then cool the samples to room temperature and combine with the acid digested probe rinse as required in Section 5.3.3, below.

Notes: 1. Suggested microwave heating times are approximate and are dependent upon the number of samples being digested. Twelve to 15 minute heating times have been found to be acceptable for simultaneous digestion of up to 12 individual samples. Sufficient heating is evidenced by sorbent reflux within the vessel.

2. If the sampling train uses an optional cyclone, the cyclone catch should be prepared and digested using the same procedures described for the filters and combined with the digested filter samples.

5.3.2 Container No. 2 (Acetone Rinse). Note the level of liquid in the container and confirm on the analysis sheet whether or not leakage occurred during transport. If a noticeable amount of leakage has occurred, either void the sample or use methods, subject to the approval of the Administrator, to correct the final results. Measure the liquid in this container either volumetrically to ±1 ml or gravimetrically to ±0.5 g. Transfer the contents to an acid-cleaned tared 250-ml beaker and evaporate to dryness at ambient Figure



[1]Analysis by AAS for metals found at less than 2 ug/ml in digestate solution, if desired. Or analyze for each metal by AAS, if desired.

Figure A-3. Sample preparation and analysis scheme.

temperature and pressure. (If particulate emissions are being determined, desiccate for 24 hours without heat, weigh to a constant weight according to the procedures described in Section 4.3 of Method 5, and report the results to the nearest 0.1 mg.) Resolubilize the residue with concentrated nitric acid and combine the resultant sample including all liquid and any particulate matter with Container No. 3 prior to beginning the following Section 5.3.3.

5.3.3 Container No. 3 (Probe Rinse). The pH of this sample shall be 2 or lower. If the pH is higher, the sample should be acidified with concentrated nitric acid to pH 2. The sample should be rinsed into a beaker with water and the beaker should be covered with a ribbed watchglass. The sample volume should be reduced to approximately 50 ml by heating on a hot plate at a temperature just below boiling. Inspect the sample for visible particulate matter, and depending on the results of the inspection, perform one of the following. If no particulate matter is observed, combine the sample directly with the acid digested portions of the filter prepared previously in Section 5.3.1. If particulate matter is observed, digest the sample in microwave vessels or Parr® Bombs following the procedures described in Section 5.3.1; then combine the resultant sample directly with the acid digested portions of the filter prepared previously in Section 5.3.1. The resultant combined sample is referred to as Fraction 1. Filter the combined solution of the acid digested filter and probe rinse samples using Whatman 541 filter paper. Dilute to 300 ml (or the appropriate volume for the expected metals concentration) with water. Measure and record the combined volume of the Fraction 1 solution to within 0.1 ml. Quantitatively remove a 50-ml aliquot and label as Fraction 1B. Label the remaining 250-ml portion as Fraction 1A. Fraction 1A is used for ICAP or AAS analysis. Fraction 1B is used for the determination of front half mercury.

5.3.4 Container No. 4 (Impingers 1-3). Measure and record the total volume of this sample (Fraction 2) to within 0.5 ml. Remove a 50-ml aliquot for mercury analysis and label as Fraction 2B. Label the remaining portion of Container No. 4 as Fraction 2A. The Fraction 2B aliquot should be prepared and analyzed as described in Section 5.4.3. Fraction 2A shall be pH 2 or lower. If necessary, use concentrated nitric acid to lower Fraction 2A to pH 2. The sample should be rinsed into a beaker with water and the beaker should be covered with a ribbed watchglass. The sample volume should be reduced to approximately 20 ml by heating on a hot plate at a temperature just below boiling. Then follow either of the digestion procedures described in Sections

5.3.4.1 and 5.3.4.2, below.

5.3.4.1 Conventional Digestion Procedure. Add 30 ml of 50 percent nitric acid and heat for 30 minutes on a hot plate to just below boiling. Add 10 ml of 3 percent hydrogen peroxide and heat for 10 more minutes. Add 50 ml of hot water and heat the sample for an additional 20 minutes. Cool, filter the sample, and dilute to 150 ml (or the appropriate volume for the expected metals concentrations) with water.

5.3.4.2 Microwave Digestion Procedure. Add 10 ml of 50 percent nitric acid and heat for 6 minutes in intervals of 1 to 2 minutes at 600 Watts. Allow the sample to cool. Add 10 ml of 3 percent hydrogen peroxide and heat for 2 more minutes. Add 50 ml of hot water and heat for an additional 5 minutes. Cool, filter the sample, and dilute to 150 ml (or the appropriate volume for the expected metals concentrations) with water.

Note: All microwave heating times given are approximate and are dependent upon the number of samples being digested at a time. Heating times as given above have been found acceptable for simultaneous digestion of up to 12 individual samples. Sufficient heating is evidenced by solvent reflux within the vessel.

5.3.5 Container No. 5 (Impingers 4 & 5). Measure and record the total volume of this sample to within 0.5 ml. This sample is referred to as Fraction 3. Follow the analysis procedures described in Section 5.4.3.

5.3.6 Container No. 6 (Silica Gel). Weigh the spent silica gel (or silica gel plus impinger) to the nearest 0.5 g using a balance. (This step may be conducted in the field.)

5.4 Sample Analysis. For each sampling train, five individual samples are generated for analysis. A schematic identifying each sample and the prescribed sample preparation and analysis scheme is shown in Figure A-3. The first two samples, labeled Fractions 1A and 1B, consist of the digested samples from the front half of the train. Fraction 1A is for ICAP or AAS analysis as described in Sections 5.4.1 and/or 5.4.2. Fraction 1B is for determination of front half mercury as described in Section 5.4.3.

The back half of the train was used to prepare the third through fifth samples. The third and fourth samples, labeled Fractions 2A and 2B, contain the digested samples from the H_2O and HNO_3/H_2O_2 Impingers 1 through 3. Fraction 2A is for ICAP or AAS analysis. Fraction 2B will be analyzed for mercury.

The fifth sample, labeled Fraction 3, consists of the impinger contents and

rinses from the permanganate Impingers 4 and 5. This sample is analyzed for mercury as described in Section 5.4.3. The total back half mercury catch is determined from the sum of Fraction 2B and Fraction 3.

5.4.1 ICAP Analysis. Fraction 1A and Fraction 2A are analyzed by ICAP using EPA Method 200.7 (40 CFR 136, Appendix C). Calibrate the ICAP, and set up an analysis program as described in Method 200.7. The quality control procedures described in Section 7.3.1 of this method shall be followed. Recommended wavelengths for use in the analysis of the primary, secondary, and interferring metals are listed below.

Element	Wavelength (nm)
Arsenic	193.696
Beryllium	313.042
Cadmium	226.502
Chromium	267.716
Lead	220.353
Nickel	231.604
Zinc	213.856
Antimony	206.833
Barium	455.403
Copper	324.754
Manganese	257.610
Selenium	196.026
Silver	328.068
Thallium	190.864
Aluminum	308.215
Iron	259.940

The wavelengths listed are recommended because of their sensitivity and overall acceptance. Other wavelengths may be substituted if they can provide the needed sensitivity and are treated with the same corrective techniques for spectral interference.

Initially, analyze all samples for the target metals plus iron and aluminum. If iron and aluminum are present in the sample, the sample may have to be diluted so that each of these elements is at a concentration of less than 50 ppm to reduce their spectral interferences on arsenic and lead.

Note: When analyzing samples in a hydrofluoric acid matrix, an alumina torch should be used; since all front half samples will contain hydrofluoric acid, use an alumina torch.

5.4.2 AAS by Direct Aspiration and/or Graphite Furnace. If analysis of metals in Fraction 1A and Fraction 2A using graphite furnace or direct aspiration AAS is desired, Table A-2 should be used to determine which techniques and methods should be applied for each target metal. Table A-2 should also be consulted to determine possible interferences and techniques to be followed for their minimization. Calibrate the instrument according to Section 6.3 and follow the quality control procedures specified in Section 7.3.2.

5.4.3 Cold Vapor AAS Mercury Analysis. Fraction 1B, Fraction 2B, and Fraction 3 should be analyzed for mercury using cold vapor atomic absorption spectroscopy following the method outlined in EPA Method 7470 or in Standard Methods for Water and Wastewater Analysis, 15th Edition, Method 303F. Set up the calibration curve as described in Section 7.3 of Method 303F. Add approximately 5 ml of each sample to BOD bottles. Record the amount of sample added. The amount used is dependent upon the expected levels of mercury. Dilute to approximately 120 ml with mercury-free water. Add approximately 15 ml of 5 percent potassium permanganate solution to the Fraction 2B and Fraction 3 samples. Add 5 percent potassium permanganate solution to the Fraction 1B sample as needed to produce a purple solution lasting at least 15 minutes. A minimum of 25 ml is suggested. Add 5 ml of 50 percent nitric acid, 5 ml of concentrated sulfuric acid, and 9 ml of 5 percent potassium persulfate to each sample and each standard. Digest the solution in the capped BOD bottle at 95°C (205°F) in a convection oven or water bath for 2 hours. Cool. Add 5 ml of hydroxylamine hydrochloride solution and mix the sample. Then add 7 ml of stannous chloride to each sample and analyze immediately.

6. Calibration

Maintain a laboratory log of all calibrations.

6.1 Sampling Train Calibration. Calibrate the sampling train components according to the indicated sections of Method 5: Probe Nozzle (Section 5.1); Pitot Tube (Section 5.2); Metering System (Section 5.3); Probe Heater (Section 5.4); Temperature Gauges (Section 5.5); Leak-Check of the Metering System (Section 5.6); and Barometer (Section 5.7).

6.2 Inductively Coupled Argon Plasma Spectrometer Calibration. Prepare standards as outlined in Section 4.4. Profile and calibrate the instrument according to the instrument manufacturer's recommended procedures using the

TABLE A-2. APPLICABLE TECHNIQUES, METHODS, AND MINIMIZATION OF INTEFERENCE FOR AAS ANALYSIS

Metal	Technique	Method No.	Wavelength (nm)	Interference	
				Cause	Minimization
Sb	Aspiration	7040	217.6	1000 mg/ml Pb Ni, Cu, or acid	Use secondary wavelenght of 231.1 nm. Match sample & standards acid concentration or use nitrous oxide/acetylene flame
Sb	Furnace	7041	217.6	High Pb	Secondary wavelength or Zeeman correction
As	Furnace	7060	193.7	Arsenic volati - zation Aluminium	Spiked samples & add nickel nitrate solution to digestates prior to analyses Use Zeeman background correction
Ba	Aspiration	7080	553.6	Calcium Barium ionization	High hollow cathode current & narrow band set 2 mL of KCl per 100 mL of sample
Be	Aspiration	7090	234.9	500 ppm Al High Mg & Si	Add 0.1% fluoride Use method of standard additions
Be	Furnace	7091	234.9	Be in optical path	Optimize parameters to minimize effects
Cd	Aspiration	7130	228.8	Absorption & light scattering	Background correction is required
Cd	Furnace	7131	228.8	As above Excess chloride Pipet tips	As above Ammonium phosphate used as a matrix modifier Use cadmium-free tips
Cr	Aspiration	7190	357.9	Alkali metal Absorption & scatt	KCl ionization suppressant in sample & stand Consult manufacturer's literature
Cr	Furnace	7191	357.9	200 mg/L calcium & phosphate	All calcium nitrate for a know constant effect and to eliminate effect of phosphate

(continued)

TABLE A-2 (CONTINUED)

Metal	Technique	Method No.	Wavelength (nm)	Interference	
				Cause	Minimization
Cu	Aspiration	7210	324.7	Absorpt & scatter	Consult manufacturer's manual
Fe	Aspiration	7380	248.3	Contamination	Great care taken to aviod contamination
Pb	Aspiration	7420	283.3	217.0 nm alternat	Background correction required
Pb	Furnace	7421	283.3	Poor recoveries	Matrix modifier, add 10 uL of phosphorus acid to 1-mL of prepared sample in sampler cup
Mn	Aspiration	7460	279.5	403.1 nm alternat	Background correction required
Ni	Aspiration	7520	232.0	352.4 nm alternat	Background correction required
				Fe, Co, & Cr	Matrix matching or a nitrous-oxide/acety flame
				Nonlinear respons	Sample dilution or use 352.4 nm line
Se	Furnace	7740	196.0	Volitality	Spike samples & reference materials & add nickel nitrate to minimize volatilization
				Adsorpt & scatter	Background correction is required & Zeeman background correction can be useful
Ag	Aspiration	7760	328.1	Absorpt & scatter	Background correction is required
				AgCl insoluble	Avoid hydrochloric acid unless silver is in solution as a chloride complex
				Viscosity	Sample & standards monitored for apiration rate
Tl	Aspiration	7840	276.8		Background correction is required
					Hydrochloric acid should not be used
Tl	Furnace	7841	276.8		Background correction is required
				Hydrochloric acid or chloride	Verify that losses are not occuring for volitization by spiked samples or standad addt
					Palladium is a suitable matrix modifier
Zn	Aspiration	7950	213.9	High Si, Cu & P	Strontium removes Cu and phosphate
				Contamination	Care should be taken to avid contamination

above standards. The instrument calibration should be checked once per hour. If the instrument does not reproduce the concentrations of the standard within 10 percent, the complete calibration procedures should be performed.

6.3 Atomic Absorption Spectrometer - Direct Aspiration, Graphite Furnace and Cold Vapor Mercury Analyses. Prepare the standards as outlined in Section 4.4. Calibrate the spectrometer using these prepared standards. Calibration procedures are also outlined in the EPA methods referred to in Table A-2 and in Standard Methods for Water and Wastewater, 15th Edition, Method 303F (for mercury). Each standard curve should be run in duplicate and the mean values used to calculate the calibration line. The instrument should be recalibrated approximately once every 10 to 12 samples.

7. Quality Control

7.1 Sampling. Field Reagent Blanks. The blank samples in Container Numbers 7 through 12 produced previously in Sections 5.2.7 through 5.2.11, respectively, shall be processed, digested, and analyzed as follows. Digest and process Container No. 12 contents per Section 5.3.1, Container No. 7 per Section 5.3.2, and half of Container No. 8 per Section 5.3.3. This produces Fraction Blank 1A and Fraction Blank 1B from Fraction Blank 1. Combine the remaining half of Container No. 8 with the contents of Container No. 9 and digest and process the resultant volume per Section 5.3.4. This produces Fraction Blank 2A and Fraction Blank 2B from Fraction Blank 2. Container No. 10 and Container No. 11 contents are Fraction Blank 3. Analyze Fraction Blank 1A and Fraction Blank 2A per Section 5.4.1 and/or 5.4.2. Analyze Fraction Blank 1B, Fraction Blank 2B, and Fraction Blank 3 per Section 5.4.3. The analysis of Fraction Blank 1A produces the front half reagent blank correction values for the metals except mercury; the analysis of Fraction Blank 1B produces the front half reagent blank correct value for mercury. The analysis of Fraction Blank 2A produces the back half reagent blank correction values for the metals except mercury, while separate analysis of Fraction Blanks 2B and 3 produce the back half reagent blank correction value for mercury.

7.2 An attempt may be made to determine if the laboratory reagents used in Section 5.3 caused contamination. They should be analyzed by the procedures in Section 5.4. The Administrator will determine whether or not the laboratory blank reagent values can be used in the calculation of the stationary source test results.

7.3 Quality Control Samples. The following quality control samples should be analyzed.

7.3.1 ICAP Analysis. Follow the quality control shown in Section 8 of Method 6010. For the purposes of a three run test series, these requirements have been modified to include the following: two instrument check standard runs, two calibration blank runs, one interference check sample at the beginning of the analysis (must be within 25% or analyze by standard addition), one quality control sample to check the accuracy of the calibration standards (must be within 25% of calibration), and one duplicate analysis (must be within 5% of average or repeat all analysis).

7.3.2 Direct Aspiration and/or Graphite Furnace AAS Analysis for Arsenic, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, and Zinc (and Antimony, Barium, Copper, Manganese, Phosphorus, Selenium, Silver, and Thallium, if measured). All samples should be analyzed in duplicate. Perform a matrix spike on one front half sample and one back half sample or one combined sample. If recoveries of less than 75 percent or greater than 125 percent are obtained for the matrix spike, analyze each sample by the method of additions. A quality control sample should be analyzed to check the accuracy of the calibration standards. The results must be within 10% or the calibration repeated.

7.3.3 Cold Vapor AAS Analysis for Mercury. All samples should be analyzed in duplicate. A quality control sample should be analyzed to check the accuracy of the calibration standards (within 10% or repeat calibration). Perform a matrix spike on one sample from the nitric impinger portion (must be within 25% or samples must be analyzed by the method of standard additions). Additional information on quality control can be obtained from EPA Method 7470 or in Standard Methods for Water and Wastewater, 15th Edition, Method 303F.

8. Calculations

8.1 Dry Gas Volume. Using the data from this test, calculate $V_{m(std)}$, the dry gas sample volume at standard conditions as outlined in Section 6.3 of Method 5.

8.2 Volume of Water Vapor and Moisture Content. Using the data obtained from this test, calculate the volume of water vapor $V_{w(std)}$ and the moisture content B_{ws} of the stack gas. Use Equations 5-2 and 5-3 of Method 5.

8.3 Stack Gas Velocity. Using the data from this test and Equation 2-9 of Method 2, calculate the average stack gas velocity.

8.4 Metals (Except Mercury) in Source Sample.

8.4.1 Fraction 1A, Front Half, Metals (except Hg). Calculate the amount of each metal collected in Fraction 1 of the sampling train using the following equation:

$$M_{fh} = C_a F_d V_{soln.1} \qquad \text{Eq. 1*}$$

where:

M_{fh} = total mass of each metal (except Hg) collected in the front half of the sampling train (Fraction 1), ug.
C_a = concentration of metal in sample Fraction 1A as read from the standard curve (ug/ml).
F_d = dilution factor (F_d = the inverse of the fractional portion of the concentrated sample in the solution actually used in the instrument to produce the reading C_a. For example, when the dilution of Fraction 1A is from 2 to 10 ml, F_d = 5).
$V_{soln.1}$ = total volume of digested sample solution (Fraction 1), ml.

8.4.2 Fraction 2A, Back Half, Metals (except Hg). Calculate the amount of each metal collected in Fraction 2 of the sampling train using the following equation.

$$M_{bh} = C_a F_a V_a \qquad \text{Eq. 2*}$$

where:

M_{bh} = total mass of each metal (except Hg) collected in the back half of the sampling train (Fraction 2), ug.
C_a = concentration of metal in sample Fraction 2A, as read from the standard curve (ug/ml).
F_a = aliquot factor, volume of Fraction 2 divided by volume of aliquot Fraction 2A.
V_a = volume of digested sample analyzed (concentrated Fraction 2A), ml.

8.4.3 Total Train, Metals (except Hg). Calculate the total amount of each of the quantified metals collected in the sampling train as follows:

$$M_t = (M_{fh} - M_{fhb}) + (M_{bh} - M_{bhb}) \qquad \text{Eq. 3*}$$

*If Fractions 1A and 2A are combined, proportional aliquots must be used. Appropriate changes must be made in Equations 1-3 to reflect this approach.

where:

M_t = total mass of each metal (separately stated for each metal) collected in the sampling train, ug.
M_{fhb} = blank correction value for mass of metal detected in front half field reagent blank, ug.
M_{bhb} = blank correction value for mass of metal detected in back half field reagent blank, ug.

Note: If the measured blank value for the front half (m_{fhb}) is in the range 0.0 to A ug [where A ug equals the value determined by multiplying 1.4 ug per square inch (1.4 ug/in.^{2}) times the actual area in square inches (in.^{2}) of the filter used in the emission sample], m_{fhb} may be used to correct the emission sample value (m_{fh}); if m_{fhb} exceeds A ug, the greater of the two following values (either I. or II.) may be used:

I. A ug, or

II. the lesser of (a) m_{fhb}, or (b) 5 percent of m_{fh}.

If the measured blank value for the back half (m_{bhb}) is in the range 0.0 to 1 ug, m_{bhb} may be used to correct the emission sample value (m_{bh}); if m_{bhb} exceeds 1 ug, the greater of the two following values may be used: 1 ug or 5 percent of m_{bh}.

8.5 Mercury in Source Sample.

8.5.1 Fraction 1B, Front Half, Hg. Calculate the amount of mercury collected in the front half, Fraction 1, of the sampling train using the following equation:

$$Hg_{fh} = \frac{Q_{fh}}{V_{f1b}} \times V_{soln.1} \qquad \text{Eq. 4}$$

where:

Hg_{fh} = total mass of mercury collected in the front half of the sampling train (Fraction 1), ug.
Q_{fh} = quantity of mercury in analyzed sample, ug.
$V_{soln.1}$ = total volume of digested sample solution (Fraction 1), ml.
V_{f1b} = volume of Fraction 1B analyzed, ml. See the following Note.

Note: V_{f1b} is the actual amount of Fraction 1B analyzed. For example, if 1 ml of Fraction 1B were diluted to 100 ml to bring it into the proper analytical range, and 1 ml of the 100-ml dilution was analyzed, V_{f1b} would be 0.01.

8.5.2 Fraction 2B and Fraction 3, Back Half, Hg. Calculate the amount of mercury collected in Fractions 2 and 3 using Equations 5 and 6, respectively.

Calculate the total amount of mercury collected in the back half of the sampling train using Equation 7.

$$Hg_{bh2} = \frac{Q_{bh2}}{V_{f2B}} \times V_{soln,2} \qquad \text{Eq. 5}$$

where:

Hg_{bh2} = total mass of mercury collected in Fraction 2, ug.
Q_{bh2} = quantity of mercury in analyzed sample, ug.
V_{f2B} = volume of Fraction 2B analyzed, ml (see Note in Section 8.5.1).
$V_{soln,2}$ = total volume of Fraction 2, ml.

$$Hg_{bh3} = \frac{Q_{bh3}}{V_{f2B}} \times V_{soln,3} \qquad \text{Eq. 6}$$

where:

Hg_{bh3} = total mass of mercury collected in Fraction 3, ug.
Q_{bh3} = quantity of mercury in analyzed sample, ug.
V_{f3} = volume of Fraction 3 analyzed, ml (see Note in Section 8.5.1).
$V_{soln,3}$ = total volume of Fraction 3, ml.

$$Hg_{bh} = Hg_{bh2} + Hg_{bh3} \qquad \text{Eq. 7}$$

where:

Hg_{bh} = total mass of mercury collected in the back half of the sampling train, ug.

8.5.3 Total Train Mercury Catch. Calculate the total amount of mercury collected in the sampling train using Equation 8.

$$M_t = (Hg_{fh} - Hg_{frb}) + (Hg_{bh} - Hg_{brb}) \qquad \text{Eq. 8}$$

where:

M_t = total mass of mercury collected in the sampling train, ug.
Hg_{frb} = blank correction value for mass of mercury detected in front half field reagent blank, ug.

Hg_{bfb} = blank correction value for mass of mercury detected in back half field reagent blank, ug.

Note: If the total of the measured blank values ($Hg_{fhb} + Hg_{bhb}$) is in the range of 0 to 3 ug, then the total may be used to correct the emission sample value ($Hg_{fh} + Hg_{bh}$); if it exceeds 3 ug, the greater of the following two values may be used: 3 ug or 5 percent of the emission sample value ($Hg_{fh} + Hg_{bh}$).

8.6 Metal Concentration of Stack Gas. Calculate the concentrations of arsenic, beryllium, cadmium, total chromium, lead, mercury, nickel, and zinc (and antimony, barium, copper, manganese, phosphorus, selenium, silver, and thallium, if measured) in the stack gas (dry basis, adjusted to standard conditions) as follows:

$$C_s = K_4 \, (M_t / V_{m(std)}) \qquad \text{Eq.9}$$

where:

C_s = concentration of each metal in the stack gas, mg/dscm.
K_4 = 10^{-3} mg/ug.
M_t = total mass of each metal collected in the sampling train, ug.
$V_{m(std)}$ = volume of gas sample as measured by the dry gas meter, corrected to dry standard conditions, dscm.

8.7 Isokinetic Variation and Acceptable Results. Same as Method 5, Sections 6.11 and 6.12, respectively.

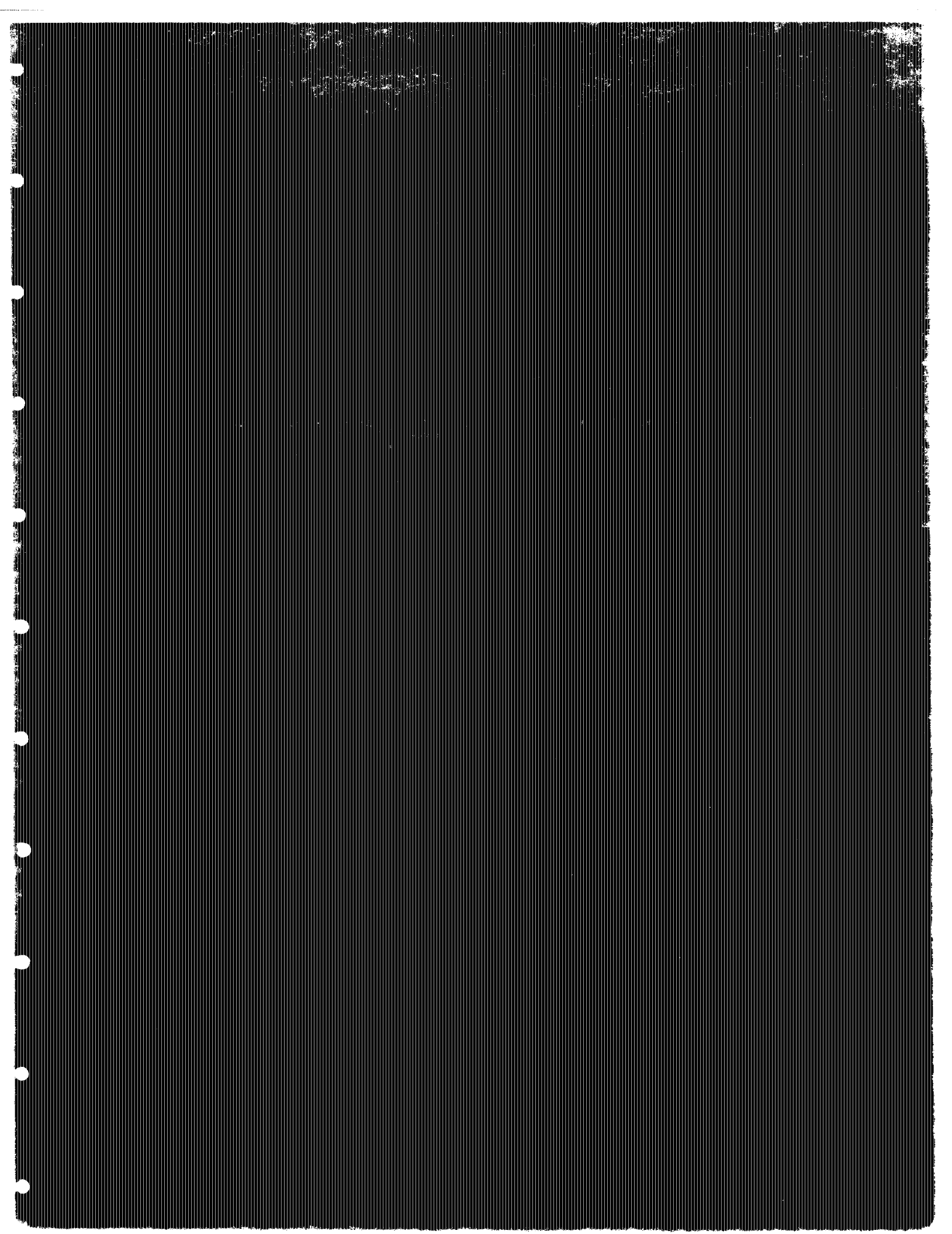
9. Bibliography

9.1 Method 303F in Standard Methods for the Examination of Water Wastewater, 15th Edition, 1980. Available from the American Public Health Association, 1015 18th Street N.W., Washington, D.C. 20036.

9.2 EPA Methods 6010, 7000, 7041, 7060, 7131, 7421, 7470, 7740, and 7841, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. SW-846, Third Edition. September 1988. Office of Solid Waste and Emergency Response, U. S. Environmental Protection Agency, Washington, D.C. 20460.

9.3 EPA Method 200.7, Code of Federal Regulations, Title 40, Part 136, Appendix C. July 1, 1987.

9.4 EPA Methods 1 through 5, Code of Federal Regulations, Title 40, Part 60, Appendix A, July 1, 1987.



MICROBIAL SURVIVABILITY TEST FOR MEDICAL WASTE INCINERATOR EMISSIONS

1. Applicability and Principle

1.1 Applicability. This test method measures the survivability of a specific indicator organism through the normal medical waste incinerator operation cycle. Microbial spores are the most resistant type of organism to thermal inactivation and are therefore utilized as the surrogate organism to ensure that all microorganisms will be rendered non-viable. This procedure is designed to recover, identify, and quantify the indicator organism and is not intended to recover other microorganisms collected by the sampling train.

1.2 Principle. With the incinerator operating under recommended conditions, it is charged with wastes spiked with known amounts of Bacillus stearothermophilus spores. Emission samples are collected isokinetically in a buffered solution in impingers. The recovered samples are aliquoted. One sample of each aliquot will not be heat-treated. The samples are cultured. Colonies of B. stearothermophilus are identified and quantified.

2. Apparatus

Note: Mention of trade names or specific product in this method does not constitute endorsement by the Environmental Protection Agency.

2.1 Sterilization. Autoclave capable of steam sterilization at conditions of 121°C for 15 minutes at 15 psi. Specific apparatus and reagents that contact the recovered sample shall be sterilized under these conditions by autoclaving or other equivalent method.

2.2 Sampling. The sampling train is shown in Figure 1 and is composed of the following component parts.

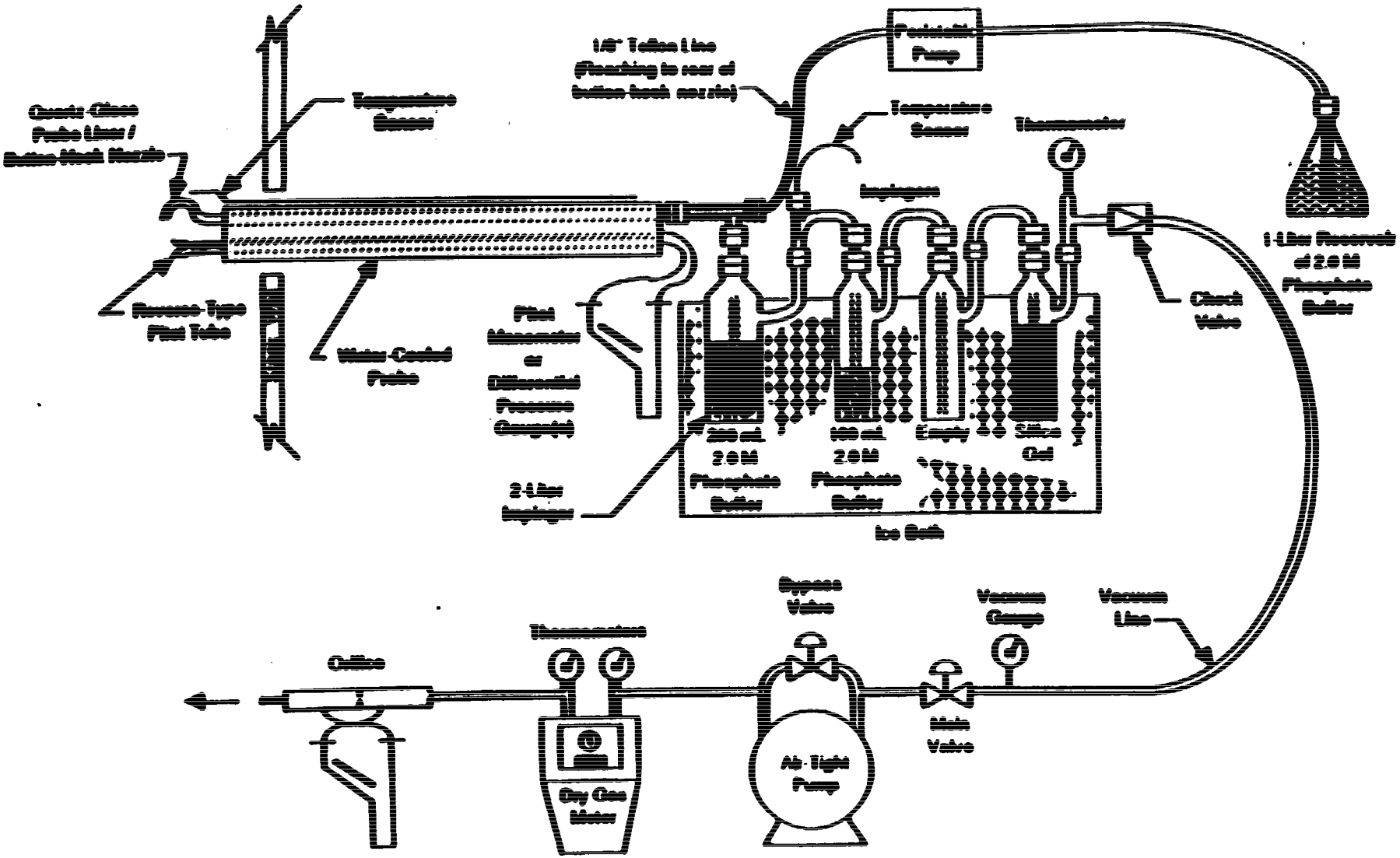


Figure 1. Sampling Train for Microbial Emissions

2.2.1 Probe Nozzle/Liner. One piece, quartz glass with button-hook design nozzle having a sharp, tapered leading edge. The angle of taper shall be ≤30° and the taper shall be on the outside to preserve a constant internal diameter. The nozzle shall be sized based on the range of velocity heads in the duct (EPA Method 2) so that nozzle size need not be changed to maintain isokinetic sampling rates (see Section 4.1.3.1). The nozzle shall be calibrated according to the procedures outlined in Section 5. Select a suitable liner length (and water-cooled probe) such that all traverse points can be sampled.

2.2.2 Water-cooled Probe. Metal sheath incorporating a circulating water system capable of delivering at least 5.7 liters/min (1.5 gal/min) of tap or ice water to cool the length of the quartz probe liner. It should also have provisions for supporting the S-type pitot tube and thermocouple probe.

2.2.3 Pitot Tube. Same as in Method 5, Section 2.1.3, except refer to Figure 1 in this method.

2.2.4 Differential Pressure Gauges. Same as in Method 5, Section 2.1.4.

2.2.5 Impingers. Four impingers of the Greenburg-Smith design connected in series with leak-free ground glass fittings or any similar leak-free non-contaminating fittings. The first impinger shall have sufficient capacity to contain the total volume of buffer originally charged to this impinger, the moisture catch, and the buffer introduced into the probe. The stem tips of the first, third, and fourth impingers shall be modified by replacing the standard tips with 1.3-cm (0.5-in.) ID glass tubing extended to about 1.3 cm from the bottom of the flask. A temperature sensor shall be inserted into the first impinger and a thermometer or temperature sensor shall be placed at the outlet of the fourth impinger for monitoring the gas stream temperatures at

these locations; both shall be capable of measuring temperature to within 1°C (2°F). Alternatively, functionally equivalent systems are acceptable.

2.2.6 Probe Gas Buffering System. Sterile tubing, pumping system, and sterile buffer reservoir to introduce sterile 2.0 M phosphate buffer, pH ~7, into the quartz-glass probe liner in a spray pattern adjacent to the rear of the button-hook nozzle during sampling. Teflon tubing 32-mm (1/8-in.) OD crimped at the end and punched with needle-sized holes has been shown to be suitable. The pumping system should be capable of delivering buffer to the probe at a rate of approximately 15 to 20 ml/min. An acceptable configuration is illustrated in Figure 1.

2.2.7 Metering System. Same as in Method 5, Section 2.1.8.

2.2.8 Barometer. Same as in Method 5, Section 2.1.9.

2.2.9 Gas Density Determination Equipment. Same as in Section 2.1.10 of Method 5.

2.3 Sample Recovery.

2.3.1 Probe Brush. Nylon bristle brush with stainless steel, plastic, or Teflon handle. The probe brush shall have extensions (at least as long as the probe) of similar material. The brush shall be properly sized and shaped to brush out the probe liner and nozzle with the probe gas buffering system installed.

2.3.2 Wash Bottles (sterile). Two glass, polyethylene, or Teflon wash bottles are recommended.

2.3.3 Sample Storage Containers (sterile). Glass containers with leak-free caps, 2-liter.

2.4 Analysis.

2.4.1 Incubator. Air convection type, capable of aerobic incubation at 55 to 65°C.

2.4.2 Incubation Tubes (sterile). Heat-proof tubes or bottles.

2.4.3 Water Bath. Capable of maintaining a temperature of 80°C.

2.4.4 Petri Dishes (sterile).

2.4.5 Filter Units (sterile). Nalgene® 0.2-μm cellulose nitrate membrane analytical filter units or equivalent.

3. Reagents

3.1 Sampling.

3.1.1 Water. All water used shall be sterile deionized water.

3.1.2 Collection and Probe Gas Buffering Reagent (sterile). Buffered phosphate solution (2.0 M), approximate Ph 7. Prepare by dissolving 174.2 g dibasic potassium phosphate (K_2HPO_4) and 136.1 g monobasic potassium phosphate (KH_2PO_4) in water and diluting to 1 liter. Approximately 2 liters are required for each test run.

3.1.3 Crushed Ice.

3.1.4 Silica Gel. Same as in Method 5, Section 3.1.2.

3.1.5 Stopcock Grease. Heat-stable silicone grease. This is not necessary if screw-on connectors with Teflon sleeves or similar, inert, fittings are used.

3.1.6 Indicator Microorganisms. Bacillus stearothermophilus spores. The theoretical spore charge to the incinerator when mixed with wastes should be at least 10^{12} spores total per sampling run. With advance notice, liquid cultures at this level can be produced by the Fermentation Facility, Department of Biochemistry, University of Alabama at Birmingham, UAB Station, Birmingham, Alabama, 35294 (Telephone No. 205-934-5561). For spiking purposes, cultures will be inoculated into or onto materials normally found in the medical waste stream.

3.2 Analysis. The analytical reagents recommended have been demonstrated to be suitable for culturing and enumerating the indicator spores. Other reagents may also be used if demonstrated to be suitable.

3.2.1 Water. All water used shall be sterile deionized water.

3.2.2 Trypticase Soy Agar Growth Medium. Prepare by mixing 15.0 g pancreatic digest of casein, 5.0 g papaic digest of soy meal, 5.0 g NaCl, and 15.0 g agar with 1 liter of water. Boil to dissolve the agar. Sterilize at 121°C for 15 minutes. This recipe will prepare 100 petri dishes.

3.2.3 1 N Sodium Hydroxide (NaOH). Add 40 g of NaOH to a 1-liter volumetric flask containing water and dilute to volume with water while mixing.

3.2.4 Balance. To measure within 0.5 g.

4. Procedure

4.1 Sampling.

4.1.1 Pretest Preparation. It is suggested that sampling equipment be calibrated and maintained according to the procedures described in Section 3.4 of EPA's Quality Assurance Handbook, Volume III (Citation 4). Clean and hydrogen peroxode/alcohol-disinfect the nozzle/probe liner, first three impingers, all connections, and the nozzle/probe liner brush as follows: Soak in 1.0 N HNO_3 for at least one hour, wash with a laboratory detergent, rinse three times with tap water and three times with deionized water, and finally, rinse with 90 percent ethanol. During storage between cleaning and assembly, plug all component inlets and outlets with similarly-prepared cork or rubber stoppers, or cover with Parafilm^R. Store the probe brush in a clean plastic bag.

4.1.2 Preparation of Collection Train. Assemble the train as in Figure 1, using applicable sections of Citation 4 as a guide. Aseptically add

200 ml and 100 ml of collecting reagent to the first and second impingers, respectively. Transfer approximately 200 to 300 g of silica gel to the fourth impinger. If the stack gas moisture is to be determined using this train, weigh all four impingers to the nearest 0.5 g. Mark the probe with heat-resistant tape or by other means to denote the proper distance into the stack or duct for each sampling point. Place crushed ice around the impingers.

4.1.3 Preliminary Determinations. Same as in Method 5, Section 4.1.2, with the addition that the total sampling time shall be such that the pH of the first impinger will remain above five.

4.1.4 Leakcheck Procedures.

4.1.4.1 Pretest Leakcheck. This pretest leakcheck is recommended, but not required. Plug the inlet to the first impinger using a sterile plug, and pull a 380-mm Hg (15-in. Hg) vacuum. (A lower vacuum may be used, provided that it is not exceeded during the test.) Then connect the probe to the train and leak check at about 25-mm Hg (1-in. Hg) vacuum. Alternatively, the probe may be leak checked with the rest of the sampling train, in one step, at 380mm Hg (15-in. Hg) vacuum. Leakage rates in excess of 4 percent of the average sampling rate or 0.00057 m^3/min (0.02 cfm), whichever is less, are unacceptable. The leakcheck procedures described in Citation 4 may also be helpful.

4.1.4.2 Leakchecks During Sample Run. If during the sampling run, a component (e.g., impinger) change becomes necessary, a leakcheck as described shall be conducted immediately before the change is made. Leakchecks after component changes are optional.

4.1.4.3 Post-test Leakcheck. A leakcheck is mandatory at the conclusion of each sampling run. The leakcheck shall be done in accordance with the procedures outlined in Section 4.1.4.1, except that it shall be conducted at a

vacuum equal to or greater than the maximum value reached during the sampling run. If the leakage rate is acceptable, no correction need be applied to the total volume of dry gas metered. If, however, an unacceptable leakage rate is obtained, the tester shall either record the leakage rate and correct the sample volume as shown in Section 6.3 of Method 5, or void the sampling run.

4.1.5 Sampling Train Operation.

4.1.5.1 During the sampling run, maintain an isokinetic sampling rate (within 10 percent of true isokinetic unless otherwise specified by the Administrator). Nomographs and programmable calculators are available, which aid in the rapid adjustment of the isokinetic sampling rate without excessive computations. For each run, record the data on a data sheet such as the one shown in Figure 5-2 of Method 5. If this train is to be used to determine the moisture content of the sample gas, determine and record the starting volume of the buffer in the probe gas buffering system reservoir. If used, level and zero the manometer. Because the manometer level and zero may drift due to vibrations and temperature changes, make periodic checks during the traverse. Clean the ports prior to the test run to minimize the chance of sampling deposited material. When the stack is under significant negative pressure, take care to close the coarse adjust valve before inserting the probe into the stack to prevent collection solution from backing into the probe. If necessary, the pump may be turned on with the coarse adjust valve closed.

4.1.5.2 Ensure that the temperatures of the primary (and secondary, if applicable) combustion chamber, as well as the stack have reached the requirements specified in the applicable regulations. Begin sampling just before the spiked wastes are added to the incinerator.

4.1.5.3 Before inserting the probe into the duct and beginning sampling, remove the nozzle cap, verify that the pitot tube and probe are properly positioned (the probe at a slight angle to allow buffer and condensed moisture to drain into the first impinger), and start the circulating water and probe gas buffering systems. Insert the probe into the duct and position the nozzle at the first traverse point with the tip pointing directly into the gas stream. Block off the openings around the probe and port to prevent unrepresentative dilution of the gas stream. Begin sampling by immediately starting the pump and adjusting the flow to isokinetic conditions. Traverse the duct cross-section, as required by Method 1, being careful not to contact the duct walls with the probe nozzle when sampling near the walls or when removing or inserting the probe through the port; this minimizes the chance of extracting deposited material. During the test run, add more ice around the impingers and, if necessary, salt to maintain temperatures of less than 50°C (120°F) in the first impinger and 20°C (68°F) at the silica gel impinger outlet. Also, if a manometer is used, periodically check its level and zero.

4.1.5.4 At the end of the sample run, turn off the coarse adjust valve, remove the probe and nozzle from the stack, and turn off the pump and probe gas buffering system. If this train is to be used to determine the moisture content of the sample gas, determine and record the final volume of the buffer in the probe gas buffering system reservoir. Record the final dry gas meter reading and conduct a post-test leakcheck as outlined in Section 4.1.4.3. Also, leak check the pitot lines as described in Method 2, Section 3.1; the lines must pass this leakcheck in order to validate the velocity head data.

4.1.6 Calculation of Percent Isokinetic. Same as in Section 4.1.6 of Method 5.

4.2 Sample Recovery. Sample recovery procedures are summarized in Figure 2. Allow the probe to cool, ensuring that no foreign contamination enters the nozzle during the process. When the probe has cooled, turn off the water circulating system and wipe off any external matter near the tip of the probe nozzle. Disconnect the probe from the impinger assembly leaving the buffer delivery system inside the probe liner. Using a wash bottle containing sterile buffer solution and the probe brush, wash the interior of the probe liner, and collect the washings in the sample bottle. Remove the umbilical cord from the last impinger. If using this train to determine the moisture content of the sample gas, weigh each of the four impingers to the nearest 0.5 g. Aseptically transfer the contents of the first three impingers to the sample recovery bottle with sterile buffer rinsings. Check the pH of the sample solution using pH paper, and if necessary, adjust to pH 6.0 to 7.5 with 1 N NaOH. Mark the level of liquid in the sample recovery bottle to check for leakage later. For shipment to the laboratory, pack the bottle in ice and maintain at or below 4°C. Ensure that the sample bottle is sufficiently sealed to prevent contamination from melted ice.

4.3 Sample Preparation and Analysis. The procedures for sample preparation and analysis are summarized in Figure 3.

4.3.1 Sample Solution Aliquots. Note the level of liquid in the sample container and confirm on the analysis sheet whether leakage occurred during transport. Mix the sample solution well and divide into the following aliquots using sterile pipets and/or glassware: three 10-ml aliquots, three 100-ml aliquots, and three equal volume aliquots of the remaining solution. Using sterile water, rinse pipets or other glassware used to transfer the sample solutions into the containers.

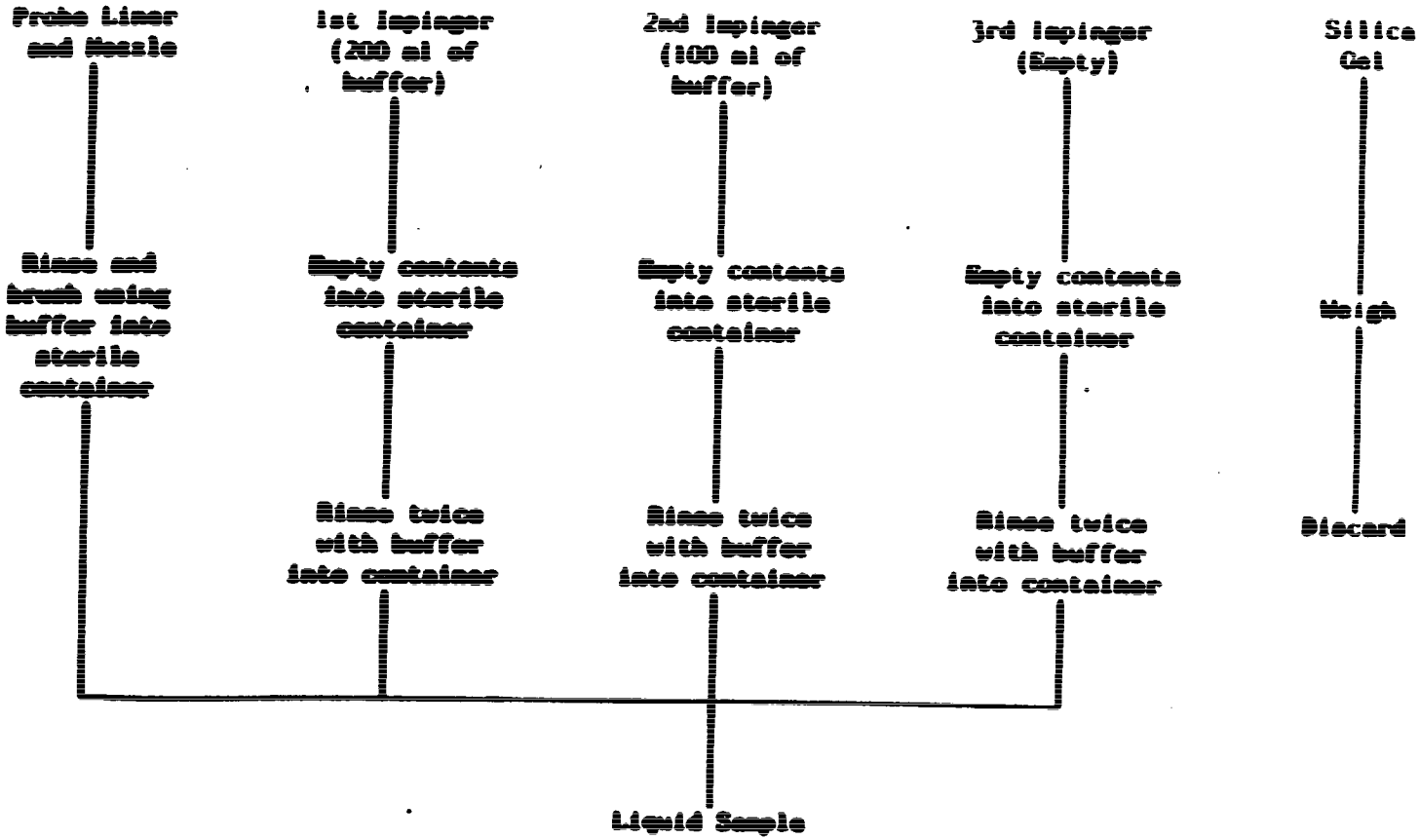
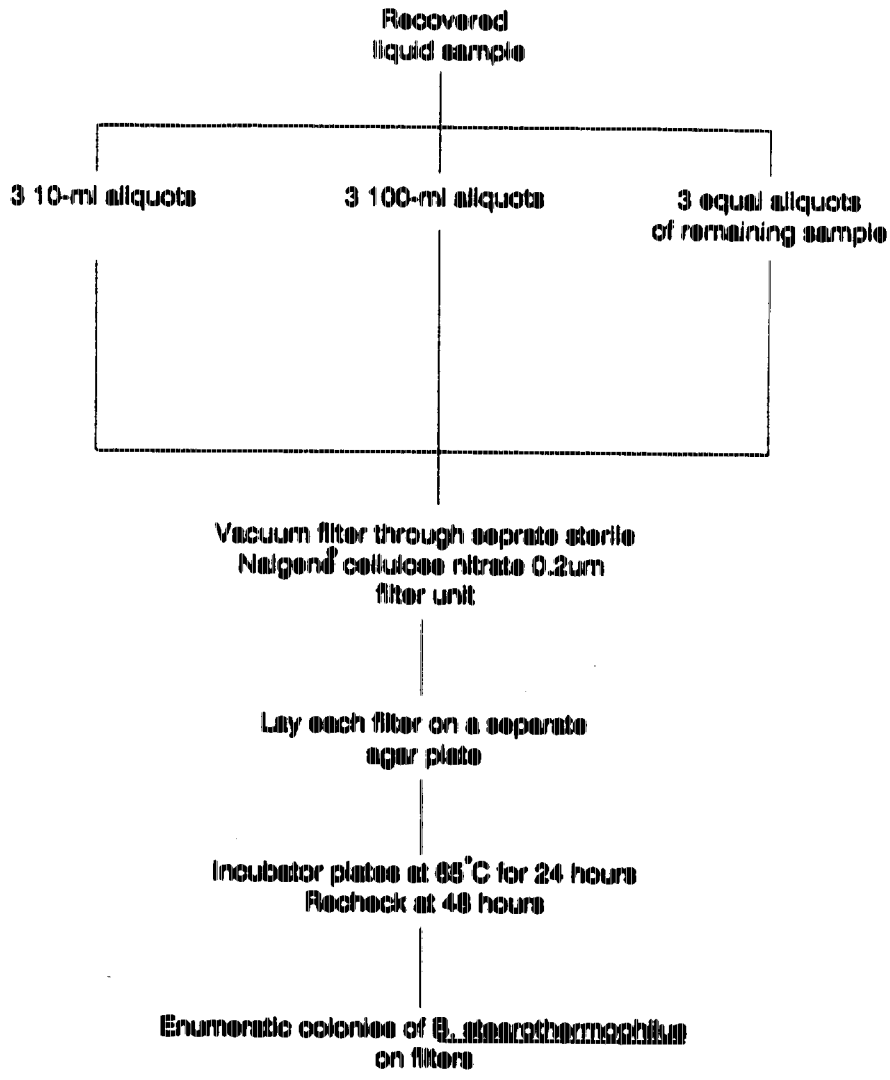


Figure 2. Sample Recovery Scheme for Microbial Testing


Recovered
liquid sample
3 10-ml aliquots
3 100-ml aliquots
3 equal aliquots
of remaining sample
Vacuum filter through separate sterile
Nalgene® cellulose nitrate 0.2um
filter unit
Lay each filter on a separate
agar plate
Incubator plates at 35°C for 24 hours
Recheck at 48 hours
Enumerate colonies of G. thermosphacroides
on filters

4.3.2 Culture Incubation. Pour molten trypticase soy agar into petri dishes. Allow the agar to harden. Using separate filter units, filter each sample aliquot. Rinse each incubation tube with sterile water and pass this rinse through the filter as well. Using sterile tweezers, remove the filters from each unit and place face up on separate agar plates. Aerobically incubate the plates in an air convection incubator at 65°C for 18 to 24 hours.

4.3.4 Quantification. Remove plates from incubator, identify and enumerate the bacterial colonies.

4.3.5 Identification of Indicator Microorganisms. Confirm that the colonies are B. stearothermophilus by testing representative colonies from the plates. A variety of tests, including gram staining and biochemical tests will be used as necessary to correctly identify the colonies.

4.4 Quality Control Procedures.

4.4.1 Meter Orifice Check. The procedures in Sections 4.4.1 and 4.4.2 of Method 5 are recommended, but are optional.

4.4.2 Indicator Microorganisms. Aliquots of the spore suspension used to spike the waste shall be filtered, cultured, and quantified simultaneously with the samples to establish the actual spike quantity.

5. Calibrations

Maintain a laboratory log of all calibrations. Calibrate the probe nozzle, pitot tube, metering system, and barometer as described in Method 5, Sections 5.1, 5.2, 5.3, and 5.7.

6. Calculations

Carry out calculations, retaining at least one extra decimal figure beyond that of the acquired data. Round off figures after the final calculation. Other forms of the equations may be used as long as they give equivalent results.

6.1 Nomenclature.

A = Cross-sectional area of stack, m^2 (ft^2).

A_n = Cross-sectional area of nozzle, m^2 (ft^2).

B_{ws} = Water vapor in the gas stream, proportion by volume.

C = Concentration of B. stearothermophilus in stack gas, dry basis, corrected to standard conditions, viable spores/dsm^3 (viable spores/dscf).

DE = Destruction efficiency, percent.

I = Percent of isokinetic sampling.

M_w = Molecular weight of water, 18.0 g/g-mole (18.0 lb/lb-mole).

N = Number of viable indicator microorganisms in sample.

P_{bar} = Barometric pressure at the sampling site, mm Hg (in. Hg).

P_s = Absolute stack gas pressure, mm Hg (in. Hg).

P_{std} = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).

Q_{sd} = Dry volumetric flue gas flow rate at standard conditions, dscm/min (dscf/min).

R = Ideal gas constant, 0.06236 (mm Hg)(m^3)/(°K)(g-mole) [21.85 (in. Hg)(ft^3)/(°R)(lb-mole)].

S_a = Average number of spore colonies counted for three replicate aliquots.

S_e = Number of viable spiked spores exiting stack.

S_s = Number of viable spores spiked in the waste feed.

T_m = Absolute average dry gas meter temperature (see Figure 5-2 of Method 5), °K (°R).

T_s = Absolute average stack gas temperature (see Figure 5-2 of Method 5), °K (°R).

T_{std} = Standard absolute temperature, 293°K (528°R).

V_a = Volume of sample aliquot filtered.

V_g = Volume of gas exiting stack during test period, dsm^3 (dscf).

V_{lc} = Total volume of liquid collected in impingers and silica gel (difference between total weight of impingers before and after sampling divided by 1 g/ml), ml.

V_{lf} = Final volume of liquid sample, ml.

V_m = Volume of gas sample as measured by dry gas meter, dm^3 (dcf).

$V_{m(std)}$ = Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dsm^3 (dscf).

V_{pb} = Volume of buffer introduced into the probe, ml.

$V_{w(std)}$ = Volume of water vapor in the gas sample, corrected to standard conditions, sm^3 (scf).

v_s = Stack gas velocity, calculated by Equation 2-9 of Method 2, using data obtained from this method, m/sec (ft/sec).

Y = Dry gas meter calibration factor.

ΔH = Average pressure differential across the orifice meter (see Figure 5-2 of Method 5), mm H_2O (in. H_2O).

ρ_w = Density of water, 0.9982 g/ml (0.002201 lb/ml).

θ = Total sampling time, min.

13.6 = Specific gravity of mercury.

60 = Sec/min.

100 = Conversion to percent.

460 = Correction to absolute temperature.

6.2 Average Dry Gas Meter Temperature and Average Orifice Pressure Drop. See data sheet (Figure 5-2 of Method 5).

6.3 Dry Gas Volume. Correct the sample volume measured by the dry gas meter to standard conditions (20°C, 760 mm Hg or 68°F, 29.92 in. Hg) by using Equation 1.

$$V_{m(std)} = V_m Y (T_{std}/T_m) [(P_{bar} + (\Delta H/13.6)]/P_{std}$$
$$= K_1 V_m Y [P_{bar} + (\Delta H/13.6)]/T_m \qquad \text{Eq. 1}$$

where:

K_1 = 0.3858 °K/mm Hg for metric units,

= 17.64 °R/in. Hg for English units.

NOTE: Equation 1 can be used as written unless leakage is observed during any of the mandatory leakchecks.

6.4 Volume of Water Vapor.

$$V_{w(std)} = V_{lc}(\rho_w/M_w)(RT_{std}/P_{std}) = K_2 V_{lc} \qquad \text{Eq. 2}$$

where:

K_2 = 0.001333 m^3/ml for metric units,

= 0.04707 ft^3/ml for English units.

Note: V_{lc} is equal to the final weight of the impingers minus the initial weight of the charged impingers and the buffer introduced into the probe (V_{pb}).

6.5 Moisture Content. Same as in Method 5, Section 6.5.

6.6 Number of Indicator Microorganisms Collected. If possible, use the set of replicate sample values that yields between 20 and 200 counts per plate for conducting these calculations.

$$N = S_a V_{lf}/V_a \qquad \text{Eq. 3}$$

6.7 Concentration of Indicator Organisms Collected.

$$C = N/V_{m(std)} \qquad \text{Eq. 4}$$

6.8 Flue Gas Flow Rate at Standard Conditions.

$$Q_{sd} = 60\ (1-B_{ws})\ v_s\ A\ (T_{std}/T_s)\ (P_s/P_{std}) \qquad \text{Eq. 5}$$

6.9 Volume of Gas Exiting Stack During Test Period.

$$V_g = Q_{sd}\theta \qquad \text{Eq. 6}$$

6.10 Number of Viable Spores Exiting Stack During Test Period.

$$S_e = C\ V_g \qquad \text{Eq. 7}$$

6.11 Destruction Efficiency of Incinerator for Indicator Spores.

$$DE = [1 - (S_e/S_s)]\ 100 \qquad \text{Eq. 8}$$

6.12 Isokinetic Variation. Same as in Method 5, Section 6.11.

6.12.3 Acceptable Results. Same as in Method 5, Section 6.12.

7. Bibliography

1. Same as in Bibliography of Method 5.

2. American Society for Microbiology. Manual of Methods for General Bacteriology. Washington, D.C., 1981. 524 p.

3. Buchannan, R.E. and N.E. Gibbons. Bergey's Manual of Determinative Bacteriology. Baltimore, MD. The Williams and Wilkins Company. 1974. 1268 p.

4. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods. U.S. Environmental Protection Agency, Office of Research and Development. Research Triangle Park, NC, 27711. EPA-600/4-77-027b. August 1977.



MICROBIAL SURVIVABILITY TEST FOR MEDICAL WASTE INCINERATOR ASH

1. Applicability and Principle

1.1 Applicability. Two test methods will be performed to determine the survivability of microorganisms in the ash during the normal operation of the medical waste incinerator. The quantification of surviving indicator organisms is utilized as an indication of the effectiveness of incineration as a medical waste treatment technology. This test procedure is intended to recover, identify and quantify the indicator organisms used to determine the efficiency of the incinerator. Bacillus stearothermophilus, a spore forming bacterium, is used because this type of organism is typically the most resistant to thermal inactivation, thereby ensuring that more fragile organisms will be destroyed. The following procedures were developed to recover only the indicator organism.

1.2. Principle. With the incinerator operating under recommended conditions, the waste stream is charged with known quantities of Bacillus stearothermophilus spores in items normally found in the medical waste stream and in the insulated pipes. The samples are added to the incinerator with typical medical wastes and are recovered at the end of the burn cycle when ashes are batch-removed. The destruction efficiency of the incinerator is determined by establishing the survivability of the indicator microorganism.

2. Apparatus

Note: Mention of trade names or specific product in this method does not constitute endorsement by the U.S. Environmental Protection Agency.

2.1 Sterilization. Autoclave capable of steam sterilization conditions of 121°C for 15 minutes at 15 psi. Specific apparatus and reagents that

contact the recovered sample shall be sterilized under these conditions by autoclaving or other equivalent method.

2.2 Sampling. The direct ash samples are collected from the ash after cooling. A thief sampler is used for collection. The sample is collected into sterile containers and stored at 4°C prior to transportation to the laboratory. The pipe sample is shown in Figure 1 and is composed of the following components:

2.2.1 Outer Container. Steel pipe having a two-inch diameter and 6 in. long with end caps to contain the sample. (Note: Since components are commonly available in English units, only English units are specified). The ends of the pipe shall be threaded to attach the metal caps. Etch or stamp each tube for identification.

2.2.2 Inner Container. 2-in. length of 3/8-stainless-steel tubing with stainless-steel Swagelok caps. Other leak-free stainless-steel fittings may be used as alternatives.

2.2.3 Insulation. Vermiculite, or other thermal insulating material. The insulation shall be such that the inner container is maintained in the center portion of the outer container to protect it from thermal shock.

2.3 Sample Recovery.

2.3.1 Gloves. Of sufficient quality to protect the tester from microorganisms that may be present in the ash.

2.3.2 Sample Retrieval Instruments. Shovel, tongs, thiefs or other instruments for removing an incinerator ash sample and the pipe sample from the ash dump.

2.3.3 Sample Storage Containers. Pipe Samples are placed inside plastic bags. Direct ash samples are placed in sterile containers then in plastic bags. All samples are stored at 4°C until transport to the laboratory.

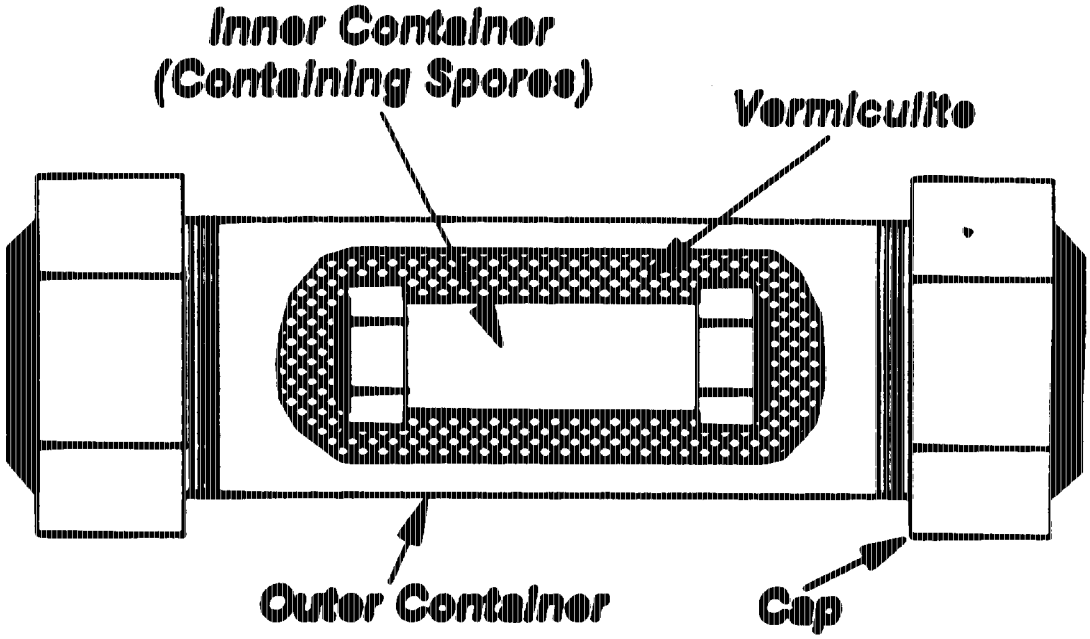


Figure 1. Pipe Sample Assembly

2.4 Analysis.

2.4.1 Incubator. Air convection type, capable of aerobic incubation at 55 to 65°C.

2.4.2 Incubation Tubes (Sterile). Heat-proof tubes or bottles.

2.4.3 Water Bath. Capable of maintaining a temperature of 80°C.

2.4.4 Petri Dishes (Sterile).

2.4.5 Filter Units (Sterile). Nalgene® 0.2-μm cellulose nitrate membrane analytical filter units or equivalent.

3. Reagents

3.1 Sampling and Sample Recovery.

3.1.1 Crushed Ice. For sample storage in the field.

3.1.2 Indicator Microorganisms. Bacillus stearothermophilus spores. Each pipe should contain approximately 1×10^6 dry spores and approximately 1×10^{12} spores per day are being added to the actual waste stream. Dry spores of this quantity may be obtained from ATCC, 12301 Parklawn Drive, Rockville, MD 20857. (Telephone No. 800-638-6597).

B. stearothermophilus is also added to the waste stream at approximately 1×10^{12} spores per day. Direct ash samples will be taken each day to determine actual spore survivability or the incinerator destruction efficiency.

3.2 Analysis. The analytical reagents will vary according to the culture and identification procedure used. The reagents described are required for the example tests listed in this method. Other reagents suitable for appropriate alternative tests are acceptable.

3.2.1 Water. All water used shall be sterile deionized.

3.2.2 Spore Reagent (Sterile). Buffered phosphate solution (2.0 M) prepared by dissolving 174.2 g dibasic potassium phosphate (K_2HPO_4) and

136.1 g monobasic potassium phosphate (KH_2PO_4) in water and diluting to 1 liter.

3.2.3 Trypticase Soy Agar Growth Medium. Prepare by mixing 15.0 g pancreatic digest of casein, 5.0 g papaic digest of soy meal, 5.0 g NaCl, and 15.0 g agar with 1 liter of water. Boil to dissolve the agar. Sterilize at 121°C for 15 minutes. This recipe will prepare 10 petri dishes.

4. Procedure

4.1 Sampling.

4.1.1 Sample Preparation.

4.1.1.1 Clean the inner pipe and caps before use. Remove the cap from the spore vial and breakup the spore cake using a clean instrument. Secure one end cap to the inner container. Carefully transfer the crushed cake of 1×10^6 spores into the inner sample container, and seal the other end cap. All sampling instruments (i.e. sampling thief) used to take the actual sample are sterilized. Sterile sample containers for the ash samples are obtained.

4.1.1.2 Secure one end cap to the outer container, and add enough vermiculite to allow the inner container to be positioned in the approximate middle and center of the outer tube. Add additional vermiculite, gently tapping the outer container to effect settling, until full. Secure the other end cap. The spore inoculation techniques are discussed in Appendix A.3 will be used for inoculation of waste items for direct ash sampling. A total of 1×10^{12} spores are added to the waste stream per sampling day.

4.1.2 Incinerator Spike. The incinerator spike will vary according to loading practice. For semi-continuous loading operations, add a set of three samples to the incinerator at the beginning, middle, and end of a normal day's loading period (9 total samples per daily burn). Disperse each sample per set in different sections of the wastes to be charged. For single-charge batch

operations, place all 9 samples on the incinerator bed before any wastes are charged. Divide the bed into a grid of 9 equal areas. Place a sample in the approximate center of each grid. Load the wastes charge in a manner that will not disturb the sample arrangement.

4.2 Sample Recovery. The sample recovery will vary according to incinerator ash-removal practice. Recover the samples during ash removal following the cool-down period for batch removal operations or as they emerge in the ash bin for continuous cleanout operations. NOTE: For units having water-quenched ash bins, care should taken to remove the samples quickly from the bin to prevent contamination. Remove excess debris from the recovered samples, place in a plastic bag, and pack in ice to maintain at or below 4°C. Ensure that the samples are protected from contamination from melted ice.

4.3 Analysis.

4.3.1 Sample Preparation of Analysis. The samples should be deliveverd to the laboartory within 96 hours. A pH is performed on the direct ash samples at the time of recovery. Upon delivery to the laboratory the pipe sample is opened, the outer container and vermiculite are discarded after the inner container is recovered. The inner container should be cleaned sufficiently to prevent cross-contamination when opening the sample. The contents of the inner pipe container is then transferred aseptically into sterile test tubes. The inside of the container is rinsed with sterile water and this is placed in the test tube.

Ash samples must be thoroughly mixed to ensure homogeneity. Approximately one gram of ash is then added to 3-100 ml aliquots of sterile water. A six log serial dilution of each aliquot will then be prepared.

4.3.2 Culture Development. Pour molten trypticase soy agar into 10 petri dishes and allow the agar to harden. Using a separate cellulose nitrate

filter, for each serial dilution, filter each concentration from each ash suspension. Using sterile tweezers, remove the filters from each unit and place face up on separate agar plates. Aerobically incubate the plates in an air convection incubator at 65°C for 18 to 24 hours.

4.3.4 Identification of Indicator Microorganisms. A variety of tests may be used to identify B. stearothermophilus. As a minimum, techniques to establish that the microorganisms found are gram-positive, rod-shaped, spore-producers should be used. This may be performed using stain/morphological/ biochemical tests or by strip/card testing units for determining biochemical profile.

4.4 Quality Control Procedures.

4.4.1 Indicator Organisms. Spores from a vial not subjected to the incinerator test shall be dissolved in spore reagent, appropriately aliquoted to yield a final plate count of between 20 and 200 colonies, developed, and enumerated simultaneously with the samples as a control to aid in establishing colony identity.

5. Calculation

5.1 Microbial Survivability of Indicator Spores.

$$MS = [1 - (S_r/S_s)]\ 100 \qquad \text{Eq. 1}$$

where:

MS = Microbial Survivability, percent (to 6 sig. figures).

S_r = Number of spore colonies counted in the analysis.

S_s = Number of spores in original spike vial.

100 = Conversion to percent.

6. Bibliography

1. American Society for Microbiology. Manual of Methods for General Bacteriology. Washington, D.C. 1981. 524 p.

2. Buchannan, R.E. and N.E. Gibbons. Bergey's Manual of Determinative Bacteriology. Baltimore, MD. The Williams and Wilkins Company. 1974. 1268 p.

EPA MEDICAL WASTE INCINERATION TESTS
PROPOSED ASH SAMPLING PROTOCOL
Revision 2 - 8/7/90

I. PRE-SAMPLING PREPARATION

A. Sifter (see Figure 1)

1. Scrub the sifter with soapy water and clean with a disinfectant such as Virex 128. Allow the sifter to air dry in a clean, dry area.

2. Disinfect with a 3 percent hydrogen peroxide solution, allow to air dry in a clean, dry area.

3. Cover the can with clean plastic and seal the lid until use.

B. Other

1. Where possible, use disposable items that have been disinfected for sampling. Examples of disposable items are disposable gloves, garments, etc. Use new bottles to store samples.

II. ASH SAMPLING PROCEDURE

A. Open the incinerator door.

B. Remove shovel from the storage container and allow to air dry in a clean, dry area.

C. Remove ash from the chamber with a shovel and deposit it into the top of the sifter.

D. Gently sift the ash until fines fall into the bottom of the sifter.

E. Remove the sifter basket and deposit course material into a tared trash can.

F. Repeat Steps C through E until the desired amount of ash is removed. The amount of the ash that is removed will be determined by the hospital's normal ash removal procedures.

G. When the ash has been extracted, weigh and record the amount of course material removed.

H. Place the lid tightly on the sifter.

I. Roll the sifter for a minimum of one minute to uniformly mix ash fines.

J. Remove the lid after the ash has settled.

K. Remove sampling thief (grain sampler, three feet long with ¼ inch slots) from storage container and allow to air dry in a clean, dry place.

L. Take samples using sampler. Collect four samples into 950 ml bottles by repeatedly inserting sampler into random locations in the ash bed within the sifter drum. Seal the bottles, wipe each

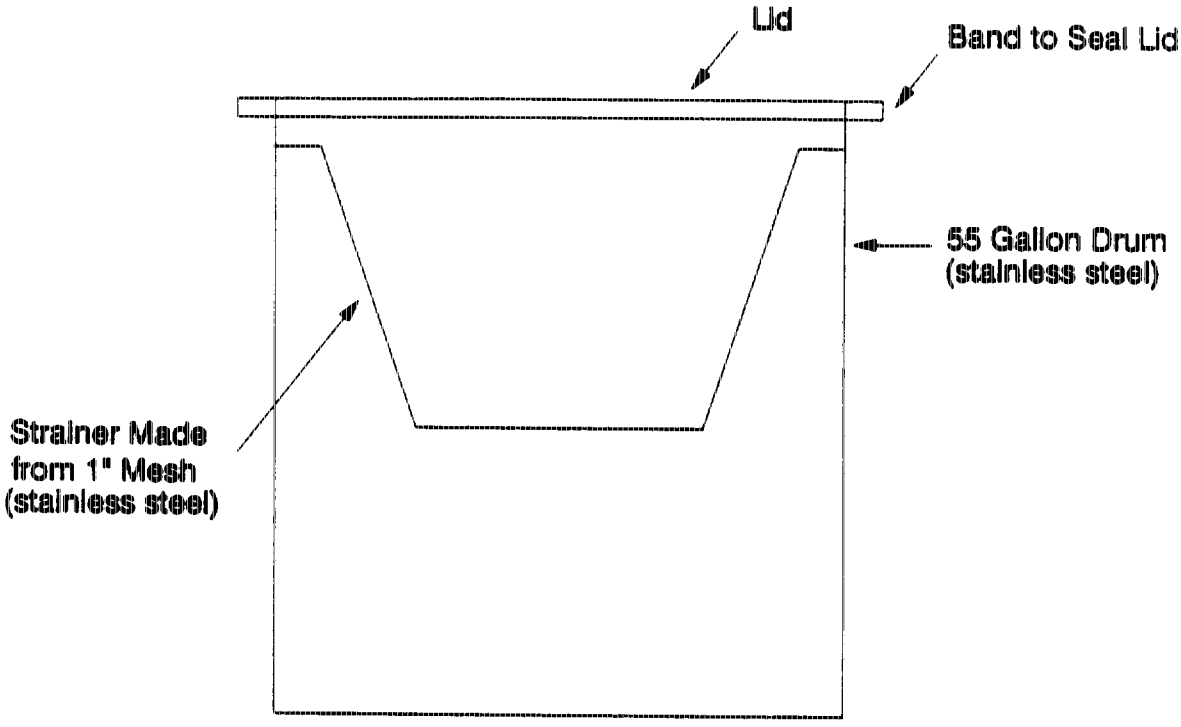


Figure 1. Incinerator Ash Sampling Sifter

with disinfectant and label the bottles immediately. Store labeled bottles in a refrigerator (microbial samples only).

M. The four samples will be sent for analysis as follows:

1. 950 ml for dioxin analysis.

2. 950 ml for metals/carbon/loss on ignition (LOI) analysis.

3. 950 ml for spore enumeration analysis.

4. 950 ml for archive purposes.

III. POST SAMPLING PREPARATION

A. Clean and prepare the utensils for next use. Store them in containers filled with 3 percent hydrogen peroxide solution.

B. Clean and disinfect the sifter for the next use.

Method 26—Determination of Hydrogen Chloride Emissions From Stationary Sources

1. Applicability, Principle, Interferences, Precision, Bias, and Stability

1.1 Applicability. This method is applicable for determining hydrogen chloride (HCl) emissions from stationary sources.

1.2 Principle. An integrated sample is extracted from the stack and passed through dilute sulfuric acid. In the dilute acid, the HCl gas is dissolved and forms chloride (Cl^-) ions. The Cl^- is analyzed by ion chromatography (IC).

1.3 Interferences. Volatile materials which produce chloride ions upon dissolution during sampling are obvious interferences. Another likely interferent is diatomic chlorine (Cl_2) gas which reacts to form HCl and hypochlorous acid (HOCl) upon dissolving in water. However, Cl_2 gas exhibits a low solubility in water and the use of acidic, rather than neutral or basic collection solutions, greatly reduces the chance of dissolving any chlorine present. This method does not experience a significant bias when sampling a 400 ppm HCl gas stream containing 50 ppm Cl_2. Sampling a 220 ppm HCl gas stream containing 180 ppm Cl_2 results in a positive bias of 3.4 percent in the HCl measurement.

1.4 Precision and Bias. The within-laboratory relative standard deviations are 6.2 and 3.2 percent at HCl concentrations of 3.9 and 15.3 ppm, respectively. The method does not exhibit a bias to Cl_2 when sampling at concentrations less than 50 ppm.

1.5 Stability. The collected samples can be stored for up to 4 weeks before analysis.

1.6 Detection Limit. The analytical detection limit of the method is 0.1 μg/ml.

2. Apparatus

2.1 Sampling. The sampling train is shown in Figure 26–1, and component parts are discussed below.

2.1.1 Probe. Borosilicate glass, approximately ⅜-in. (9-mm) I.D. with a heating system to prevent moisture condensation. A ⅜-in I.D. Teflon elbow should be attached to the inlet of the probe and a 1-in. (25-mm) length of ⅜-in. I.D. Teflon tubing should be attached to the open end of the elbow to permit the opening of the probe to be turned away from the gas stream. This reduces the amount of particulate entering the train. This probe configuration should be used when the concentration of particulate matter in the emissions is high. When high concentrations are not present, the Teflon elbow is not necessary, and the probe inlet may be perpendicular to the gas stream. A glass wool plug should *not* be used to remove particulate matter since a negative bias in the data could result. Instead, a Teflon filter (see Section 2.1.3) should be installed at the inlet (for stack temperatures <300 °F) or outlet (for stack temperatures >300 °F) of the probe.

2.1.2 Three-way Stopcock. A borosilicate, three-way glass stopcock with a heating system to prevent moisture condensation. The heated stopcock should connect directly to the outlet of the probe and the inlet of the first impinger. The heating system should be capable of preventing condensation up to the inlet of the first impinger. Silicone grease may be used, if necessary, to prevent leakage.

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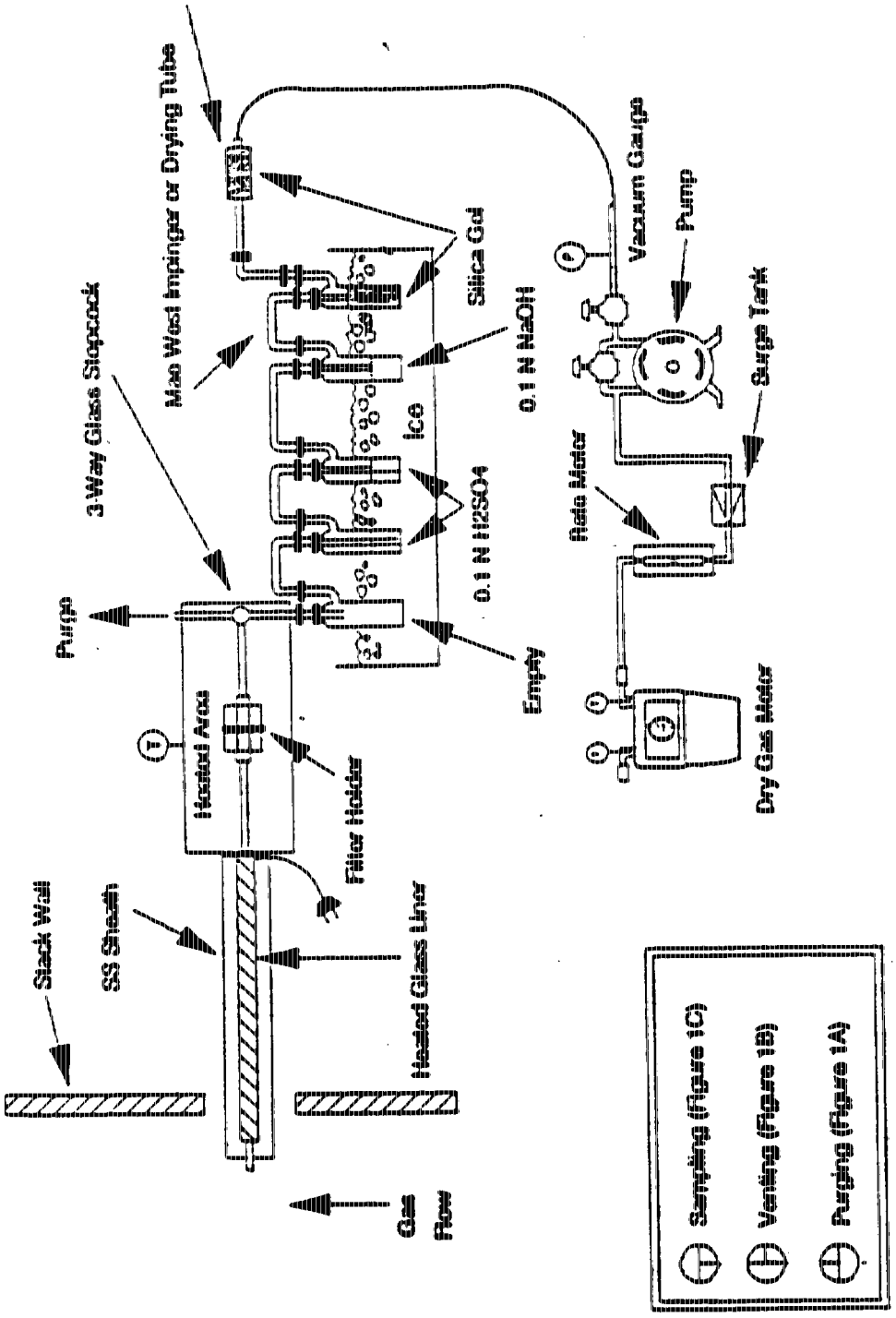


Figure 26-1. Sampling train.

2.1.3 Impingers. Four 30-ml midget impingers with leak-free glass connectors. Silicone grease may be used, if necessary, to prevent leakage. For sampling at high moisture sources or for sampling times greater than 1 hour, a midget impinger with a shortened stem (such that the gas sample does not bubble through the collected condensate) should be used in front of the first impinger.

2.1.4 Drying Tube or Impinger. Tube or impinger, of Mae West design, filled with 6- to 16-mesh indicating type silica gel, or equivalent, to dry the gas sample and to protect the dry gas meter and pump. If the silica gel has been used previously, dry at 175 °C (350 °F) for 2 hours. New silica gel may be used as received. Alternatively, other types of desiccants (equivalent or better) may be used.

2.1.5 Filter. A 25-mm Teflon mat, Pallflex TX40H175 or equivalent. Locate between the probe liner and Teflon elbow in a glass or quartz filter holder in a filter box heated to 250 °F.

2.1.6 Sample Line. Leak-free, with compatible fittings to connect the last impinger to the needle valve.

2.1.7 Rate Meter. Rotameter, or equivalent, capable of measuring flow rate to within 2 percent of the selected flow rate of 2 liters/min.

2.1.8 Purge Pump, Purge Line, Drying Tube, Needle Valve, and Rate Meter. Pump capable of purging the sampling probe at 2 liters/min, with drying tube, filled with silica gel or equivalent, to protect pump, and a rate meter capable of measuring 0 to 5 liters/min.

2.1.9 Stopcock Grease, Valve, Pump, Volume Meter, Barometer, and Vacuum Gauge. Same as in Method 6, Sections 2.1.4, 2.1.7, 2.1.8, 2.1.10, 2.1.11, and 2.1.12.

2.2 Sample Recovery.

2.2.1 Wash Bottles. Polyethylene or glass, 500-ml or larger, two.

2.2.2 Storage Bottles. 100-ml glass, with Teflon-lined lids, to store impinger samples (two per sampling run). During clean-up, the two front impinger contents (0.1 N H_2SO_4) should be combined. The contents of the two rear impinger (0.1 N NaOH) may be discarded, as these solutions are included only to absorb Cl_2, and thus protect the pump.

2.3 Sample Preparation and Analysis. The materials required for volumetric dilution and chromatographic analysis of samples are described below.

2.3.1 Volumetric Flasks. Class A, 100-ml size.

2.3.2 Volumetric Pipets. Class A, assortment. To dilute samples into the calibration range of the instrument.

2.3.3 Ion Chromatograph. Suppressed or nonsuppressed, with a conductivity detector and electronic integrator operating in the peak area mode. Other detectors, strip chart recorders, and peak height measurements may be used provided the 5 percent repeatability criteria for sample analysis and the linearity criteria for the calibration curve can be met.

3. Reagents

Unless otherwise indicated, all reagents must conform to the specifications established by the Committee on Analytical Reagents of the American Chemical Society (ACS reagent grade). When such specifications are not available, the best available grade shall be used.

3.1 Sampling.

3.1.1 Water. Deionized, distilled water that conforms to ASTM Specification D 1193–77, Type 3.

3.1.2 Absorbing solution. 0.1 N Sulfuric Acid (H_2SO_4). To prepare 100 ml of the absorbing solution for the front impinger pair, slowly add 0.28 ml of concentrated H_2SO_4 to about 90 ml of water while stirring, and adjust the final volume to 100 ml using additional water. Shake well to mix the solution.

3.1.3 Chlorine Scrubber Solution. 0.1 N Sodium Hydroxide (NaOH). To prepare 100 ml of the scrubber solution for the back pair of impingers, dissolve 0.40 g of solid NaOH in about 90 ml of water, and adjust the final solution volume to 100 ml using additional water. Shake well to mix the solution.

3.2 Sample Preparation and Analysis.

3.2.1 Water. Same as in Section 3.1.1.

3.2.2 Blank Solution. A separate blank solution of the absorbing reagent should be prepared for analysis with the field samples. Dilute 30 ml of absorbing solution to 100 ml with water in a separate volumetric flask.

3.2.3 Sodium Chloride (NaCl) Stock Standard Solution. Solutions containing a nominal certified concentration of 1000 mg/l are commercially available as convenient stock solutions from which working standards can be made by appropriate volumetric dilution. Alternately, concentrated stock solutions may be produced from reagent grade NaCl. The NaCl should be dried at 100 °C for 2 or more hours and cooled to room temperature in a desiccator immediately before weighing. Accurately weigh 1.9 to 1.7 g of the dried NaCl to within 0.1 mg, dissolve in water, and dilute to 1 liter. The exact Cl concentration can be calculated using Eq. 28–1.

$$\mu g\ Cl^-/ml = g\ of\ NaCl \times 10^3 \times 35.453/58.44$$

Eq. 28–1

Refrigerate the stock standard solution and store no longer than 1 month.

3.2.4 Chromatographic Eluent. Effective eluents for nonsuppressed IC using a resin- or silica-based weak ion exchange column are a 4 mM potassium hydrogen phthalate solution, adjusted to pH 4.0 using a saturated sodium borate solution, and a 4 mM 4-hydroxy benzoate solution, adjusted to pH 8.6 using 1 N NaOH. An effective eluent for suppressed ion chromatography is a solution containing 3 mM sodium bicarbonate and 2.4 mM sodium carbonate. Other dilute solutions buffered to a similar pH and containing no interfering ions may be used. When using suppressed ion chromatography, if the "water dip" resulting from sample injection interferes with the chloride peak, use a 2 mM NaOH/2.4 mM sodium bicarbonate eluent.

4. Procedure

4.1 Sampling.

4.1.1 Preparation of Collection Train. Prepare the sampling train as follows: Pour 15 ml of the absorbing solution into each of the first two impingers, and add 15 ml of scrubber solution to the third and fourth impingers. Connect the impingers in series with the knockout impinger first, followed by the two impingers containing absorbing solution and the two containing the scrubber solution. Place a fresh charge of silica gel, or equivalent, in the drying tube or Mae West impinger.

4.1.2 Leak-Check Procedures. Leak-check the probe and three-way stopcock before inserting the probe into the stack. Connect the stopcock to the outlet of the probe, and connect the sample line to the needle valve. Plug the probe inlet, turn on the sample pump, and pull a vacuum of at least 250 mm Hg (10 in. Hg). Turn off the needle valve, and note the vacuum gauge reading. The vacuum should remain stable for at least 30 seconds. Place the probe in the stack at the sampling location, and adjust the probe and stopcock:

$$\frac{\mu g\ Cl^-}{ml} = \frac{g\ of\ NaCl \times 10^3 \times 35.453}{58.44}$$

Eq. 28–1

Refrigerate the stock standard solution and store no longer than 1 month.

3.2.4 Chromatographic Eluent. Effective eluents for nonsuppressed IC using a resin- or silica-based weak ion exchange column are a 4 mM potassium hydrogen phthalate solution, adjusted to pH 4.0 using a saturated sodium borate solution, and a 4 mM 4-hydroxy benzoate solution, adjusted to pH 8.6 using 1 N NaOH. An effective eluent for suppressed ion chromatography is a solution containing 3 mM sodium bicarbonate and 2.4 mM sodium

carbonate. Other dilute solutions buffered to a similar pH and containing no interfering ions may be used. When using suppressed ion chromatography, if the "water dip" resulting from sample injection interferes with the chloride peak, use a 2 mM NaOH/2.4 mM sodium bicarbonate eluent.

4. Procedure

4.1 Sampling.

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4.1.2 Leak-Check Procedures. Leak-check the probe and three-way stopcock before inserting the probe into the stack. Connect the stopcock to the outlet of the probe, and connect the sample line to the needle valve. Plug the probe inlet, turn on the sample pump, and pull a vacuum of at least 250 mm Hg (10 in. Hg). Turn off the needle valve, and note the vacuum gauge reading. The vacuum should remain stable for at least 30 seconds. Place the probe in the stack at the sampling location, and adjust the probe and stopcock heating system to a temperature sufficient to prevent water condensation. Connect the first impinger to the stopcock, and connect the sample line to the last impinger and the needle valve. Upon completion of a sampling run, remove the probe from the stack and leak-check as described above. If a leak has occurred, the sampling run must be voided. Alternately, the portion of the train behind the probe may be leak-checked between multiple runs at the same site as follows: Close the stopcock to the first impinger (see Figure 1A of Figure 28–1), and turn on the sampling pump. Pull a vacuum of at least 250 mm Hg, turn off the needle valve, and note the vacuum gauge reading. The vacuum should remain stable for at least 30 seconds. Release the vacuum on the impinger train by turning the stopcock to the vent position to permit ambient air to enter (see Figure 1B of Figure 28–2). If this procedure is used, the full train leak-check described above must be conducted following the final run, and all preceding sampling runs must be voided if a leak has occurred.

4.1.3 Purge Procedure. Immediately before sampling, connect the purge line to the stopcock, and turn the stopcock to permit the purge pump to purge the probe (see Figure 1A of Figure 28–1). Turn on the purge pump, and adjust the purge rate to 2 liters/min. Purge for at least 5 minutes before sampling.

4.1.4 Sample Collection. Turn on the sampling pump, pull a slight vacuum of approximately 25 mm Hg (1 in. Hg) on the impinger train, and turn the stopcock to permit stack gas to be pulled through the impinger train (see Figure 1C of Figure 28–3). Adjust the sampling rate to 2 liters/min, as indicated by the rate meter, and maintain this rate to within 10 percent during the entire sampling run. Take readings of the dry gas meter volume and temperature, rate meter, and vacuum gauge at least once every 5 minutes during the run. A sampling time of 1 hour is recommended. Shorter sampling times may introduce a significant negative bias in the HCl concentration. At the conclusion of the sampling run, remove the train from the stack, cool, and perform a leak-check as described in section 4.1.2.

4.2 Sample Recovery. Disconnect the impingers after sampling. Quantitatively transfer the contents of the first three impingers (the knockout impinger and the two absorbing solution impingers) to a leak-free storage bottle. Add the water rinses of each of these impingers and connecting glassware to the storage bottle. The contents of the scrubber impingers and connecting glassware rinses may be discarded. The sample bottle should be sealed, shaken to mix, and labeled. The fluid level should be marked so that if any sample is lost during transport, a correction proportional to the lost volume can be applied.

4.3 Sample Preparation for Analysis. Check the liquid level in each sample, and determine if any sample was lost during shipment. If a noticeable amount of leakage has occurred, the volume lost can be determined from the difference between the initial and final solution levels, and this value can be used to correct the analytical results. Quantitatively transfer the sample solution to a 100-ml volumetric flask, and dilute the solution to 100 ml with water.

4.4 Sample Analysis.

4.4.1 The IC conditions will depend upon analytical column type and whether suppressed or nonsuppressed IC is used. An example chromatogram from a nonsuppressed system using a 150-mm Hamilton PRP–X100 anion column, a [illegible] 2 l/min flow rate of a 4 mM 4-hydroxy benzoate solution adjusted to a pH of 8.6 using 1 N NaOH, a 50 µl sample loop, and a conductivity detector set on 1.0 µS full scale is shown in Figure 26–2.

4.4.2 Before sample analysis, establish a stable baseline. Next, inject a sample of water, and determine if any Cl^- appears in the chromatogram. If Cl^- is present, repeat the load/injection procedure until no Cl^- is present. At this point, the instrument is ready for use.

4.4.3 First, inject the calibration standards covering an appropriate concentration range, starting with the lowest concentration standard. Next, inject in duplicate, a QC sample followed by a water blank and the field samples. Finally, repeat the injection of calibration standards to allow compensation for any drift in the instrument during analysis of the field samples. Measure the Cl^- peak areas or heights of the samples. Use the average response from the duplicate injections to determine the field sample concentrations using a linear calibration curve generated from the standards.

4.5 Audit Analysis. An audit sample must be analyzed, subject to availability.

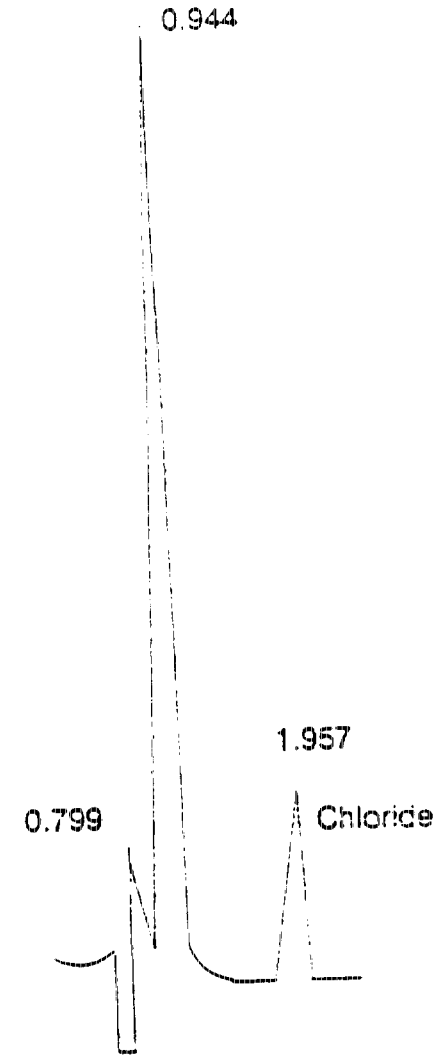


Figure 26-2. Example Chromatogram

5. Calibration

5.1 Dry Gas Metering System, Thermometers, Rate Meter, and Barometer. Same as in Method 6, sections 5.1, 5.2, 5.3, and 5.4.

5.2 Calibration Curve for Ion Chromatograph. To prepare calibration standards, dilute given volumes (1.0 ml or greater) of the stock standard solution, with 0.1 N H_2SO_4 (section 3.1.2) to convenient volumes. Prepare at least four standards that are within the linear range of the instrument and which cover the expected concentration range of the field samples. Analyze the standards as instructed in section 4.4.3, beginning with the lowest concentration standard. Determine the peak measurements, and plot individual values versus Cl^- concentration in µg/ml. Draw a smooth curve through the points. Use linear regression to

calculate a formula describing the resulting linear curve.

6. Quality Assurance

6.1 Applicability. When the method is used to analyze samples to demonstrate compliance with a source emission regulation, a set of two audit samples must be analyzed.

6.2 Audit Procedure. The audit sample are chloride solutions. Concurrently analyze the two audit samples and a set of compliance samples in the same manner to evaluate the technique of the analyst and the standards preparation. The same analyst, analytical reagents, and analytical system shall be used both for compliance samples and the EPA audit samples. If this condition is met, auditing the subsequent compliance analyses for the same enforcement agency within 30 days is not required. An audit sample set may not be used to validate different sets of compliance samples under the jurisdiction of different enforcement agencies, unless prior arrangements are made with both enforcement agencies.

6.3 Audit Sample Availability. The audit samples may be obtained by writing or calling the EPA Regional Office or the appropriate enforcement agency. The request for the audit samples must be made at least 30 days prior to the scheduled compliance sample analyses.

6.4 Audit Results. Calculate the concentrations in mg/dscm using the specified sample volume in the audit instructions.

Note: Indication of acceptable results may be obtained immediately by reporting the audit results in mg/dscm and compliance results in total μg HCl/ sample to the responsible enforcement agency. Include the results of both audit samples, their identification numbers, and the analyst's name with the results of the compliance determination samples in appropriate reports to the EPA Regional Office or the appropriate enforcement agency. Include this information with subsequent analyses for the same enforcement agency during the 30-day period.

The concentrations of the audit samples obtained by the analyst shall agree within 10 percent of the actual concentrations. If the 10 percent specification is not met, reanalyze the compliance samples and audit samples, and include initial and reanalysis values in the test report.

Failure to meet the 10 percent specification may require retests until the audit problems are resolved. However, if the audit results do not affect the compliance or noncompliance status of the affected facility, the Administrator may waive the reanalysis requirement, further audits, or retests and accept the results of the compliance test. While steps are being taken to resolve audit analysis problems, the Administrator may also choose to use the data to determine the compliance or noncompliance status of the affected facility.

7. Calculations

Retain at least one extra decimal figure beyond those contained in the available data in intermediate calculations, and round off only the final answer appropriately.

7.1 Sample Volume, Dry Basis, Corrected to Standard Conditions. Calculate the sample volume using Eq. 6–1 of Method 6.

7.2 Total μg HCl Per Sample.

$$m = \frac{(S-B)(100)(36.46)}{(35.453)} = (102.84)(S-B) \qquad \text{Eq. 26–2}$$

where:

m = Mass of Hcl in sample, μg.
S = Concentration of sample, μg Cl⁻/ml.
B = Concentration of blank, μg Cl⁻/ml.
100 = Volume of filtered and diluted sample, ml.
36.46 = Molecular weight of HCl, μg/μg-mole.
35.453 = Atomic weight of Cl, μg/μg-mole.

7.3 Concentration of HCl in the Flue Gas.

$$C = \frac{K_m}{V_{m(std)}} \qquad \text{Eq. 26–3}$$

where:

C = Concentration of HCl, dry basis, mg/dscm.
K = 10^{-3} mg/μg.
m = Mass of HCl in sample, μg.
$V_{m(std)}$ = Dry gas volume measured by the dry gas meter, corrected to standard conditions, dscm.

8. Bibliography

1. Steinsberger, S.C. and J.H. Margeson. "Laboratory and Field Evaluation of a Methodology for Determination of Hydrogen Chloride Emissions from Municipal and Hazardous Waste Incinerators." U.S. Environmental Protection Agency, Office of Research and Development. Report No. ———. 1989.

2. State of California, Air Resources Board. Method 421, "Determination of Hydrochloric Acid Emissions from Stationary Sources." March 18, 1987.

3. Entropy Environmentalists Inc. "Laboratory Evaluation of a Sampling and Analysis Method for Hydrogen Chloride Emissions from Stationary Sources: Interim Report." EPA Contract No. 68–02–4442. Research Triangle Park, North Carolina. January 22, 1988.

* * * * *

Appendix A [Amended]

3. Method 19 of appendix A part 60 is amended by adding paragraphs 4.3 and 5.4 as follows: Method 19—Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates

* * * * *

4.3 Daily Geometric Average Pollutant Rates from Hourly Values. The geometric average pollutant rate (E_{gm}) is computed using the following equation:

$$E_{gm} = \text{EXP}\left[(1/n)\sum_{j=1}^{n}[\ln(E_{hj})]\right] \qquad \text{Eq. 19–20a}$$

where:

E_{gm} = daily geometric average pollutant rate, ng/J (lbs/million Btu) or ppm corrected to 7 percent O_2.
E_{hj} = hourly arithmetic average pollutant rate for hour "j," ng/J (lb/million Btu) or ppm corrected to 7 percent O_2.
n = total number of hourly averages for which pollutant rates are available within the 24 hr midnight to midnight daily period.
ln = natural log of indicated value.
EXP = the natural logarithmic base (2.718) raised to the value enclosed by brackets.

* * * * *

5.4 Daily Geometric Average Percent Reduction from Hourly Values. The geometric average percent reduction ($\%R_{gm}$) is computed using the following equation:

$$\%R_{ga} = 100\left[1-EXP\left[(1/n)\sum_{j=1}^{n}\ln(E_{aj}/E_{ij})\right]\right]$$

Eq. 19-24a

where:

$\%R_{ga}$ = daily geometric average percent reduction.

E_{aj}, E_{ij} = matched pair hourly arithmetic average pollutant rate, outlet and inlet, respectively, ng/J (lb/million Btu) or ppm corrected to 7 percent O_2.

n = total number of hourly averages for which paired inlet and outlet pollutant rates are available within the 24-hr midnight to midnight daily period.

ln = natural log of indicated value.

EXP = the natural logarithmic base (2.718) raised to the value enclosed by brackets.

Note: The calculation includes only paired data sets (hourly average) for the inlet and outlet pollutant measurements.

* * * * *

[FR Doc. 91-1399 Filed 2-12-91; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 672 and 675

[Docket No. 90839-1019]

Groundfish of the Gulf of Alaska; Groundfish of the Bering Sea and Aleutian Islands

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Final rule, technical amendment.

SUMMARY: The Secretary of Commerce issues this final rule implementing a technical amendment to reinstate regulatory language that was unintentionally deleted by regulations implementing Amendment 13 to the Fishery Management Plan for the Bering Sea/Aleutian Islands Groundfish (Bering FMP) and Amendment 18 to the Fishery Management Plan for the Gulf of Alaska Groundfish Fishery (Gulf FMP) (54 FR 50386, December 6, 1989).

EFFECTIVE DATE: February 8, 1991.

FOR FURTHER INFORMATION CONTACT: Patricia Peacock (Fishery Management Specialist), NMFS, Plans and Regulations Division, 1335 East-West Highway, Silver Spring, Maryland 20910, telephone 301-427-2343.

SUPPLEMENTARY INFORMATION: Groundfish fisheries in the Exclusive Economic Zone off Alaska are governed by Federal regulations at 50 CFR parts 611, 620, 672, and 675 that implement the Bering and the Gulf FMPs. These FMPs were prepared by the North Pacific Fishery Management Council and approved by the Secretary of Commerce (Secretary) under provisions of the Magnuson Fishery Conservation and Management Act.

This final rule implements a technical amendment that (1) reinstates language unintentionally deleted by amendatory language in 54 FR 50383 (December 6, 1989) and (2) retains the amendatory language of 56 FR 492 (January 7, 1991).

On December 6, 1989, a final rule was published in the Federal Register (54 FR 50386) that was intended only to amend the introductory language of §§ 672.20(a)(2) and 675.20(a)(2). Item 11 of this amendatory language states that "* * * paragraphs (a)(2) and (f)(1) are revised * * *"; item 20 states that "* * * paragraph (a)(2) is revised * * *". This amendatory language revised the introductory text of paragraph (a)(2) in these sections but deleted the remainder of the regulatory language in §§ 672.20(a)(2) and 675.20(a)(2). Paragraphs in § 672.20 that were unintentionally deleted were (a)(2)(i), (a)(2)(ii), (a)(2)(ii)(A), and (a)(2)(ii)(B). Table 1 in § 672.20 also was unintentionally deleted. Paragraphs that were unintentionally deleted in § 675.20 were as follows: (a)(2)(i), (a)(2)(i)(A), and (a)(2)(i)(B).

On January 1, 1991, final rules implementing Amendment 14 to the Bering FMP and Amendment 19 to the Gulf FMP also revised text in §§ 672.20(a)(2) and 675.20(a)(2) (56 FR 492, January 7, 1991). This rule retains the changes to these sections resulting from Amendments 14 and 19.

The Gulf and Bering FMPs were implemented using procedures specified by the Magnuson Act and the Administrative Procedure Act. However, as explained above, the language currently in §§ 672.20(a) and 675.20(a) does not correctly reflect the Gulf or Bering FMPs and subsequent amendments.

This final rule, technical amendment, is reinstating regulatory language needed to implement correctly the Bering and Gulf FMPs as amended.

Classification

This final rule, technical amendment, is issued under parts 672 and 675. Because this rule reinstates regulatory text that was inadvertently deleted during an earlier rulemaking proceeding and makes no substantive changes other than changes determined in rulemaking for Amendments 14 and 19, it is unnecessary under 5 U.S.C. 553(b)(B) to provide for prior public comment and there is good cause under 5 U.S.C. 553(d) not to delay for 30 days its effective date.

Because this rule is being issued without prior comment, a regulatory flexibility analysis is not required under the Regulatory Flexibility Act and none has been prepared.

This rule reinstates language that has been determined not to be a major rule under Executive Order 12291, does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under E.O. 12612, and does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act. There is no change in the regulatory impacts previously reviewed and analyzed.

List of Subjects in 50 CFR Parts 672 and 675

Fisheries, General limitations.

Dated: February 7, 1991.

Michael F. Tillman,

Acting Assistant Administrator for Fisheries, National Marine Fisheries Service.

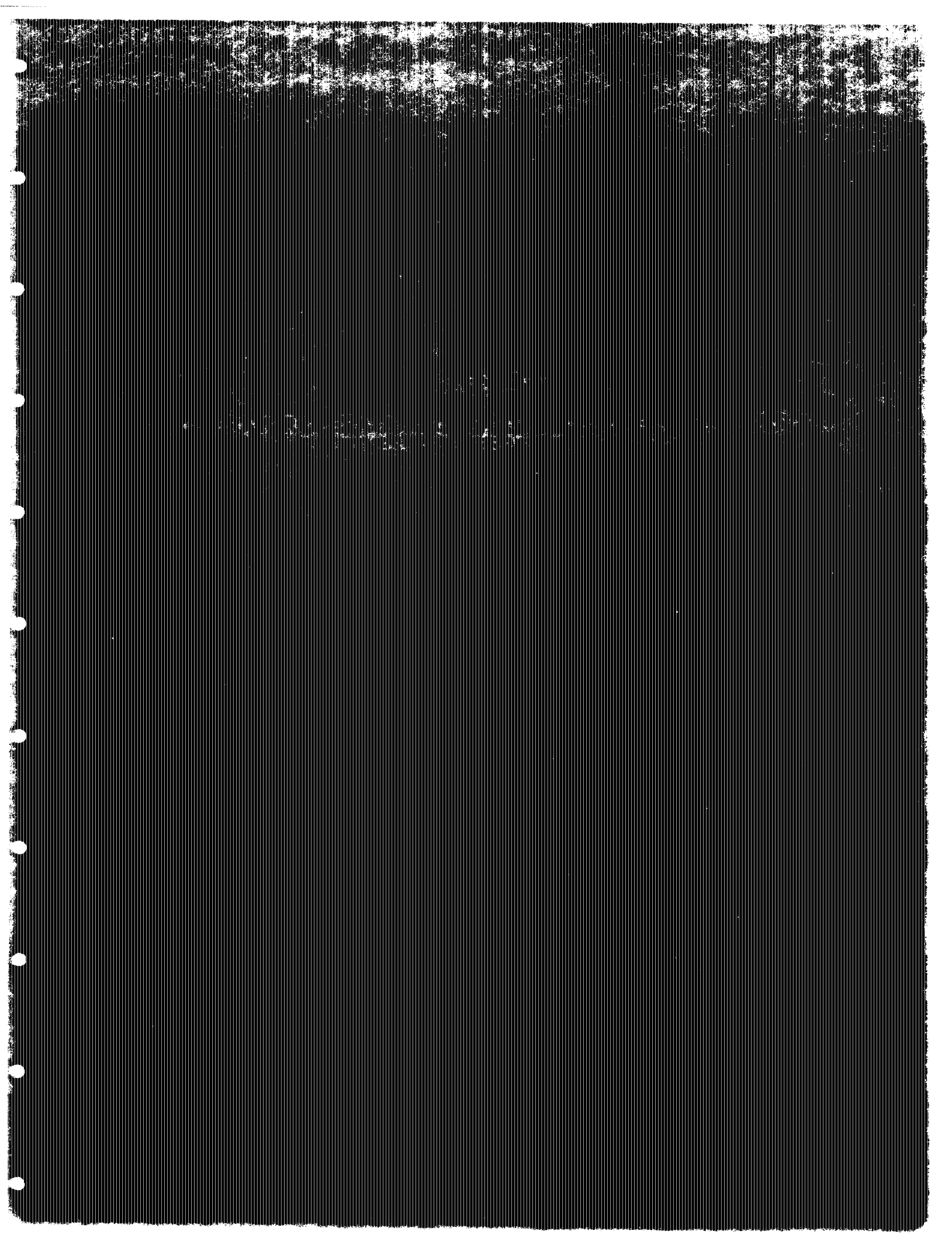
For reasons set out in the preamble, 50 CFR parts 672 and 675 are amended as follows:

PART 672—GROUNDFISH OF THE GULF OF ALASKA

1. The authority citation for part 672 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. Section 672.20(a)(2) is revised and Table 1 is added to the section to read as follows:



Incinerator : Cape Fear Memorial Hospital / Maintenence & Service Procedures ; Quality Control Procedures ; Operator Training Procedure

I. Maintenence & service Procedures
: See attached sheets

II. Quality Control Procedures
a. Operator always wears protective clothing (eye goggles, rubber gloves, boots, paper disposable cover-alls) to guard against accidental contact with material being handled.
b. Proper maintenence & service on equipment insures required emmision standards set forth by EPA and other goverment agencies.
c. In-service seminars are conducted for operators & other service personal related to incinerator.

III. Operator Training Procedure
a. All operators are required to read and refer back to the incinerator operating & service manual on a scheduled basis.
b. New operator is instructed by supervisor on operation procedures & maintenence of equipment

continued:

c. Operator is then instructed on proper handling & disposal of waste material being being incinerated.

MAINTENANCE AND SERVICE

INSPECTION:

Air Ports - Inspect all air ports, especially the underfire air ports, frequently. Keep underfire air ports clean and free of clinker build-up and pluggage. On all "T", "TES", and "TOH" Series units, the underfire air pipes may be rodded from the outside while the unit is in operation by slowly removing the external pipe caps or the individual underfire air manifold covers. These should be cleaned one at a time. Precaution shluld be observed by performing this operation with a safety shield in case of fire flash back.

Vessel and Stack - Note surface condition of all "hot" surfaces. Any white spot or discoloration may indicate loss of refractory inside and should be followed by an immediate inspection. Should refractory damage be present, refer to the Refractory Sections in this manual for repair procedures.

Control Panels - Keep enclosure, lights, switches and other components clean. Keep panel securely closed unless a change in programming is desired. These changes should be made only by an experienced electrician, familiar with the control and electrical interlock circuitry of the incinerator.

Fuel Trains and Burners - Keep free from any build-up of dirt and ashes. Refer to individual instruction sheets for specific components. Keep vent ports clean on all valves, regulators and safety switches. On oil fired burners, periodic checking and removal of any carbon build-up should be observed. Investigate for sources of fuel leakage as required.

Refractory - Refer to the Refractory Sections within this manual. Reasonable care will insure a useful life for the refractory. The refractory contained within your unit represents one of the most expensive components and should be treated with respect. Avoid subjecting the refractory to any rapid changes of temperature, undue abrasion or physical shock. When manually cleaning the interior of the incinerator, avoid using pointed tools or physical shock. Do not hit or gouge the refractory. Never spray water onto a hot refractory surface. Inspect the upper combustion chamber at least twice a year and vacuum out any loose fly ash that may have accumulated on the floor area. Avoid charging large amounts of any inorganic material into the incinerator. This material will not combust but will greatly increase the clinker forming tendencies in the lower chamber and may result in refractory contamination with subsequent damage.

MAR-18-91 MON 10:07 P.04

MAR-10-91 MON 15:00 P.05

Ram Feeders - Keep ram housing and loader chambers free of grease and dirt build-up. Frequently inspect ram casters and tracks for cleanliness. Ram feeders and hatch covers and automatic incinerator charging doors are energized by various limit switches. These switches should be inspected frequently for proper adjustment and operation. Adjustments of any limit switch should be done only by a qualified electrician familiar with the control circuitry of the incinerator. Maladjustment of these switches may cause severe mechanical damage.

Ash Removal Conveyors - For units having wet-ash removal systems, bearings that are located beneath water should be lubricated bi-weekly with a general purpose or water resistant lubricant. Lube fittings are extended from bearing to above water level for easy access. Check chain tension daily and adjust slack as required by take-up bearings or idler units as applicable.

LUBRICATION SCHEDULE:

1) All swing latches and hinges - Weekly

2) Upper door support pins for all Top Loader Incinerators - Weekly

3) Ash removal conveyor bearings - Bi-Weekly

4) SM Cyclo Drive Gear Reducer lubricant level - Check Monthly
   - Replace Yearly

5) All chairs - brush off and lubricate with Dow Corning Molykote 321 or equivalent - Six (6) Month Intervals

6) All mechanical clevis attachments, i.e., at hydraulic cylinder attachments to moving components (doors, hatches, rams, etc.) - Monthly

7) Most motors and packaged blowers are supplied with sealed bearings and therefore require no lubrication. Exceptions to this are larger combustion air blowers and I.D. fans on heat recovery units. Examples are Chicago Blower Series SQA, SQI, and LS. These blowers require lubrication monthly with Texaco Molytex #2 or equivalent.

8) Ram feeder carriage wheels - Weekly

MISCELLANEOUS

1) Clean all blower intakes - Weekly

2) On systems with heat recovery I.D. fans, clean I.D fan housing - Weekly

3) Clean spark ignitors on burners - Monthly

4) Clean flame rods or U. V. Scanner flame sensors (more often in dusty atmosphere) - Weekly

5) On hydraulic systems, check level of hydraulic fluid by observing the level gauge on the side of the hydraulic fluid reservoir. If the fluid level is below the "LOW" mark, add additional fluid as required. Replacement fluid shluld be Houghto-Safe as described separately under the Hydraulics Section if applicable. CAUTION: - Severe damage can result to hydraulic seals if other hydraulic fluids are substituted.

Maintenance Item No.	Description
1	Inspect incinerator interior with primary attention given to refractory and internal ram faces (if applicable).
2	Inspect and clean boiler tubes as required (Note: Duration of time between boiler tube cleanings will vary from one installation to another. The tubes should be inspected weekly for the first six week period to determine optimum cleaning schedule. First indication of fouled tubes on the gas side will be the gradual increase of boiler outlet gas temperature.
3	Check underfire air ports and clean as required.
4	Clean ram feeder carriage tracks and feeder area of miscellaneous debris and carryback.
5	Inspect all limit switches for freedom of operation and possible presence of obstucting debris.
6	Clean all internal dropout sumps.
7	Inspect blower intakes for accumulations of lint, debris or other blockage.
8	Clean burner flame rods (gas-fired units).
9	Clean and vacuum upper combustion chamber - remove particulate matter.
10	Lubricate large fan bearings - See Note 1 below.
11	Lubricate all swing latches and hinges - See Note 2 below.
12	Lubricate all upper door support pins for top loader incinerators (TL and TLR Series).

MAR-18-91 MON 15:09

13 Lubricate all mechanical clevis attachments, i.e., at hydraulic cylinder clevis and trunnion attachments to all moving components (doors, hatches, rams, etc.) - See Note 2 below.

14 Lubricate ram feeder carriage wheels - See Note 2 below.

15 Adjust burner pilots - Refer to instructions within manual.

16 Repair minor refractory wear areas with plastic refractory - Refer to "Refractory" Section within the manual.

17 Maintain all externally exposed steel surfaces with high-temperature paint (hot surfaces) or equipment enamel (ambient surfaces).

18 Inspect all hydraulic components and fittings for signs of leakage. Investigate sources of all hydraulic leaks.

19 Inspect all electrical panels for dirt, debris, lint, etc. Clean as required to prevent electrical malfunctions.

Note 1: Most motors and packaged blowers are supplied with sealed bearings and therefore require no lubrication. Exceptions to this are larger combustion air blowers and I.D. fans on heat recovery facilities. These fans should be lubricated with Texaco Molytex #2 or equivalent.

Note 2: A DARNEX grease selector for different temperatures, speeds and ambient conditions is included in this manual to assist in variuos grease selections for your convenience.

FEB-10-91 MON 11:00 P.01



Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 9-10,1990
From: External QA Team
To: Distribution

Thursday(August 9)

Radian personnel unpacking truck and vans. It is raining and scaffolding contractor will not complete scaffolding construction until rain stops. The incinerator is not operating due to a problem with an electrical component. The electrical contractor is completing wiring of the mobil van units used for the field laboratory and CEM operations. Unpacked EPA mobil van and prepared van for pathogen operations(train setup and recovery).

Radian performed field proof blanks for organics,particulate /metals trains.Sampling probes for these trains were not included and will be proofed on Monday. Radian currently preparing CEM's for calibration and operation.

Friday(August 10)

Radian performed field proof blanks for backup organics and particulate/metal trains(1 each). Field proof blanks were conducted on three pathogen sampling trains including their respective probes. Radian was directed to add a knockout impinger to the particulate /metals and HCL trains as well as two potassium permanganate impingers to the part/metals train. Radian operator stated they were still setting-up and calibrating the CEM instruments and would not be ready to conduct cylinder gas audits(CGA's) until Monday. The rain on Tuesday and Wednesday delayed electric power hookups and caused instrument preparations to be delayed about one day.

The scaffolding contractor returned and with the help of Radian personnel completed the scaffolding construction in the afternoon. Radian plans to place the testing equipment at the sampling sites during the weekend. The hospital staff notified Radian that an incinerator repairman had been called and would arrive about noon on Monday to trouble shoot the incinerator operational problem. Radian notified MRI of this information. Due to the need for incinerator repairs and the delays caused by late completion of the scaffolding and electrical hookups,the first test day was changed from Monday to Tuesday Aug 14.

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Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 13,1990
From: External QA Team
To: Distribution

Monday(August 13)

Radian performed field proof blanks on organic and part/ metals probes(two each).The QA team inspected the preparation of the test sites and found the setups to be satisfactory.CGA's were conducted in the afternoon.CEM system(probe injection) and direct (instrument injection) audits were conducted.System audits consisted of injecting two concentrations each of HCL,SO2, methane,and CO at the sampling probe and measuring the response of the respective instrument.If the instruments were to operate on two or more ranges,each of these range responses were noted and recorded.The HCL and SO2 instruments met the established acceptance criteria(+/- 10%) of the audit gas concentration,however,only the high range(0-4,000 ppm) CO unit passed the acceptance audit. The low range (0-500) CO unit did not pass and Radian is to trouble shoot the unit,perform another calibration and prepare the unit for another CGA on Tuesday morning.The THC unit was inoperative during the Monday CGA and Radian is to also prepare this unit for a CGA on Tuesday morning.

Direct instrument injections were to be conducted using two concentrations of SO2,CO,and methane and one concentration for NOX,O2,and CO2.The SO2,NOX,O2,and CO2 instruments met the acceptane criteria.Additional CGA direct injections are planned to be conducted on Tuesday morning for the THC and CO low range instruments.

MRI arrived on site to coordinate and monitor the incinerator process operation.MRI was informed by the hospital staff that the incinerator repairman would not arrive until Tuesday morning.Radian completed prepartion of the sampling sites and the testing equipment.Plans are to conduct the first test run on Tuesday as soon as the incinerator can be made ready.

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Incinerator Test Program

Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 14,1990
From: External QA Team
To: Distribution

Tuesday(August 14)

Radian prepared sampling trains for test run 1. The QA team monitored these activities and recorded the individual impinger weights and filter and XAD-2 numbers. After the trains were prepared they were placed at the test sites and made ready for sampling. The incinerator bottom ash was collected and processed through a 1/2" mesh screen into a precleaned 55 gallon steel drum.

MRI stated that the incinerator was opened at 7:20 am, the ash samples were taken and the incinerator was cleaned out. At 8:30 am Tom Query from Southern Corp. arrived, to determine the cause of the incinerator malfunction. The unit would shut down both combustion air blowers at the same when time the ram would reach the end of the forward stroke. The start button then had to be manually held until the ram had completed it's reverse movement. The unit would then work until the next load cycle. Also, once burndown was initiated, the combustion air blowers would shut off within 60 seconds and remain off through the entire cycle.

After much analysis, Tom concluded that low voltage was causing sticking of the solenoid valves for the hydraulic system which operated the door opening and ram movement. This was causing the timer functions not to operate correctly and also the ram forward timer to burn out. Radian's power was shut off and the hospital's electrical contractor tied the common and the earth ground securely. The voltage was now higher and the unit began to work properly for a few cycles. The door began to stick open and closed at this point. Tom cleaned the solenoid hydraulic valves and the unit operated through 7 cycles with no problems and went into burndown with no problems. Also at this time Radian's power was turned back on. Everything seems to be working fine, but in order to prevent the low voltage problem from reoccuring, CP&L will install temporary service to the testing equipment and leave the incinerator on a seperate circuit. This should be completed by Wednesday or Thursday. In the meantime, testing will be attempted Wednesday morning and the power usage kept to a minimum.

Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report August 15, 1990
From: External QA Team
To: Distribution

Wednesday(August 15)

Radian is preparing for the first test run. The CEM's are being calibrated and the sampling trains are being setup at the different test sites. The QA team conducted CGA's on the low range CO instrument as well as the THC instrument. System and direct instrument injections using two separate gas concentrations were conducted. Both instruments met the acceptance criteria for the audit gases (see attached Table).

Radian started the test run at approximately 12:30 pm. The test parameters consisted of organics (dioxin/furan), particulate/metals, HCL, and pathogen samples being collected at the incinerator flue gas stack. Visible emissions (Method 9) observations were conducted simultaneously with the particulate/ metals sampling.

Pipe samples containing dried spores and heat indicating pellets were placed into the charge hopper at 10:04 and 13:42. A third pipe sample was to be charged at 17:00, however, the charging unit broke and charging was discontinued at 16:30. Bags containing spores were placed into the incinerator at 12:44, 13:36, 15:00, and 16:16. The pathogen sampling utilized of two collection trains. The first train was operated from 12:31 to 14:07 and the second train was operated from 14:45 to 15:13 and continued at 15:36 to 16:40.

A process delay caused by a malfunction of the charging door was encountered at 15:09. Sampling was delayed until the process problem could be corrected. A second process malfunction occurred at 16:28. The incinerator hydraulic system failed resulting in it's charging door and ram becoming inoperative. It was decided to stop the testing at 16:50 as no additional waste could be charged to the incinerator. The test run was considered to be complete at this time. The sampling trains passed their leak checks (< 0.02 cfm).

Only the HCL train had a problem during the testing. A 1/4" hole was found in the entrance end of the HCL probe when it was removed after the first 1 hour test interval. This was believed not to have effected the measured sample as the hole was located within the stack flue gas. A second HCL train was placed in operation and no problems were experienced. The proposed third HCL train was cancelled because of the discontinued process operation. Sample recovery was observed to follow the procedures established during the field proofing tests. Impinger weights were verified as well as the filter and XAD-2 tracking numbers.

The CEM's operated satisfactory with less than 3 percent drift being encountered for all instruments. The highest drift experienced was 2.3 percent on the CO2 instrument. This is well within the required acceptance range of 3 percent. It was believed that representative data were collected by the HCL instrument. The bottom ash and two pipe samples will be collected tomorrow morning (Thursday).

MRI arrived on site at 07:00 and the incinerator door was open. MRI instructed the incinerator operator and maintenance foreman that the ash door should not be opened until either Larry Romesberg or MRI were present. The settings were changed on the control panel and preheat began at 09:34. Waste feeding started at 09:51 and testing started at 12:32.

The incinerator operated with temperatures gradually increasing until apparently stabilizing 5 hours later at about 2,000 degrees F in the secondary and 2,100 degrees F in the primary combustion chambers. This test was to be performed at a 200 lbs/hr feed rate and a 2,000 degree F temperature in the secondary chamber. The unit appeared to be at it's maximum feed rate for this waste. The temperatures in both chambers were very high and the ram had to go through a double feed cycle several times in order to clear the material from the charging door area.

At 15:09 for a short period the charging door stuck open and testing was discontinued. The charging door was finally cleared and testing resumed at 15:32. The hydraulic pump was now making a high pitched squeal at the beginning and end of the ram and door movement cycles. At 16:28 the charging door stuck in the closed position and it was determined that the hydraulic pump had finally broken (No pressure to the hydraulic system). The pump will be removed and rebuilt Thursday morning. The burndown cycle was started at 16:54 after testing had been completed.

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Cape Fear Memorial Hospital
Incinerator Test Program
CEMS Cylinder Gas Audits

Direct Instrument Injection August 13, 1990

Analyzer	Mean Range	Audit Gas Value	Mean Response	Mean Error % of Gas Value
SO2	0-250	25.7	23.5	-8.56
	0-5000	25.7	28.3	10.1
	0-250	143	149.6	4.61
	0-5000	143	145.2	1.54
O2	0-25	8.97	8.97	0
CO2	0-20	10.02	9.82	-1.99
NOx	0-250	198	200.4	1.21

Cape Fear Memorial Hospital
Incinerator Test Program
CEMS Cylinder Gas Audits

System Injection August 13, 1990

Analyzer	Mean Range	Audit Gas Value	Mean Response	Mean Error % of Gas Value
HCL	2000	1357.3	1344	- 0.98
	2000	251.6	236.1	- 6.16
	(Dilution probe ratio 14.5)			
SO2	0-250	142.3	147.0	3.3
	0-5000	142.3	146.7	3.09
	0-250	25.7	27.8	8.17
	0-5000	25.7	27.1	5.45
CO	0-200	45.4	48.1	5.95
	0-2000	45.4	48.7	7.3
	0-2000	453.0	477.0	5.3

* Note - CO did no meet (+/-) 10 % acceptance criteria Radian to recalibrate on Tuesday.

- THC having flame out problems; Radian to correct problem and recalibrate on Tuesday.

Cape Fear Memorial Hospital
Incinerator Test Program
CEMS Cylinder Gas Audits

System Injection August 15, 1990

Analyzer	Mean Range	Audit Gas Value	Mean Response	Mean Error % of Gas Value
THC	0-100	30.0	31.77	5.9
CO	0-500	45.4	46.7	2.8
	0-2000	45.4	40.0	-11.89
	0-500	453	484.0	6.84
	0-2000	453	424.5	-6.29
THC	0-100	9.93	10.62	6.94

Direct Instrument Injection

CO	0-500	453	492	8.61
	0-2000	453	430	-5.07
	0-200	45.4	49.8	9.7
	0-2000	45.4	43.4	-4.41

Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report August 16, 1990
From: External QA Team
To: Distribution

Thursday(August 16)

The hydraulic pump is to be removed and repaired today. The incinerator was still operating on the gas burners at 06:00 when the operators arrived to repair the hydraulic system. The primary chamber temperature was approximately 1200 degrees F and the secondary temperature was 1925 degrees F. The load light and the door open light were still on and the unit never went into the burndown cycle. It's assumed this was due to the hydraulic system not being able to move the charging door and the unit remaining in the load cycle.

It was determined that the hydraulic pump could not be rebuilt and a new pump had to be ordered, which should arrive Friday morning. Testing for today was cancelled. While the unit was down and the hydraulic system was being cleaned, the maintenance foreman was asked to check the charging door and the ram cylinder seals to see if they might be deteriorated from using the wrong type of hydraulic fluid.

He agreed to look at the charging door cylinders and discovered that the seals were badly deteriorated and sent them to be rebuilt. He still did not want to look at the charging ram cylinders due to the difficulty of removal and the fact that they were operating when the unit was shut down. MRI insisted, however, and the cylinders were sent to be rebuilt. The seals were in bad shape.

The incinerator was opened at 07:00 and the ash bed looked good in the front near the ash door, but there was a large clump of unburned material in the lower back between the mushroom hearth and the charging door. This was surprising since the incinerator had been burning down at a high temperature for approximately 13 hours. Radian began removing the ash at 09:50 and finished at 12:00. The large clump of unburned material began to burn once the ash was agitated, greatly increasing the time required for ash removal and hearth cleaning. This problem was discussed with Jim Eddinger and he agreed that, for the next tests, if necessary, remove all ash that can possibly be removed and close the incinerator door and begin operation for the next test. This is the normal procedure for the hospital personnel.

Tom mentioned that the hydraulic valve sticking could be caused by the fact that the hospital had put the wrong type of hydraulic fluid into the system. In an attempt to correct the problem the hospital staff had placed a 50 - 50 mixture of oil-based and glycol - based hydraulic fluid in the unit. Tom recommened that the system be drained, flushed, and refilled with a glycol based hydraulic fluid. Skip Marshall said this would be done Wednesday night. It was decided at 3:00 pm not to perform a test today but prepare the equipment for testing on Wednesday.

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Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 17,1990
From: External QA Team
To: Distribution

Friday(August 17)

The new hydraulic pump had not arrived by 09:00. Therefore it was decided to release the test personnel until 13:00. CP&L arrived and connected the electrical power to the temporary breaker box. An electrican connected the breaker box power to the different mobil stations.

The test crew arrived at the test site around 13:00, however, the pump had not arrived. The CEMS were calibrated and made ready for testing. The rebuilt hydraulic cylinders and the new pump arrived at 14:00. The incinerator operators installed the equipment and bled the hydraulic lines. The incinerator was started at 17:18.

The charging door started sticking due to a problem caused by the solenoid hydraulic valve that Tom Query had cleaned on Monday. This problem was solved and the door operated properly. Winton Kelly of Radian decided at 17:30 that it was to late to begin testing.

The incinerator was set in the burndown cycle at 17:45. The incinerator operated for 2 cycles with no problems. The foreman was asked to order a new solenoid valve and he agreed to order the part Saturday morning. It was agreed that everyone would prepare for an earlier start (09:00) on Saturday.

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Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 18,1990
From: External QA Team
To: Distribution

Saturday(August 18)

MRI reported that the proposed test run for today would be for test condition 2 , which would charge 300 lbs/hr at 6 minute intervals while maintaining a 1900 °F secondary chamber temperature. It was decided that if the temperature rose above specifications the time periods between the intervals would be increased to reduce the overall charge rate. Test run 2 was started at approximately 09:45. Organics, particulate/metals, HCl, and pathogen samples were collected at the incinerator flue gas source. Visible emission observations were performed at the stack exit.

Pathogen sampling was conducted from 09:45 to 11:26 and from 13:13 to 14:29 while spores were spiked into the waste at 09:57, 10:38, 13:25, and 14:13. The spore loaded pipe samples were placed in the incinerator at 07:45, 10:38, and 16:27.

A loss of electrical power to the CEM mobil van as well as two of the test trains was experienced at 10:44. The remaining trains were stopped until the power problems could be resolved. The electrical power supply was redistributed to accomodate the power requirements. All excess equipment (air conditioner) were switched off until the testing was completed. Power was restored to the CEM trailer at 10:47 and the CEM instruments were ready for continued testing.

The particulate/metals, HCL, and organics sampling was resumed at 13:10. Since spore bags were charged into the incinerator, the pathogen train was allowed to continue during the power loss period. The particulate/metals, organics, and, HCL sampling was completed at 16:30.

A second power interuption was encountered at 14:47. This caused the air compressor suppling air to the THC instrument to fail, thus shutting down the THC unit. Power was soon restored to the compressor and the THC was placed back in service at 15:23. Approximately three hours of data were available from the THC instrument during the testing because of the power interuption. During the pathogen train sampling, the glass probe/nozzle was boken at the injector probe connection, while changing glassware after sampling port B. During pathogen train recovery, one impinger was broken. These broken glassware did not effect the sample results.

No additional problems were experienced with the sampling trains during the testing. As the incinerator flue gas became hotter the velocity flow dropped resulting in a sample volume of approximately 96 cubic ft (24 cf/hour) being collected by the organic and particulate/metals test trains. This is a sufficient sample volume for organic, particulate, and metals analysis as the emissions are uncontrolled.

At the conclusion of the run, the test trains passed their leak - checks. A preliminary particle size test was conducted between 14:30 and 14:40. The particle size test was performed to provide data for determining an adequate sample time for collecting a sufficient particle size sample for analysis. The particle size apparatus used a precutter prior to the impactor. The precutter was placed in the stack and connected to the impactor mounted outside the stack in a vertical plane. The impactor was heated with an electrical tape to approximately 500 °F during the sampling period.

Sample recoveries were observed to follow routine procedures. It is believed that the collected samples are not as concentrated as they should be because of the loss of sampling time 10:45 to 13:10 during which the incinerator was still in a heat - up mode. This observation is based on the color of the filter and probe catches which are normally black in color but were dark grey for this run.

CEM operations for the test run 2 were reported to be satisfactory. Drift was less than 2 % for all of the instruments. Only minor problems were experienced with the THC instrument, which was due primarily to the power interuptions.

Process samples of the bottom ash as well as the three spore pipe samples will be collected tomorrow morning (Sunday). Radian is also to collect a composite sample of the quench water that is to be archieved for possible analysis. The incinerator process operation was reported to be normal. Red bag waste was mixed with the routine white bag hospital waste during the testing period.

MRI arrived at the test site at 06:40, and opened the incinerator ash door to clean the hearth at 06:45. Cleaning was completed by 06:49. Combustion air ports were checked to insure that they were clear. MRI set incinerator temperature settings and started preheating at 07:00. Charging began at 07:09. Testing began approximately at 09:45 and was stopped at 10:44 due to a power loss in the CEM instrument trailer.

MRI was able to maintain 30 lb charges every 6 minutes until 11:17, when they changed the charging frequency to 7.5 minute intervals. The temperatures in the secondary chamber were approaching 2200 °F. The secondary chamber lockout temperature is 2250 °F. At 11:36 the primary chamber temperature was approaching the lockout temperature of 2200 °F.

At 12:05 MRI changed the charging frequency to 9 minute intervals due to the excessive temperatures in the secondary chamber. At 13:40 charging was stopped to let the incinerator cool down as the secondary had reached 2268 °F. The primary was also approaching 2200 °F.

At 13:53 charging was resumed and the charge frequency was changed in to 10 minute intervals, due to the excessive temperatures in both chambers. Radian resumed testing at 13:10. The incinerator operated smoothly for the remainder of the test day. Incinerator burndown cycle was started at 16:33. MRI skipped one charge during this period at 15:05.

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Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 19,1990
From: External QA Team
To: Distribution

Sunday(August 19)

Radian will conduct the third test run today. The test condition (test 2 - 2) will consist of a charge rate of 300 lb/hr at 6 minute intervals while maintaining a 1900 °F secondary chamber temperature.

The run 2 - 2 was started at approximately 10:00. Organics, particulate/metals, HCL, and pathogen samples were collected at the incinerator stack. Visible stack emissions were also recorded during operation of the particulate/metals train.

Pathogen sampling was conducted from 10:02 to 11:38 and 13:15 to 14:51. Incinerator spore samples were charged at 10:12, 11:04, 13:18, and 14:23. The spore loaded pipe samples were placed in the incinerator at 09:23, 12:31, and 15:26.

During the testing period, electrical power was lost to the organic train on two separate occasions. A surge protector was found to be the problem as well as low voltage. The surge protector was reloaded and the testing continued. Power availability continued to be a problem and Radian is trying to find more electrical power for the different sites.

A number of delays were experienced during the test run. Loss of electrical power occurred twice, and the CEM stack probe filter plugged and had to be replaced. The manual trains were stopped for 45 minutes for the CEM filter replacement. Testing was completed at 15:20.

While changing sample ports for the pathogen testing, the probe/nozzle was broken while removing the sampling train from the stack. A portion of the nozzle was chipped away in order to form a smooth frontal area to prevent sealing problems when leak checking. The sampling train passed the acceptable leak check criteria. This breakage did not alter sample collection during testing. A new probe/nozzle was substituted in place of the broken probe/nozzle.

CEM operations were reported to be satisfactory with all units except the THC meeting their 0 - 3 percent drift criteria. As noted, the stack CEM filter plugged and had to be replaced. The THC unit encountered severe problems;(1) loss of electrical power resulted in the supply air being interrupted, and following the filter change, moisture was noticed in the line. Following the completion of the run, the CEM operator mistakenly calibrated the THC on the wrong scale resulting in an unacceptable drift number. It is believed that approximately 3 hours of good data were obtained on the THC unit. Following the manual test period and ending calibration, Radian operated the CEM's to measure the emissions during the four hour burndown period. This effort was completed at 20:00.

The bottom ash and pipe samples from Saturdays run were recovered during the morning ash clean out. The ash was weighed and composite samples recovered for the different analysis.

MRI reported they had problems with maintaining the specified secondary chamber temperature with the proposed charge rate / interval. Red bag waste was mixed with the white bag waste as per routine operation.

MRI arrived on site at 06:55 when Radian and the operator were removing the ash from the incinerator. The ash appeared to be of good quality in the front of the door, with a large clump of unburned smoldering material in the back between the mushroom and the charging door. There was also a small clump of unburned material to the left of the mushroom.

One spore pipe was found on the top of the shelf in front of the charging ram, and another was on top of the hearth to left of the mushroom. The remaining pipe sample was found on top of the mushroom.

Approximately 1.5 ft^3 of ash, that was to hot to be removed was left in the incinerator. The ash was moved to the right corner of the incinerator directly in line with the flame from the gas burner.

The incinerator door was then closed and the preheat cycle began at 08:48. Charging began at 08:57 and continued with 30 lb charges every 6 minutes.

Testing started approximately at 10:00. The dioxin train lost power at 10:05 and resumed testing at 10:13. At 11:27 testing was stopped due to the plugging of the CEM sampling probe. The CEMS were unplugged at 12:16 and testing was resumed.

At 12:37 a charge was skipped and the following charge frequency was changed from 6 minute intervals to 8.5 minute intervals due to excessive temperatures in both the primary and secondary chambers. At 13:18, the charge interval was changed to 10 minute intervals due to excessive temperatures in both the primary and secondary chambers. At 14:13, the charge interval was again changed from 10 to 9 minute intervals. The unit was able to maintain this feed rate for the remainder of the test period. Testing was completed at 15:20 and the unit was placed into the burndown cycle at 15:26.

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Cape Fear Memorial Hospital
Incinerator Test Program

Subject: On - Site External QA/QC Daily Report, August 20,1990
From: External QA Team
To: Distribution

Monday(August 20)

Radian will conduct test run 2 - 3 today. The test condition will consist of a charge rate of 300 lb/hr during 6 minute intervals while maintaining a 1900 °F secondary chamber temperature.

The QA team and MRI spoke with Ken Durkee by telephone and summarized some of the process operational problems that had been encountered. Ken approved the effort of leaving the hot unburned material/ash located in the back of the incinerator for the next run. He still wanted a startup and burndown sequence monitored by the CEM units for at least one of each of the three test conditions. The startup and shutdown monitoring do not have to occur on the same day, they could be performed on alternate days as long as the same test condition was being conducted. It was agreed to start the incinerator gas burner for approximately fifteen minutes and then start the waste charging. This is the startup sequence controlled by the incinerator automatic control system.

Simultaneous with the initiation of the waste charging, the manual sampling would start as well as monitoring by the CEM units. This would be different from the first three runs where the waste was charged for 1 to 2 hours prior to the start of the manual testing. The primary reason for this testing change was that it is believed that the incinerator emissions (organics) are dependent not only on the units temperature, and the charge rate/interval, but also on the length of time from zero start.

Because of the electrical power interruptions, CEM's plugging, and often testing delays, the manual test trains had not been able to operate on a routine daily schedule, where the same test run time data could be compared to each other. MRI believed that this new operational procedure would represent the way the hospital staff operated the incinerator, instead of the earlier procedure of allowing the unit to heatup to a specified temperature and stabilize before conducting the manual testing.

The incinerator's gas burner was started at 12:00. Test run 2 - 3 was started at 12:10. The testing consisted of organics, particulate/metals, HCL, and pathogen samples being collected at the incinerator stack. Visible emission observations and CEM's were also performed on the gaseous emissions.

Pathogen sampling was conducted from 12:00 to 13:46, 14:58 to 16:11 and from 16:19 to 16:42. The spore bags were spiked into the waste at 12:24, 13:16, 15:06, and 15:59. The spore loaded pipe samples were placed in the incinerator at 12:10, 14:46, and 16:27. The pathogen train was not operated from 13:46 to 14:58 to exchange sample box collectors and switch ports. The second delay (until to 16:19) was to correct a plugging problem in the silica gel impinger.

The HCL manual testing was conducted from 12:22 to 13:22 and 15:27 to 15:50 and 15:52 to 16:42. Only two 1 hour samples were collected as a problem was encountered with leak checking one of the impinger sets. A small leak was found during the final leak check of the first HCL sampling train. It is not known how this will effect the HCL measurement.

The organics, and particulate/metals trains encountered a delay when the CEM's probe filter plugged at 13:50. The trains operation was delayed until 13:59 when the CEMS were placed back in operation, a second delay caused by the sample CEM probe filter being plugged again was experienced at 15:50. The trains were placed back in operation at 15:57. Each of the trains met their leak check criteria at the end of the test period.

CEM operations were reported to have experienced some problems. Delays caused by the probe filter were experienced and the CEM - HCL probe malfunction at the begining of the testing. The HCL dilution probe is believed to be plugged in a sealed - welded area that cannot be cleaned without major effort. The CEM - HCL unit may be out of service for the remainder of the test runs. CEM drifts were reported to be within the acceptance criteria of 0 to 3 percent.

Sample recoveries were observed to follow routine procedures. The train filters were dark black and resembled the test run 2 - 1 filters.

Process samples of the bottom ash and the three pipe samples for test run 2 - 2 were recovered during the early morning unit/ash removal. The bottom ash and pipe samples for today's test will be recovered on Tuesday morning.

MRI stated that red bag was the primary waste fired with white bag being mixed as much as possible. They reported that the waste supply of red bag and white bag waste is becoming critical and there may not be sufficient waste to operate on Wednesday.

At 07:55 the primary chamber was 298 °F and the secondary chamber temperature was 305 °F. The incinerator door was opened at 09:45 and the ash samples taken. As much ash was removed as possible.

The incinerator door was closed at 11:09 and the preheat cycle began at 11:56. Test 2 - 3 was run which consisted of 30 lb charges at 6 minute intervals, with a secondary chamber temperature of 1900 °F - 2000 °F. The incinerator operated well and only one charge had to be skipped at 16:25 and lockout occurred 3 times near the end of the test period. The unit was placed into the burndown cycle after all testing was complete.

At the end of this test run, all waste was burned that had been saved the previous week. The remaining waste is the amount that was generated today. With the waste that will be collected tonight, it is believed that this will be enough for Tuesday's testing but Wednesday's supply may be a problem.

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